REQUEST FOR PROPOSAL NO. PM-002 HIGH LIFT WATER PUMP 06 – REV. 1 PAGE 1

FOR INFORMATION DATE ISSUED: 2023-07-31

1.0 REVISIONS

Rev No.	Date	lssued for	Ву	y Date Checke		Date	Approved Date		
0	Nov 15th, 2021	Tender	David Dussiaume	Nov 16 th , 2021	Derek Demers	Nov 16 th , 2021	David Dussiaume	Nov 16 th , 2021	
1	Jun 6 th , 2022	Info	James Gough	June 28 th 2022	Derek Demers	June 28 th 2022	James Gough	June 28 th 2022	

2.0 DESIGN CRITERIA

2.1.1 This specification pertains to the following list of item:

Equip. No.	Quantity	Description
HLP-06	1	High Lift Water Pumps

- 2.1.2 The high lift water pump will be used to supply water to the City of Timmins municipal water system. The demand flow rate for the system is variable by season and time of day and as such the pumps will be installed with VFD systems. VFD's will be controlled via DeviceNET through the clients Delta V system, based on a manual flow set point input on the HMI.
- 2.1.3 Vendors shall quote horizontal split case (HSC) style pumps to replace existing HSC pumps.
- 2.1.4 The high lift water pumps take water from the clear well reservoirs and pump the water into a common water header for distribution through the municipal system.
- 2.1.5 The equipment will be operated continuously, 24 hours/day, 365 days/year with an allowance for plant downtime and maintenance.
- 2.1.6 The discharge pressure from the high lift pumps varies between 700 to 880 kPa depending on the water level in the system water tower.
- 2.1.7 All components on fabrication shall be suitable for use in a potable water system.
- 2.1.8 The equipment shall be the manufacturer's standard design with a proven and successful service in similar operations and shall be suitable for potable municipal water distribution applications and the specified conditions with minimum maintenance. The design criteria for the operation of the equipment are given below (note all units are metric unless noted otherwise):

General Operating and Design Conditions	ofor the Timmins Water Treatment Plant
Fluid	Water
Operating Liquid Temperature at Inlet (°C)	10
Design Liquid Temperature at Inlet (°C)	2 - 20
HLP-06 High Lift Water Pumps	
Installed Units	5 (4 existing units not being replaced
Operating Units	1 to 2



	General Operating and Design Conditions	for the Timmins Water Treatment Plant
\wedge	Minimum Operating Flowrate (L/min)	11400
	Minimum Operating Flowrate	Vendor is to select pump to maximize the allowable operating range below the maximum operating flow.
\bigwedge	Design Flowrate (L/min)	19000
1	Design Flowrate (L/min)	16700
\bigwedge	Maximum Operating Flowrate (L/min)	20000
	Maximum Operating Flowrate (L/min)	17700
	Discharge Pressure (kPa g) (min/op/max)	700 / 830 / 880
	NPSH _A (m)	11.3
	TDH (m) (min / max)	71 / 90
	Nominal Pipe Size at Discharge (mm)	500mm
	Pipe Material	Cast Iron
	Liquid to be Handled	Potable Water

3.0 SCOPE OF SUPPLY

3.1 General

- 3.1.1 The scope of supply for pump shall include the pump, electric motors, mechanical seals, drives, guards, mounting skids, belts, sheaves and all parts and accessories so that the pump is complete and operational.
- 3.1.2 All equipment components and systems shall be Underwriters Laboratories (UL) certified.
- 3.1.3 All replaceable parts and commonly available equipment for piping, fittings, hardware, wiring, instrumentation, controls and accessories shall be supplied in accordance with North American standards and practices.
- 3.1.4 All drawings and calculations produced shall be in metric units.
- 3.1.5 Compliance with this specification does not relieve the Vendor of its responsibility to supply equipment which is durable, safe and reliable for the service described.

3.1.6 All pumps shall be sized to run at less than 85% of their rated speed in order to meet the design flowrate.

- 3.1.7 Pumps shall be supplied with wetted parts that are suitable for treated potable municipal water and are resistant to corrosion and abrasion.
- 3.1.8 All components shall meet code requirements for use in municipal potable water systems with full ANSI/NSF 61 compliance.
- 3.1.9 All lubricants and process contact fluids shall be ANSI/NSF 60 compliant.
- 3.1.10 All wearing or replaceable machine components shall be of standard manufacture and commonly available.
- 3.1.11 All machine parts shall be guarded to meet OSHA standards.
- 3.1.12 It is intended that the pumps providing the same services will be of similar design with the same common parts.



- 3.1.13 The pump and motor shall be shipped separately with assembly and alignment by installation contractor.
- 3.1.14 All pump motors shall be designed for inverter duty, VFD shall be provided by Others.
- 3.1.15 All equipment shall be tagged with:
 - Manufacturer's name;
 - Model number;
 - Date of fabrication;
 - Equipment name;
 - Equipment number;
 - P.O. Number;
 - kW rating of all motors; and
 - Serial number.

3.1.16 All components must be able to be hoisted using the existing 2 Ton capacity overhead crane on site.

3.1.17 All components must be able to fit through the existing 1750 mm x 2350 mm service door opening.

3.2 Electrical and Instrumentation

- 3.2.1 The Vendor shall furnish its recommended controls and instrumentation, including control panel(s) required to control and monitor the status or condition of the equipment or other functions more complex than the start/stop of motors.
- 3.2.2 All systems requiring protection shall be provided with sensory devices to initiate alarms and, when required, transmit a signal to the Purchaser's PLC to provide automatic shutdown of the system. All alarm sensors will be fully adjustable over their full operating ranges.
- 3.2.3 The Vendor's solution will be required to completely interface with the Purchaser's PLC via DeviceNET. The Vendor shall fully describe all the control and diagnostic functions to be supplied with the package.

3.3 Work Included

- 3.3.1 For all of the Merchandise listed in Section 2.1.7, the supply of each item shall be complete with, but not necessarily limited to, the following:
 - Motors suitable for inverter duty.
 - Lubrication system, if required.
 - Vent and drainage connections, complete with plugs and drain valves.
 - Base plates.
 - Lifting lugs and eye bolts.
 - Mechanical seal.
 - Drive coupling and guard.
 - Gaskets, sealants, nuts and bolts for assembly and erection.
 - I/O list of points needing to be monitored and/or controlled if applicable.
 - Initial lubrication charge, shipped separately in approved containers.
 - Drawings and data.
 - Painting as per the vendor standards.
 - Operating and maintenance manuals.
 - Recommended commissioning and operating spares.



- Complete sets of all special tools required for maintenance.
- All quality assurance and quality control (QA/QC) activities and documentation as required for completion of Merchandise.

3.4 Exclusions

- 3.4.1 The following items are excluded from the scope of supply to be quoted by the bidder:
 - Material unloading and storage;
 - Foundation and anchor bolts, however Vendor shall specify the requirements for anchor bolts;
 - Inlet and discharge piping to the pump;
 - Installation labour and materials;
 - Main motor starters and controls;
 - Auxiliary equipment motor starters;
 - Motor control panels.
 - Electrical wiring and conduits external to the equipment and auxiliary systems;
 - Purchaser's PLC;
 - Lubricants and hydraulic fluids, except as required for shop assembly and testing;
 - Service platforms, walkways, stairs, ladders, etc.;
 - Supply of services including compressed air, water and power; and
 - Variable speed drives.

4.0 REVISION HISTORY

Rev No.	Purpose	Issue Date
0	Issue for Tender	Nov 16 th , 2021
1	Changed requirements for the minimum operating flow.	June 28 th 2022
	Reduced the design flow rate.	
	Reduced the maximum operating flow rate.	
	Removed item 3.1.6. This requirement causes pumps to be oversized for the intended application.	
	Added item 3.1.16 and 3.1.17.	

END OF DOCUMENT



FOR INFORMATION DATE ISSUED: 2023-07-31

1.0 REVISIONS

Rev No.	Date	lssued for	Ву	Date	e Checked Da		Date Checked Date Approved			
0	Nov 15th, 2021	Tender	David Dussiaume	Nov 16 th , 2021	Derek Demers	Nov 16 th , 2021	David Dussiaume	Nov 16 th , 2021		
1	Apr 22 nd , 2022	Info.	James Gough	Apr 22 nd , 2021	Derek Demers	Derek Apr 22 nd , Jam Demers 2021 Gou		Apr 22 nd , 2021		

2.0 DESIGN CRITERIA

2.1.1 This specification pertains to the following list of item:

Equip. No.	Quantity	Description
HLP-07	1	High Lift Water Pumps

- 2.1.2 The high lift water pump will be used to supply water to the City of Timmins municipal water system. The demand flow rate for the system is variable by season and time of day and as such the pumps will be installed with VFD systems. VFD's will be controlled via DeviceNET through the clients Delta V system, based on a manual flow set point input on the HMI.
- 2.1.3 Vendors shall quote horizontal split case (HSC) style pumps to replace existing HSC pumps.
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- 2.1.6 The discharge pressure from the high lift pumps varies between 700 to 880 kPa depending on the water level in the system water tower.
- 2.1.7 All components on fabrication shall be suitable for use in a potable water system.
- 2.1.8 The equipment shall be the manufacturer's standard design with a proven and successful service in similar operations and shall be suitable for potable municipal water distribution applications and the specified conditions with minimum maintenance. The design criteria for the operation of the equipment are given below (note all units are metric unless noted otherwise):

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Fluid	Water
Operating Liquid Temperature at Inlet (°C)	10
Design Liquid Temperature at Inlet (°C)	2 - 20
HLP-07 High Lift Water Pumps	
Installed Units	5 (4 existing units not being replaced
Operating Units	1 to 2



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\wedge	Minimum Operating Flowrate (L/min)	11400
	Minimum Operating Flowrate	Vendor is to select pump to maximize the allowable operating range below the maximum operating flow.
\bigwedge	Design Flowrate (L/min)	19000
1	Design Flowrate (L/min)	16700
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	Maximum Operating Flowrate (L/min)	17700
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	NPSH _A (m)	11.3
	TDH (m) (min / max)	71 / 90
	Nominal Pipe Size at Discharge (mm)	500mm
	Pipe Material	Cast Iron
	Liquid to be Handled	Potable Water

3.0 SCOPE OF SUPPLY

3.1 General

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 - Lubrication system, if required.
 - Vent and drainage connections, complete with plugs and drain valves.
 - Base plates.
 - Lifting lugs and eye bolts.
 - Mechanical seal.
 - Drive coupling and guard.
 - Gaskets, sealants, nuts and bolts for assembly and erection.
 - I/O list of points needing to be monitored and/or controlled if applicable.
 - Initial lubrication charge, shipped separately in approved containers.
 - Drawings and data.
 - Painting as per the vendor standards.
 - Operating and maintenance manuals.
 - Recommended commissioning and operating spares.



- Complete sets of all special tools required for maintenance.
- All quality assurance and quality control (QA/QC) activities and documentation as required for completion of Merchandise.

3.4 Exclusions

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 - Foundation and anchor bolts, however Vendor shall specify the requirements for anchor bolts;
 - Inlet and discharge piping to the pump;
 - Installation labour and materials;
 - Main motor starters and controls;
 - Auxiliary equipment motor starters;
 - Motor control panels.
 - Electrical wiring and conduits external to the equipment and auxiliary systems;
 - Purchaser's PLC;
 - Lubricants and hydraulic fluids, except as required for shop assembly and testing;
 - Service platforms, walkways, stairs, ladders, etc.;
 - Supply of services including compressed air, water and power; and
 - Variable speed drives.

4.0 REVISION HISTORY

Rev No.	Purpose	Issue Date
0	Issue for Tender	Nov 16 th , 2021
1	Changed requirements for the minimum operating flow.	Apr 22 nd , 2022
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PROJECT SPECIFIC DESIGNATED SUBSTANCE INVENTORY SURVEY

For:

CIMA+ Canada

Timmins Water Treatment Plant Feldman Road Timmins, ON

March 19th, 2025



100C Waterloo Road Suite 125 Timmins, ON P4N 4X5



2253766 Ontario Inc., 100C Waterloo Road Suite 125 Timmins, ON, P4N 4X5

> **P**: (705) 268-6220 **M**: (705) 266-0024

Email: markb@bzenvironmental.com

March 19th, 2025

CIMA+ Canada 500–5935 Airport Road, Mississauga, ON L4V 1W5

Attn: Mr. Peter McLeod, BASc - Engineering Trainee / Infrastructure – Water Engineering

Re: Project Specific Designated Substance Survey Report – Timmins Water Treatment Plant

Dear Mr. McLeod:

Thank you for considering BZ Environmental Consulting for your environmental work requirements.

Please find attached our Project Specific Designated Substance Survey for the Timmins Water Treatment Plant located on Feldman Road, Timmins, ON.

I trust that this report meets your immediate requirements, please contact our office if you require further information on this file.

Respectfully submitted,

BZ ENVIRONMENTAL

Mark J. Bednarz, B.E.S., P.Geo. Sr. Environmental Geoscientist

EXECUTIVE SUMMARY

A Project Specific Designated Substance Survey ('DSS') was completed in the Timmins Water Treatment Plant located at 100 Feldman Road, Timmins, ON. It is understood that a renovation is planned in the area and a DSS was required to aid in project planning.

The following were the identified areas of concern that will require some additional consideration.

SILICA CONTAINING MATERIALS

Material Description	Location
Concrete	Floor slabs, walls, ceilings and foundations
Block and Mortar	Walls
Parging	Walls

ASBESTOS CONTAINING MATERIALS

Material Description	Location
Pipe Elbows	SE corner Pump Room 7/8
Roof Drains	Ceiling of Pump Room 7/8 and
	Welding Room downpipe

It should be noted that the flat roof was not tested, but there is potential for the roof system to contain asbestos components. This should be tested if work is planned for the roof in the future.

MERCURY CONTAINING MATERIALS

Material Description	Location
Temperature control thermostats	Potential throughout the area
Lights	Potential throughout the interior and exterior area



1.0 INTRODUCTION

As part of a due diligence program, BZ Environmental Consulting (BZEC) was retained by CIMA+ Canada to complete a Project Specific Designated Substance Survey ('DSS') in the Timmins Water Treatment Plant located at 100 Feldman Road, Timmins, ON. It is understood that work is planned in the area and a DSS was required to aid in project planning.

The objective of the DSS was to identify and quantify designated substances within the building as defined by the Ontario Occupational Health and Safety Act (OHSA) and the Ontario Ministry of Labour (MOL) including: asbestos-containing materials (ACM), lead, arsenic, benzene, mercury, vinyl chloride, acrylonitrile, silica, isocyanates coke oven emissions; ethylene oxides and other hazardous and designated substances including ozone-depleting substances, polychlorinated biphenyl (PCB)-containing equipment, urea formaldehyde foam insulation, and man-made mineral fibres.



1.1 REGULATORY REQUIREMENTS

This Designated Substance Report has been undertaken to fulfil the Owner's requirements under Section 30 of the Ontario Occupational Health and Safety Act, (the 'OHSA'), Revised Statutes of Ontario 1990, (as amended). The Owner must provide this report to all workers and contractors who may or may not come into contact with Designated Substances on the subject site. The Designated Substances defined under the OHSA and their corresponding regulations at the time of the survey are summarized in Table 1.

"Designated Substances" as defined by the OHSA means "a biological, chemical or physical agent or combination thereof prescribed as a designated substance to which the exposure of a worker is prohibited, regulated, restricted, limited or controlled."

The OHSA has issued specific regulations under Section 30 of the Act for these substances. The Designated Substance Regulations identified under the Industrial Regulation of the OHSA, provide guidance on exposure and medical monitoring, permissible occupational exposure limits, etc.

Ontario Regulation 278/05 ('O. Reg. 278/05') regulates the disturbance of asbestos on construction projects and is enforced by the Ontario Ministry of Labour ('MOL').

The MOL guideline for the control of lead exposures during the removal of lead on construction projects does not include criteria for categorizing lead-paint. The United States Department of Housing and Urban Development ('U.S. HUD'), and the Canadian Federal Hazardous Products Act ('HPA'), however, defines leadbased paint as any paint application containing at least 0.5% lead by weight (5,000 parts per million-ppm), if tested by chemical analysis. Paint samples found to contain concentrations of lead that exceeds 0.5% lead that exceeds 0.5% lead by weight are considered lead containing paint under the HPA.



1.2 DESIGNATED SUBSTANCES

Substance	Regulations
Acrylonitrile	O. Reg. 490/09 Designated Substances
Arsenic	O. Reg. 490/09 Designated Substances
Asbestos	O. Reg. 490/09 Designated Substances
Designated Substance-	
asbestos on construction	R.R.0. 2005, Reg.278/05
projects and in buildings and	
repair operations *	
Benzene	O. Reg. 490/09 Designated Substances
Coke Oven Emissions	O. Reg. 490/09 Designated Substances
Ethylene Oxide	O. Reg. 490/09 Designated Substances
Isocyanates	O. Reg. 490/09 Designated Substances
Lead	O. Reg. 490/09 Designated Substances
Mercury	O. Reg. 490/09 Designated Substances
Silica	O. Reg. 490/09 Designated Substances
Vinyl Chloride	O. Reg. 490/09 Designated Substances

Note: * The disturbance of asbestos on construction projects is specifically regulated by Ontario Regulation 278/05. It classifies all disturbance of asbestos as Type 1, Type 2 or Type 3, each of which is associated with defined work practices. All asbestos material waste is subject to special handling and disposal practices, and must be removed prior to partial or full demolition. Disposal of asbestos waste is subject to General Waste Management Regulation O. Reg. 347 as amended by 461/05.



2.0 DESIGNATED SUBSTANCE SURVEY

Designated substances in the Province of Ontario are defined in accordance with the OHSA. The following section of this report provides an overview of the primary characteristics of such designated substances, their potential health effects and the potential presence of such substances at the Building identified during the inspection.

A BZ Environmental representative completed a site inspection and associated DSS on February 28th, 2025, whereby all of the accessible areas within the Project Specific areas of the building were inspected.

2.1 Acrylonitrile

Acrylonitrile is a colourless to pale-yellow liquid at room temperature, with an unpleasant odour. Acrylonitrile is used in the manufacturing of synthetic fibres, rubber, coatings and adhesives.

Acrylonitrile is toxic by inhalation and by skin exposure. Low-level exposure to acrylonitrile may cause eye and skin irritation, headaches, nausea and vomiting. High level or prolonged exposure may result in damage to the heart, liver, kidneys, and central nervous system and acrylonitrile a known carcinogen.

Site Conditions: Based on the inspection of the subject area within the building, no suspected acrylonitrile containing materials were identified.

2.2 Arsenic

Arsenic is a silver/grey, brittle, crystalline solid at room temperature. Arsenic compounds are used as wood preservatives, insecticides, herbicides, and in metal alloys and are naturally present in certain minerals and soils.

Arsenic is a poison and at high levels may cause death, cancer, nerve damage, stomach damage, intestinal damage, and skin damage. At lower levels it may cause nausea, diarrhoea, decreased production of red and white blood cells, and abnormal heart rhythm.

Site Conditions: Based on the inspection of the subject area within the building, no suspected arsenic containing materials were identified.



2.3 Asbestos

Asbestos is the name used for a group of fibrous minerals that occur naturally in soil and rock. Asbestos fibres were formerly used for primarily its insulating and fireproofing properties in roofing shingles, ceiling tiles, floor tiles, asbestos cement products, gaskets, insulation, paper products, and other Building and insulating products.

Asbestos mainly affects the respiratory system. Inhalation of asbestos may result in the build-up of scar-like tissue resulting in cancer of the lungs and the surrounding membrane.

Site Conditions: An asbestos survey was conducted as part of the DSS. The results of the asbestos survey are presented in Section 3.0.

2.4 Asbestos Containing Materials

There are over 3,000 asbestos containing materials ('ACM'), which can be divided into two broad categories: friable and non-friable.

Friable ACMs are defined as materials that can be crumbled, pulverized and reduced to powder when dry using hand pressure. Typical friable materials include acoustical or decorative spray applications, fireproofing and thermal insulation.

Non-friable ACMs are hard or manufactured products such as floor tiles, fire blankets, preformed manufactured cementitious insulation and wallboards, pipes and siding, wherein the asbestos fibres are bound.

2.5 Benzene

Benzene is a colourless liquid at room temperature, with a sweet odour. Benzene and benzene-containing compounds are components of crude oil and refined petroleum products such as gasoline and are present in coal, natural gas and other materials. Benzene is used to manufacture other chemicals, which are used to make plastic, resin, nylon, rubber, lubricants, detergents, drugs, and other materials.

Benzene is a human carcinogen. Exposures to benzene may cause dizziness, drowsiness, and unconsciousness. Long-term exposures may result in anaemia, leukemia, and damage to bone marrow.



Site Conditions: Based on the inspection of the subject area within the building, no suspected benzene containing materials were identified.

2.6 Coke Oven Emissions

Coke oven emissions are the airborne constituents of the by-products created by destructive distillation of coal and petroleum. Coke oven emissions are typically associated with the production of steel and coal processing/coke manufacture.

Exposure to coke oven emissions is a potential cause of lung cancer. Dermal contact with coke oven emissions should be avoided.

Site Conditions: Based on the inspection of the subject area within the building, no suspected coke oven emissions were identified.

2.7 Ethylene Oxide

Ethylene oxide is a colourless gas at room temperature and a liquid at 12°C. It is used in the manufacture of ethylene glycol, surfactants, fumigants, fungicides, and petroleum demulsifiers.

Exposure routes include inhalation, ingestion, skin and/or eye contact. Exposure may cause irritation of the eyes, skin, nose and throat, headaches, nausea, and drowsiness. Exposure to high concentrations may cause frostbit, reproductive effects, convulsions, liver and kidney damage, and ethylene oxide is a known human carcinogen.

Site Conditions: Based on the inspection of the subject area within the building, no suspected ethylene oxide containing substances were identified.

2.8 Lead

Lead is a naturally occurring bluish-grey metal that is solid at room temperature. Lead was/is used in the manufacturing of batteries, ammunition, solder, paint, and piping.

The routes of exposure to lead are limited to inhalation and ingestion of lead, with the highest risk of lead exposure being the inhalation of lead containing dust. Lead can damage the nervous system, kidneys, and the immune system.



Site Conditions: Based on the inspection of the subject area within the building, there were no suspected lead-based material identified.

2.9 Mercury

Mercury is a naturally occurring metal. At room temperature it is a shiny, silvercoloured odourless liquid. When heated it becomes a colourless, odourless gas. Mercury is used in electrical switches, thermostats, thermometers, dental fillings, certain batteries, and some manufacturing processes.

The nervous system is very sensitive to all forms of mercury; however, vapour is especially harmful as it directly reaches the brain. Exposure to high levels of mercury may permanently damage the brain, kidneys and a developing fetus. Short-term exposure may cause lung damage, nausea, vomiting, skin rashes, and eye irritation.

Site Conditions: Based on the inspection of the subject area within the building, there were suspected mercury containing materials identified, however samples were not collected. There is potential for mercury containing temperature control thermostats and mercury containing lights to be present. Care should be taken to identify.

2.10 Silica

Silica is a transparent to gray odourless powder or crystal at room temperature. It occurs widely in nature as sand, quartz, flint, and diatomite. Silica is used in the manufacture of glass, ceramics, abrasives, water treatment products, cosmetics, insecticides, paint and foods, as well as a drying agent or preservative. Crystalline silica materials also are used in the production of concrete, cement, acoustic ceiling tiles, and ceramic tiles which are used for construction purposes.

Site Conditions: Based on the inspection of the subject area within the building, several suspected crystalline silica materials were identified. Crystalline silica is likely present in the building concrete and exterior brick (e.g., concrete slab floor and footings and any block walls, bricks, stucco and/or mortar). As such, there is a potential for silica dust to be generated by the grinding, cutting, renovating, or demolition of these specific materials.



2.11 Vinyl Chloride

Vinyl chloride is a colourless, flammable gas at room temperature with a mild, sweet odour. Vinyl chloride is a degradation product of product of organic industrial/commercial solvents such as tetrachloroethylene (PCE) and trichloroethylene (TCE), which are used as degreasing and dry cleaning agents. One use of vinyl chloride is in the manufacture of polyvinyl chloride (PVC), which is used in many plastic products including plastic pipe, electrical cable insulation, plumbing and conduit fixtures, clothing, upholstery, roofing and flooring materials.

Exposure to vinyl chloride occurs mainly in workplaces where it is used in plastic product manufacturing or chlorinated solvents are used. Breathing high levels of vinyl chloride for short periods of time can cause dizziness, sleepiness, unconsciousness, and, damage, immune reactions, nerve damage, and cancer.

Site Conditions: Based on the inspection of the subject area within the building, no suspected vinyl chloride materials were identified.

2.10 Urea Formaldehyde

Urea-formaldehyde foam insulation (UFFI) dates back to the 1930s and made a great synthetic insulation with R-values near 5.0 per inch. It is basically a foam, like shaving cream, that is easily injected into walls with a hose under pressure. It is made by using a pump set and hose with a mixing gun to mix the foaming agent, resin and compressed air. The fully expanded foam is pumped into areas in need of insulation. It becomes firm within minutes but cures within a week. Visually it looks like oozing liquid that has been hardened. Over time, it tends to vary in shades of butterscotch but new UFFI is a light yellow color. Early forms of UFFI tended to shrink significantly. Modern UF insulation with updated catalysts and foaming technology have reduced shrinkage to minimal levels (between 2-4%). The foam dries with a dull matte color with no shine. When cured, it often has a dry and crumbly texture.

Site Conditions: Based on the inspection of the subject area within the building, no suspected UFFI materials were identified.



3.0 ASBESTOS SURVEY

3.1 General

The asbestos containing material (ACM) survey of the subject area was conducted on February 28th, 2025. The asbestos survey was completed with consideration to Ontario Regulation (O. Reg.) 278/05 entitled "Designated Substance – asbestos on construction projects and in Buildings and repair operations". O. Reg. 278/05 revoked and replaced O. Reg. 838/90 on November 1, 2005. Sampling activities were performed in accordance with bulk asbestos sampling procedures outlined in O. Reg. 278/05 and in the document entitled "Designated Substances in the Workplace: A Guide to the Asbestos Regulation for Construction Projects, Buildings and Repair Operations", MOL, April 1987.

3.2 Sampling

The inspection consisted of a visual survey of all safely accessible interior and exterior areas and included the collection of select suspect representative building material samples. Based on the age and use of the building, the assessment focused on identifying the most common applications of building materials likely to contain Designated Substances.

There was 1 material suspected of containing asbestos therefore 1 sample were collected and sent to the lab. The lab identified multiple phases on the sample resulting in 2 samples being analyzed. All samples identified to have an asbestos content of 0.5% or higher are summarized in Table 2. Detailed sampling results can be found in Appendix A.

The survey included minimal destructive testing of drywall surfaces. However, it is possible that materials may exist which could not be reasonably identified within the scope of the assessment or which were not apparent or accessible during the site visit. An area above a suspended tile ceiling, behind a closed door, or behind an access hatch is considered accessible. An area enclosed by gypsum board, plaster, or panelling, roofing materials, boiler refractory, etc., where major demolition is required to gain entry, is considered non-accessible and was not included as part of this investigation.

One sample of suspected asbestos-containing materials were submitted to EMC Scientific Inc. located in Mississauga, Ontario. EMC Scientific Inc. is accredited for bulk asbestos fiber analysis. Samples were analyzed using polarized light microscopy ('PLM') technique (following method EPA/600/R-93/116). This standard is specified by Ontario Regulation 278/05 as the method



for establishing whether the material is asbestos-containing and defining the content and type of asbestos.

All samples identified to have an asbestos content of 0.5% or higher are summarized in Table 2. Detailed sampling results can be found in Appendix A. The lab identified multiple phases on 1 of the samples resulting in a total of 9 samples being analysed.

TABLE 1

SAMPLES SUBMITTED WITH SUSPECTED ASBESTOS CONTENT

Sample ID	Material Description	Location	Condition
1 a	Wall Parging – grey layer	Walls – High Lift Pump Room 1	Poor
1 b	White layer	Walls - High Lift Pump Room 1	Poor

3.2.1 **Definitions of Condition**

Good Condition:

-Non-Friable

-Asbestos is well maintained and is very unlikely to become friable.

-Friable asbestos is fully encapsulated and is not airborne.

Fair Condition:

-Non-Friable asbestos is maintained but may need future attention if left alone. -Friable asbestos is encapsulated but may need further attention if left alone.

Poor Condition:

-Non-Friable asbestos is cracking and breaking and may become friable.

-Friable asbestos may be airborne.

-Enclosure and/or removal is highly recommended.



TABLE 2

CONFIRMED ASBESTOS CONTAINING MATERIAL RECORD

Sample ID	Material Description	Friable or Non-Friable	Asbestos % & Type
1 a	Wall Parging – grey layer	Friable	None Detected
1 b	White layer	Friable	None Detected
	Pipe Elbows – Pump Room 7/8	Friable	Previously Identified as ACM
	Roof drain – Pump Room 7/8 and Welding Room	Friable	Previously Identified as ACM



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4.0 LEAD PAINT SURVEY

4.1 General

A lead paint-sampling program was conducted during the building inspection. Sampling activities were performed in accordance with bulk lead sampling procedures outlined in the document entitled "Designated Substances in the Workplace: A Guide to the Lead Regulation for Construction Projects, Buildings and Repair Operations", MOL, Ontario Regulation 843 (1990). The abovementioned sampling protocol is recommended by the MOL for lead paint sampling.

As part of this lead paint survey, there was no suspected lead containing materials identified.



5.0 CONCLUSIONS

A Project Specific Designated Substance Survey was completed in the Timmins Water Treatment Plant located at 100 Feldman, Timmins, ON.

There was 1 material suspected of containing asbestos therefore a total of 1 samples were collected and sent to the lab. The laboratory identified multiple phases on the sample resulting in a total of 2 samples being analyzed.

The laboratory analysis determined that these materials did not contain asbestos fibres and shall be considered Asbestos Free Material. There were no other suspected Asbestos Containing Material identified during the inspection.

It should be further noted that previous investigations identified Asbestos Containing Material in Pump Room 7/8 and the Welding Room. There are several pipe insulation elbows in the SE corner of the room clearly marked as ACM. There is also a roof drain in Pump Room 7/8 which drains to the Welding Room where there is a down pipe which is also Asbestos Containing Material. There materials were not tested and rather were confirmed present and assumed to be ACM based on previous investigations.

It should be noted that the flat roof was not tested, but there is potential for the roof system to contain asbestos components. This should be tested if work is planned for the roof in the future

There were no suspected lead containing materials identified.

Silica was identified as potentially being present in sand, concrete, blocks, bricks, and stucco and mortar.

There is potential for mercury containing temperature control thermostats and mercury containing lighting to be present within the building. Care should be taken to identify.

There were no immediate dangers found with any of these substances. There were no other issues identified.

Representative samples- Please assume that all similar materials found within buildings will have similar asbestos and/or lead content when materials are found from the same construction year in the same building.



6.0 LIMITATIONS

The information, conclusions and recommendations given herein are specifically for this project and this client only, and the scope of work described herein. It may not be sufficient for other uses.

The conclusions and recommendations regarding environmental conditions, which are presented in this report are based on a scope of work authorized by the Client, however, it should be noted that virtually no scope of work, no matter how exhaustive, can identify all contaminants or all conditions above and below ground. For example, conditions between test holes or sample locations may differ from those encountered in the investigation and conditions may change with time. This report therefore cannot warranty that all conditions on or off the site are represented by those identified at specific locations.

The services performed as described in this report were based on visual observations of the site, structures and outbuildings. There were no destructive investigations performed at this site.

Note also that standards, guidelines and practices related to environmental investigations may change with time. Those that were applied at the time of this investigation may be obsolete or unacceptable at a later date.

The comments given in this report on potential remediation problems and possible methods are intended only for the guidance of the designer. The scope of work may not be sufficient to determine all of the factors that may affect construction or clean-up methods and costs.

Any results from an analytical laboratory reported herein have been carried out by others, in this case, EMC Scientific Ltd., and BZ Environmental Consulting does not warranty their accuracy. All laboratories used by BZ Environmental Consulting are accredited by the appropriate authorities for the specific registered tests.



7.0 CLOSURE

We trust this information is sufficient for your present purposes. Should you have any questions, please do not hesitate to contact the undersigned directly.

Yours Truly,

BZ ENVIRONMENTAL

ROF



Mark J. Bednarz, B.E.S., P. Geo., Sr. Environmental Geoscientist



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APPENDIX A

SITE PHOTOS

Check out our website at www.bzenvironmental.com





Photo No. 3	
Date:	
February 28th, 2025	
Description:	
ACM – Roof drain in Pump Room 7/8	



BZ ENVIRONMENTAL CONSULTING



APPENDIX B

LABORATORY RESULTS



Laboratory Analysis Report

Mark BednarzEBZ Environmental ConsultingJe100C Waterloo Road, Suite 125A		onsulting Job/Project Analysis M	EMC LAB REPORT NUMBER: <u>A116254</u> Job/Project Name: Timmins Water Treatment Plant Analysis Method: Polarized Light Microscopy – EPA 600		Jo) N ι	Job No: 2024-061 Number of Samples: 1		
Timmins, Ontario Date		Date Receiv Analyst: Ar	Date Received: Mar 4/25 Date Analyzed: Mar 12/25 Analyst: Arth Parikh		ur 12/25 Da	Date Reported: Mar 12/25		
1 11 1		Reviewed E	By: Malgorzata Sybyd	0				
	Lah		V		SAMP	LE COMP	ONENTS (%	b)
Client's Sample ID	Sample No.	Description/Location	on/Location Sample Appearance A		Asbestos	Fibres	Non- asbestos Fibres	Non- fibrous Material
1	A116254-1	Parging	2 Phases:					
			a) Grey, cen	nentitious material	ND			100
			b) White, ce	mentitious material	ND			100

Note:

To:

1. Bulk samples are analyzed using Polarized Light Microscopy (PLM) and dispersion staining techniques. The analytical procedures are in accordance with EPA 600/R-93/116 method.

2. The results are only related to the samples analyzed. ND = None Detected (no asbestos fibres were observed), NA = Not Analyzed (analysis stopped due to a previous positive result).

3. This report may not be reproduced, except in full without the written approval of EMC Scientific Inc. This report may not be used by the client to claim product endorsement by NVLAP or any other agency of the U.S. Government.

4. The Ontario Regulatory Threshold for asbestos is 0.5%. The limit of quantification (LOQ) is 0.5%.

Number 1 2	TWFP Valve Schedule				
1	Tag	Discription	Notes	Project	
2	RAW-100-CV-001	Low Lift Pump #1 Check Valve		TWFP 1972 Build ENG 1976-09-01	
	RAW-100-BFV-001	Low Lift Pump #1 Isolation Valve		TWFP 1972 Build ENG 1976-09-01	
3	RAW-100-CV-002	Low Lift Pump #2 Check Valve		TWFP 1972 Build ENG 1976-09-01	
4	RAW-100-BFV-002	Low Lift Pump #2 Isolation Valve		TWFP 1972 Build ENG 1976-09-01	
5		Flocculation Tank 1 Channel Gate	Now RM Settling Tank 1 Channel Gate	TWFP 1972 Build ENG 1976-09-01	
6		Flocculation Tank 2 Channel Gate	Now RM Settling Tank 2 Channel Gate	TWFP 1972 Build ENG 1976-09-01	
7		Settling Tank 1 Channel Gate	Now RM Clarifier 1 Channel Drain Gate	TWFP 1972 Build ENG 1976-09-01	
8		Settling Tank 2 Channel Gate	Now RM Clarifier 2 Channel Drain Gate	TWFP 1972 Build ENG 1976-09-01	
9	210-MOV-01	Filter 1 Influent Gate		TWFP 1972 Build ENG 1976-09-01	
10	220-MOV-01	Filter 2 Influent Gate		TWFP 1972 Build ENG 1976-09-01	
11	230-MOV-01	Filter 3 Influent Gate		TWFP 1972 Build ENG 1976-09-01	
12	210-MOV-02	Filter 1 Effluent Gate		TWFP 1972 Build ENG 1976-09-01	
13	220-MOV-02	Filter 2 Effluent Gate		TWFP 1972 Build ENG 1976-09-01	
14	230-MOV-02	Filter 3 Effluent Gate		TWFP 1972 Build ENG 1976-09-01	
15		Filter 1 Surface Wash Valve	Removed when Air Scour Installed	TWFP 1972 Build ENG 1976-09-01	
10		Filter 2 Surface Wash Valve	Removed when Air Scour Installed	TWFP 1972 Build ENG 1976-09-01	
1/	210 MOV 06	Filter 3 Surface Wash Valve	Removed when Air Scour Installed	TWEP 1972 BUILD ENG 1976-09-01	
10	210-IVIOV-00	Filter 1 Backwash isolate Valve	<u> </u>	TWEP 1072 Build ENG 1976-09-01	
20	220-1000-00	Filter 2 Backwash isolate Valve		TWEP 1072 Build ENG 1976-09-01	
20	230-1010 -00	Filter 3 BdCKWdSH ISOlace valve		TWEP 1972 Build ENG 1976-09-01	
21	210-MOV-05	Filter 1 Filter to Waste Valve		TWFF 1972 Build ENG 1976-09-01	
23	220-INOV-05	Filler 2 Filter to Waste Valve		TWFF 1972 Build ENG 1976-09-01	
24	210-FIC-03B	Filter 1 Rate of Control Valve		TWEP 1972 Build ENG 1976-09-01	
25	220-FIC-03B	Filter 2 Rate of Control Valve		TWEP 1972 Build ENG 1976-09-01	
26	230-FIC-03B	Filter 3 Rate of Control Valve		TWFP 1972 Build ENG 1976-09-01	
27	200-FIC-11	Microfloc Backwash Isolate Valve	Renamed Filter 123 Backwash Isolate Valve	TWFP 1972 Build ENG 1976-09-01	
28	-	Surface Sweep Isolate Valve	Now used as Hot Water Supply Isolate	TWFP 1972 Build ENG 1976-09-01	
29	BWP1-BFV-001	Backwash Pump 1 Inlet Isolate Valve		TWFP 1972 Build ENG 1976-09-01	
30	BWP1-CV-001	Backwash Pump 1 Check Valve		TWFP 1972 Build ENG 1976-09-01	
31	BWP1-BFV-002	Backwash Pump 1 Discharge Isolate Valve		TWFP 1972 Build ENG 1976-09-01	
32		Emergency Backwash Valve	Removed From Service	TWFP 1972 Build ENG 1976-09-01	
33	SG-0101	Clearwell 1 Inlet Gate		TWFP 1972 Build ENG 1976-09-01	
34	SG-0201	Clearwell 2 Inlet Gate		TWFP 1972 Build ENG 1976-09-01	
35	SG-0102	Clearwell 1 Discharge Gate		TWFP 1972 Build ENG 1976-09-01	
36	SG-0202	Clearwell 2 Discharge Gate		TWFP 1972 Build ENG 1976-09-01	
37		Sightwell By-pass Valve	Removed and Capped	TWFP 1972 Build ENG 1976-09-01	
38		Low Lift to High Lift ByPass Temp Valve	Removed after initial Construction	TWFP 1972 Build ENG 1976-09-01	
39		Raw Water to Floculator Channel Gate	Capped and Line removed	TWFP 1972 Build ENG 1976-09-01	
40		High Lift Pump 1 Inlet Valve	Pump Removed	TWFP 1972 Build ENG 1976-09-01	
41		High Lift Pump 1 Check Valve	Pump Removed	TWFP 1972 Build ENG 1976-09-01	
42		High Litt Pump 1 Discharge Valve	Pump Removed	TWFP 1972 Build ENG 1976-09-01	
43		High Lift Pump 2 Inlet Valve	Pump Removed	TWFP 1972 BUILD ENG 1976-09-01	
44		High Litt Pump 2 Check Valve	Pump Removed	TWFP 1972 Build ENG 1976-09-01	
45		High Lift Dupon / Dicchargo Vanio	Pump Kemovea	THER 4072 R. HA ENC 1076 00 01	
16		Fight Lint Pullip 2 Discillarge Valve	No this drawing Disc removed to W/W	TWFP 1972 Build ENG 1976-09-01	
46	TILF450-BI V-001	Suction Header to Wet Well	No # in drawing, Pipe removed to WW	TWFP 1972 Build ENG 1976-09-01 TWFP 1972 Build ENG 1976-09-01	
46 47 48		Suction Header to Wet Well Not assigned Link Lift Pump 4 July Valve	No # in drawing, Pipe removed to WW	TWFP 1972 Build ENG 1976-09-01 TWFP 1972 Build ENG 1976-09-01 TWFP 1972 Build ENG 1976-09-01	
46 47 48 49	HLP4-BFV-001 HI P4-CV-001	Nigh Lift Pump 2 Discharge Valve Suction Header to Wet Well Not assigned High Lift Pump 4 Inlet Valve High Lift Pump 4 Check Valve	No # in drawing, Pipe removed to WW Replaced with Header Upgrades 2020	TWFP 1972 Build ENG 1976-09-01 TWFP 1972 Build ENG 1976-09-01 TWFP 1972 Build ENG 1976-09-01 TWFP 1972 Build ENG 1976-09-01	
46 47 48 49 50	HLP4-BFV-001 HLP4-CV-001 HLP4-CV-001	Nigh Lift Pump 2 Discharge Valve Suction Header to Wet Well Not assigned High Lift Pump 4 Inlet Valve High Lift Pump 4 Check Valve High Lift Pump 4 Discharge Valve	No # in drawing, Pipe removed to WW Replaced with Header Upgrades 2020 Replaced with Header Upgrades 2020 Replaced with Header Upgrades 2020	TWFP 1972 Build ENG 1976-09-01	
46 47 48 49 50 51	HLP4-BFV-001 HLP4-CV-001 HLP4-GV-001 HLP5-BFV-001	High Lift Pump 2 Discharge Valve Suction Header to Wet Well Not assigned High Lift Pump 4 Inlet Valve High Lift Pump 4 Check Valve High Lift Pump 4 Discharge Valve High Lift Pump 5 Inlet Valve	No # in drawing, Pipe removed to WW Replaced with Header Upgrades 2020 Replaced with Header Upgrades 2020 Replaced with Header Upgrades 2020	TWFP 1972 Build ENG 1976-09-01	
46 47 48 49 50 51 52	HLP4-BFV-001 HLP4-CV-001 HLP4-GV-001 HLP5-BFV-001 HLP5-CV-001	High Lift Pump 2 Discharge Valve Suction Header to Wet Well Not assigned High Lift Pump 4 Inlet Valve High Lift Pump 4 Check Valve High Lift Pump 4 Discharge Valve High Lift Pump 5 Inlet Valve High Lift Pump 5 Check Valve	No # in drawing, Pipe removed to WW Replaced with Header Upgrades 2020 Replaced with Header Upgrades 2020 Replaced with Header Upgrades 2020	TWFP 1972 Build ENG 1976-09-01	
46 47 48 49 50 51 51 52 53	HLP4-30-30-V-001 HLP4-CV-001 HLP4-GV-001 HLP5-BFV-001 HLP5-CV-001 HLP5-GV-001	High Lift Pump 2 Discharge Valve Suction Header to Wet Well Not assigned High Lift Pump 4 Inlet Valve High Lift Pump 4 Check Valve High Lift Pump 4 Discharge Valve High Lift Pump 5 Inlet Valve High Lift Pump 5 Discharge Valve High Lift Pump 5 Discharge Valve	No # in drawing, Pipe removed to WW Replaced with Header Upgrades 2020 Replaced with Header Upgrades 2020 Replaced with Header Upgrades 2020 Replaced with Header Upgrades 2020	TWFP 1972 Build ENG 1976-09-01	
46 47 48 49 50 51 52 53 53 54	HLP4-30-30-V-001 HLP4-CV-001 HLP4-CV-001 HLP5-SFV-001 HLP5-SFV-001 HLP5-GV-001 HLP5-GV-001	High Lift Pump 2 Discharge Valve Suction Header to Wet Well Not assigned High Lift Pump 4 Inlet Valve High Lift Pump 4 Discharge Valve High Lift Pump 5 Inlet Valve High Lift Pump 5 Discharge Valve High Lift Pump 5 Discharge Valve	No # in drawing, Pipe removed to WW Replaced with Header Upgrades 2020 Replaced with Header Upgrades 2020 Replaced with Header Upgrades 2020 Replaced with Header Upgrades 2020	TWFP 1972 Build ENG 1976-09-01	
46 47 48 49 50 51 52 53 53 54 55	HLP4-30-BI-V-001 HLP4-CV-001 HLP4-GV-001 HLP5-BFV-001 HLP5-CV-001 HLP5-GV-001 HLP6-BFV-001 HLP6-CV-001	High Lift Pump 2 Discharge Valve Suction Header to Wet Well Not assigned High Lift Pump 4 Inlet Valve High Lift Pump 4 Check Valve High Lift Pump 5 Inlet Valve High Lift Pump 5 Inlet Valve High Lift Pump 5 Check Valve High Lift Pump 5 Discharge Valve High Lift Pump 5 Object Valve High Lift Pump 5 Object Valve High Lift Pump 5 Object Valve High Lift Pump 6 Object Valve High Lift Pump 6 Object Valve High Lift Pump 6 Object Valve	No # in drawing, Pipe removed to WW Replaced with Header Upgrades 2020 Replaced	TWFP 1972 Build ENG 1976-09-01	
46 47 48 49 50 51 52 53 53 54 55 55 56	HLP4-30-BI-V-001 HLP4-CV-001 HLP4-CV-001 HLP5-BFV-001 HLP5-CV-001 HLP5-CV-001 HLP6-BFV-001 HLP6-CV-001 HLP6-CV-001	High Lift Pump 2 Discharge Valve Suction Header to Wet Well Not assigned High Lift Pump 4 Inlet Valve High Lift Pump 4 Check Valve High Lift Pump 5 Inlet Valve High Lift Pump 5 Inlet Valve High Lift Pump 5 Check Valve High Lift Pump 5 Discharge Valve High Lift Pump 5 Check Valve High Lift Pump 5 Discharge Valve High Lift Pump 6 Check Valve High Lift Pump 6 Discharge Valve	No # in drawing, Pipe removed to WW Replaced with Header Upgrades 2020	TWFP 1972 Build ENG 1976-09-01	
46 47 48 49 50 51 52 53 53 54 55 55 56 57	HLP4-30-BIV-001 HLP4-CV-001 HLP4-CV-001 HLP5-BFV-001 HLP5-CV-001 HLP5-CV-001 HLP6-BFV-001 HLP6-CV-001	High Lift Pump 4 Discharge Valve Suction Header to Wet Well Not assigned High Lift Pump 4 Inlet Valve High Lift Pump 4 Check Valve High Lift Pump 5 Inlet Valve High Lift Pump 5 Inlet Valve High Lift Pump 5 Check Valve High Lift Pump 5 Discharge Valve High Lift Pump 5 Discharge Valve High Lift Pump 6 Discharge Valve High Lift Pump 6 Obscharge Valve High Lift Pump 6 Discharge Valve High Lift Pump 6 Discharge Valve Flocculation Tank 1 Drain Plug	No # in drawing, Pipe removed to WW Replaced with Header Upgrades 2020 Replaced Replaced Replaced Replaced With Header Upgrades 2020	TWFP 1972 Build ENG 1976-09-01	
46 47 48 50 51 52 53 54 55 55 56 57 57 58	HLP4-30-BI-V-001 HLP4-CV-001 HLP4-GV-001 HLP5-BFV-001 HLP5-CV-001 HLP5-GV-001 HLP6-BFV-001 HLP6-CV-001 HLP6-GV-001	High Lift Pump 2 Discharge Valve Suction Header to Wet Well Not assigned High Lift Pump 4 Inlet Valve High Lift Pump 4 Check Valve High Lift Pump 5 Inlet Valve High Lift Pump 5 Check Valve High Lift Pump 5 Check Valve High Lift Pump 5 Discharge Valve High Lift Pump 6 Discharge Valve High Lift Pump 6 Check Valve High Lift Pump 6 Discharge Valve High Lift Pump 6 Discharge Valve Flocculation Tank 1 Drain Plug Flocculation Tank 2 Drain Plug	No # in drawing, Pipe removed to WW Replaced with Header Upgrades 2020 Replaced Replaced Replaced Replaced & Capped Removed & Capped	TWFP 1972 Build ENG 1976-09-01	
46 47 48 50 51 52 53 54 55 56 57 58 59	HLP4-J0-BIV-001 HLP4-CV-001 HLP4-GV-001 HLP5-BFV-001 HLP5-CV-001 HLP5-GV-001 HLP6-BFV-001 HLP6-CV-001 HLP6-GV-001	High Lift Pump 2 Discharge Valve Suction Header to Wet Well Not assigned High Lift Pump 4 Inlet Valve High Lift Pump 4 Check Valve High Lift Pump 5 Inlet Valve High Lift Pump 5 Check Valve High Lift Pump 5 Check Valve High Lift Pump 5 Check Valve High Lift Pump 5 Discharge Valve High Lift Pump 6 Inlet Valve High Lift Pump 6 Check Valve High Lift Pump 6 Discharge Valve High Lift Pump 6 Discharge Valve Flocculation Tank 1 Drain Plug Flocculation Tank 2 Drain Plug Settling Tank 2 Mud Valve	No # in drawing, Pipe removed to WW Replaced with Header Upgrades 2020 Replaced Replaced Replaced Removed & Capped Removed & Capped Removed & Capped	TWFP 1972 Build ENG 1976-09-01	
46 47 48 49 50 51 52 53 54 55 56 57 57 58 59 60	HLP4-J0-BIV-001 HLP4-GV-001 HLP4-GV-001 HLP5-BFV-001 HLP5-GV-001 HLP5-GV-001 HLP6-BFV-001 HLP6-GV-001	High Lift Pump 2 Discharge Valve Suction Header to Wet Well Not assigned High Lift Pump 4 Inlet Valve High Lift Pump 4 Check Valve High Lift Pump 5 Inlet Valve High Lift Pump 5 Check Valve High Lift Pump 5 Check Valve High Lift Pump 5 Check Valve High Lift Pump 5 Discharge Valve High Lift Pump 6 Check Valve High Lift Pump 6 Check Valve High Lift Pump 6 Discharge Valve High Lift Pump 6 Discharge Valve Flocculation Tank 1 Drain Plug Flocculation Tank 2 Drain Plug Settling Tank 2 Mud Valve	No # in drawing, Pipe removed to WW Replaced with Header Upgrades 2020 Replaced Replaced Replaced Replaced Removed & Capped	TWFP 1972 Build ENG 1976-09-01	
46 47 48 49 50 51 52 53 54 55 55 56 57 57 58 59 9 60 60 61	HLP4-J0-BIV-001 HLP4-GV-001 HLP4-GV-001 HLP5-BFV-001 HLP5-GV-001 HLP5-GV-001 HLP6-BFV-001 HLP6-GV-001 HLP6-GV-001 FILT-200-DV-001	High Lift Pump 2 Discharge Valve Suction Header to Wet Well Not assigned High Lift Pump 4 Inlet Valve High Lift Pump 4 Check Valve High Lift Pump 4 Discharge Valve High Lift Pump 5 Inlet Valve High Lift Pump 5 Discharge Valve High Lift Pump 5 Discharge Valve High Lift Pump 6 Inlet Valve High Lift Pump 6 Check Valve High Lift Pump 6 Discharge Valve High Lift Pump 6 Discharge Valve Flocculation Tank 1 Drain Plug Flocculation Tank 2 Mud Valve Settling Tank 1 Mud Valve Sump Valve by Filter 2	No # in drawing, Pipe removed to WW Replaced with Header Upgrades 2020 Replaced Replaced Replaced Removed & Capped	TWFP 1972 Build ENG 1976-09-01	
46 47 48 49 50 51 52 53 54 55 55 56 57 58 59 60 60 61 62	HLP4-J0-BIV-001 HLP4-GV-001 HLP4-GV-001 HLP5-BFV-001 HLP5-GV-001 HLP5-GV-001 HLP6-BFV-001 HLP6-GV-001 HLP6-GV-001 FILT-200-DV-001 FILT-200-DV-002	High Lift Pump 4 Discharge Valve Suction Header to Wet Well Not assigned High Lift Pump 4 Inlet Valve High Lift Pump 4 Discharge Valve High Lift Pump 5 Inlet Valve High Lift Pump 5 Inlet Valve High Lift Pump 5 Discharge Valve High Lift Pump 5 Discharge Valve High Lift Pump 6 Discharge Valve Flocculation Tank 1 Drain Plug Flocculation Tank 2 Drain Plug Settling Tank 1 Mud Valve Settling Tank 1 Mud Valve Sump Valve by Filter 2 Sump Valve by NE Filter 3 - Basement Safety Shower	No # in drawing, Pipe removed to WW Replaced with Header Upgrades 2020 Removed & Capped	TWFP 1972 Build ENG 1976-09-01	
46 47 48 49 50 51 52 53 54 55 55 56 57 58 59 60 61 61 62 63	HLP4-30-BI-V-001 HLP4-CV-001 HLP4-CV-001 HLP5-BFV-001 HLP5-CV-001 HLP5-GV-001 HLP6-GV-001 HLP6-GV-001 FILT-200-DV-001 FILT-200-DV-002 CW1-V1	High Lift Pump 4 Discharge Valve Suction Header to Wet Well Not assigned High Lift Pump 4 Inlet Valve High Lift Pump 4 Discharge Valve High Lift Pump 5 Inlet Valve High Lift Pump 5 Inlet Valve High Lift Pump 5 Check Valve High Lift Pump 5 Discharge Valve High Lift Pump 6 Check Valve High Lift Pump 6 Check Valve High Lift Pump 6 Discharge Valve High Lift Pump 6 Discharge Valve Flocculation Tank 1 Drain Plug Flocculation Tank 2 Drain Plug Settling Tank 1 Mud Valve Settling Tank 1 Mud Valve Sump Valve by Filter 2 Sump Valve by NE Filter 3 - Basement Safety Shower Clearwell 1 North Drain	No # in drawing, Pipe removed to WW Replaced with Header Upgrades 2020 Replaced Replaced Replaced Removed & Capped	TWFP 1972 Build ENG 1976-09-01 TWFP 1972 Bui	
46 47 48 49 50 51 52 53 54 55 55 56 57 57 57 58 59 60 0 61 61 62 63 64	HLP4-30-BIV-001 HLP4-CV-001 HLP4-CV-001 HLP5-BFV-001 HLP5-CV-001 HLP5-CV-001 HLP6-BFV-001 HLP6-CV-001 HLP6-CV-001 FILT-200-DV-001 FILT-200-DV-002 CW1-V1 CW1-V2	High Lift Pump 4 Discharge Valve Suction Header to Wet Well Not assigned High Lift Pump 4 Inlet Valve High Lift Pump 4 Check Valve High Lift Pump 5 Inlet Valve High Lift Pump 5 Inlet Valve High Lift Pump 5 Inlet Valve High Lift Pump 5 Check Valve High Lift Pump 5 Discharge Valve High Lift Pump 6 Check Valve High Lift Pump 6 Check Valve High Lift Pump 6 Discharge Valve High Lift Pump 6 Discharge Valve High Lift Pump 6 Check Valve High Lift Pump 6 Discharge Valve Settling Tank 1 Drain Plug Flocculation Tank 2 Drain Plug Settling Tank 1 Mud Valve Sump Valve by Filter 2 Sump Valve by NE Filter 3 - Basement Safety Shower Clearwell 1 North Drain Clearwell 2 North Drain	No # in drawing, Pipe removed to WW Replaced with Header Upgrades 2020 Replaced Replaced Replaced Replaced Replaced Removed & Capped Removed & Capped	TWFP 1972 Build ENG 1976-09-01 TWFP 1972 Bui	
46 47 48 49 50 51 52 53 54 55 56 60 61 62 63 64 64 65	HLP4-30-BIV-001 HLP4-CV-001 HLP4-CV-001 HLP5-BFV-001 HLP5-GV-001 HLP5-GV-001 HLP6-BFV-001 HLP6-GV-001 HLP6-GV-001 FILT-200-DV-001 FILT-200-DV-002 CW1-V1 CW1-V2 CW2-V1	High Lift Pump 4 Discharge Valve Suction Header to Wet Well Not assigned High Lift Pump 4 Inlet Valve High Lift Pump 4 Discharge Valve High Lift Pump 5 Inlet Valve High Lift Pump 5 Discharge Valve High Lift Pump 6 Check Valve High Lift Pump 6 Discharge Valve Flocculation Tank 1 Drain Plug Flocculation Tank 2 Drain Plug Settling Tank 2 Mud Valve Sump Valve by Filter 2 Sump Valve by Filter 2 Sump Valve by NE Filter 3 - Basement Safety Shower Clearwell 1 North Drain Clearwell 1 North Drain Clearwell 1 South Drain	No # in drawing, Pipe removed to WW Replaced with Header Upgrades 2020 Replaced Replaced Replaced Removed & Capped	TWFP 1972 Build ENG 1976-09-01 TWFP 1972 Bui	
46 47 48 49 50 51 52 53 54 55 55 56 60 61 62 63 64 64 65 66	HLP4-30-BI-V-001 HLP4-CV-001 HLP4-CV-001 HLP5-BFV-001 HLP5-GV-001 HLP5-CV-001 HLP6-BFV-001 HLP6-CV-001 HLP6-CV-001 FILT-200-DV-001 FILT-200-DV-001 FILT-200-DV-002 CW1-V1 CW1-V2 CW2-V1 CW2-V1	High Lift Pump 2 Discharge Valve Suction Header to Wet Well Not assigned High Lift Pump 4 Inlet Valve High Lift Pump 4 Discharge Valve High Lift Pump 5 Inlet Valve High Lift Pump 5 Discharge Valve High Lift Pump 6 Olscharge Valve High Lift Pump 6 Olscharge Valve High Lift Pump 6 Discharge Valve Settling Tank 1 Drain Plug Flocculation Tank 2 Drain Plug Settling Tank 1 Mud Valve Sump Valve by Filter 2 Sump Valve by Filter 3 - Basement Safety Shower Clearwell 1 North Drain Clearwell 1 North Drain Clearwell 1 South Drain Clearwell 1 South Drain Clearwell 2 South Drain	No # in drawing, Pipe removed to WW Replaced with Header Upgrades 2020 Replaced Replaced Replaced Replaced Removed & Capped	TWFP 1972 Build ENG 1976-09-01 TWFP 1972 Bui	
46 47 48 49 50 51 52 53 54 55 56 57 57 58 59 60 61 61 62 63 64 65 57 7 58	HLP4-30-BI-V-001 HLP4-CV-001 HLP4-CV-001 HLP5-BFV-001 HLP5-GV-001 HLP5-GV-001 HLP6-CV-001 HLP6-CV-001 HLP6-CV-001 FILT-200-DV-002 CW1-V1 CW1-V2 CW2-V1 CW2-V2 FILT#1-210-CV-001	High Lift Pump 4 Discharge Valve Suction Header to Wet Well Not assigned High Lift Pump 4 Inlet Valve High Lift Pump 4 Check Valve High Lift Pump 5 Inlet Valve High Lift Pump 5 Inlet Valve High Lift Pump 5 Inlet Valve High Lift Pump 5 Check Valve High Lift Pump 5 Check Valve High Lift Pump 5 Check Valve High Lift Pump 5 Obscharge Valve High Lift Pump 6 Discharge Valve High Lift Pump 6 Discharge Valve High Lift Pump 6 Discharge Valve Settling Tank 1 Drain Plug Flocculation Tank 2 Drain Plug Settling Tank 1 Mud Valve Sump Valve by Filter 3 - Basement Safety Shower Clearwell 1 North Drain Clearwell 1 North Drain Clearwell 2 South Drain Filter 1 BW//AirScour Relief Valve	No # in drawing, Pipe removed to WW Replaced with Header Upgrades 2020 Replaced Replaced With Header Upgrades 2020 Replaced Removed & Capped Removed & Capped Removed & Capped No # in Drawing	TWFP 1972 Build ENG 1976-09-01 TWFP 1972 Bui	
46 47 48 49 50 51 52 53 54 55 56 57 57 58 58 59 60 61 62 63 64 65 66 67 67 68	HLP4-30-BI-V-001 HLP4-CV-001 HLP4-CV-001 HLP5-BFV-001 HLP5-BFV-001 HLP5-GV-001 HLP6-BFV-001 HLP6-BFV-001 HLP6-GV-001 FILT-200-DV-001 FILT-200-DV-001 FILT-200-DV-002 CW1-V1 CW1-V2 CW2-V1 CW2-V1 CW2-V2 FILT#1-210-CV-001 FILT#1-210-CV-001	High Lift Pump 4 Discharge Valve Suction Header to Wet Well Not assigned High Lift Pump 4 Inlet Valve High Lift Pump 4 Check Valve High Lift Pump 5 Inlet Valve High Lift Pump 5 Inlet Valve High Lift Pump 5 Check Valve High Lift Pump 6 Discharge Valve High Lift Pump 6 Obscharge Valve High Lift Pump 6 Discharge Valve Flocculation Tank 1 Drain Plug Flocculation Tank 2 Drain Plug Settling Tank 1 Mud Valve Sump Valve by Filter 3 - Basement Safety Shower Clearwell 1 North Drain Clearwell 2 South Drain Clearwell 2 South Drain Filter 1 BW/AirScour Relief Valve Filter 2 BW/AirScour Relief Valve	No # in drawing, Pipe removed to WW Replaced with Header Upgrades 2020 Replaced Replaced Replaced & Capped Removed & Capped Removed & Capped No # in Drawing No # in Drawing No # in Drawing No # in Drawing	TWFP 1972 Build ENG 1976-09-01 TWFP 1972 Bui	
46 47 48 49 50 51 52 53 54 55 57 56 57 57 58 8 59 60 61 62 63 64 65 66 66 67 67 68 8 9 70	HLP4-30-BI-V-001 HLP4-CV-001 HLP4-CV-001 HLP5-BFV-001 HLP5-GV-001 HLP5-GV-001 HLP6-BFV-001 HLP6-CV-001 HLP6-CV-001 HLP6-GV-001 FILT-200-DV-001 FILT-200-DV-001 CW1-V1 CW1-V2 CW2-V1 CW2-V1 CW2-V2 FILT#1-210-CV-001 FILT#2-220-CV-002 FILT#3-230-CV-003	High Lift Pump 4 Discharge Valve Suction Header to Wet Well Not assigned High Lift Pump 4 Inlet Valve High Lift Pump 4 Discharge Valve High Lift Pump 5 Inlet Valve High Lift Pump 5 Inlet Valve High Lift Pump 5 Check Valve High Lift Pump 5 Check Valve High Lift Pump 5 Obicharge Valve High Lift Pump 5 Obicharge Valve High Lift Pump 6 Discharge Valve High Lift Pump 6 Obicharge Valve High Lift Pump 6 Obicharge Valve Flocculation Tank 1 Drain Plug Flocculation Tank 2 Drain Plug Settling Tank 1 Mud Valve Sump Valve by Filter 2 Sump Valve by NE Filter 3 - Basement Safety Shower Clearwell 1 North Drain Clearwell 1 South Drain Clearwell 2 South Drain Filter 1 BW/AirScour Relief Valve Filter 2 BW/AirScour Relief Valve Filter 3 BW/AirScour Relief Valve	No # in drawing, Pipe removed to WW Replaced with Header Upgrades 2020 Replaced Replaced Removed & Capped Removed & Capped Removed & Capped No # in Drawing No # in Drawing No # in Drawing No # in Drawing	TWFP 1972 Build ENG 1976-09-01 TWFP 1972 Bui	
46 47 48 49 50 51 52 53 54 55 56 57 57 58 59 60 61 62 63 63 63 64 65 56 66 67 67 68 69 970 71	HLP4-J0-BI-V-001 HLP4-GV-001 HLP5-BFV-001 HLP5-BFV-001 HLP5-GV-001 HLP5-GV-001 HLP6-BFV-001 HLP6-GV-001 HLP6-GV-001 FILT-200-DV-001 FILT-200-DV-001 FILT-200-DV-002 CW1-V1 CW1-V2 CW2-V1 CW2-V2 FILT#1-210-CV-001 FILT#1-210-CV-001 FILT#1-210-CV-001 FILT#1-220-CV-002 FILT#1-220-CV-002 FILT#1-220-CV-002 FILT#1-220-CV-003 310-M0V-01	High Lift Pump 4 Discharge Valve Suction Header to Wet Well Not assigned High Lift Pump 4 Inlet Valve High Lift Pump 4 Discharge Valve High Lift Pump 5 Inlet Valve High Lift Pump 5 Inlet Valve High Lift Pump 5 Check Valve High Lift Pump 5 Discharge Valve High Lift Pump 6 Inlet Valve High Lift Pump 6 Inlet Valve High Lift Pump 6 Discharge Valve Flocculation Tank 1 Drain Plug Settling Tank 1 Mud Valve Settling Tank 1 Mud Valve Sump Valve by Filter 3 Sump Valve by NE Filter 3 - Basement Safety Shower Clearwell 1 North Drain Clearwell 2 North Drain Clearwell 2 South Drain Filter 1 BW/AirScour Relief Valve Filter 2 BW/AirScour Relief Valve Filter 3 BW/AirScour Relief Valve Filter 4 Inlet Gate	No # in drawing, Pipe removed to WW Replaced with Header Upgrades 2020 Replaced Replaced Removed & Capped Removed & Capped Removed & Capped No # in Drawing No # in Drawing No # in Drawing No # in Drawing	TWFP 1972 Build ENG 1976-09-01 TWFP 1972 Bui	
46 47 48 49 50 51 52 53 54 55 56 57 57 58 59 60 61 62 63 63 64 65 66 66 67 67 68 69 70 70 71	HLP4-J0-BI-V-001 HLP4-GV-001 HLP5-BFV-001 HLP5-GV-001 HLP5-GV-001 HLP5-GV-001 HLP6-BFV-001 HLP6-GV-001 HLP6-GV-001 FILT-200-DV-001 FILT-200-DV-001 FILT-200-DV-002 CW1-V1 CW1-V2 CW2-V1 CW2-V2 FILT#1-210-CV-001 FILT#1-210-CV-001 FILT#1-220-CV-002 FILT#1-220-CV-002 FILT#1-220-CV-003 310-MOV-01 320-MOV-01	High Lift Pump 4 Discharge Valve Suction Header to Wet Well Not assigned High Lift Pump 4 Inlet Valve High Lift Pump 4 Discharge Valve High Lift Pump 5 Inlet Valve High Lift Pump 5 Inlet Valve High Lift Pump 5 Inlet Valve High Lift Pump 5 Discharge Valve High Lift Pump 6 Discharge Valve High Lift Pump 6 Discharge Valve High Lift Pump 6 Check Valve High Lift Pump 6 Discharge Valve High Lift Pump 6 Discharge Valve Flocculation Tank 1 Drain Plug Flocculation Tank 2 Drain Plug Settling Tank 1 Mud Valve Settling Tank 1 Mud Valve Sump Valve by Filter 3 Sump Valve by NE Filter 3 - Basement Safety Shower Clearwell 1 North Drain Clearwell 2 North Drain Clearwell 2 South Drain Filter 1 BW/AirScour Relief Valve Filter 2 BW/AirScour Relief Valve Filter 3 BW/AirScour Relief Valve Filter 4 Inlet Gate Filter 5 Inlet Gate	No # in drawing, Pipe removed to WW Replaced with Header Upgrades 2020 Replaced Replaced Replaced Removed & Capped Removed & Capped Removed & Capped No # in Drawing No # in Drawing No # in Drawing No # in Drawing	TWFP 1972 Build ENG 1976-09-01 TWFP 1972 Bui	
46 47 48 49 50 51 52 53 54 55 55 56 57 58 59 60 61 62 63 64 64 65 66 67 70 68 8 69 70 70 71	HLP4-30-BI-V-001 HLP4-GV-001 HLP4-GV-001 HLP5-BFV-001 HLP5-GV-001 HLP5-GV-001 HLP5-GV-001 HLP6-GV-001 HLP6-GV-001 HLP6-GV-001 HLP6-GV-001 FILT-200-DV-001 FILT-200-DV-002 CW1-V1 CW2-V2 FILT#1-210-CV-001 FILT#2-220-CV-002 FILT#2-220-CV-003 310-MOV-01 320-MOV-01 310-MOV-01	Fight Lift Pump 4 Discharge Valve Suction Header to Wet Well Not assigned High Lift Pump 4 Inlet Valve High Lift Pump 4 Discharge Valve High Lift Pump 5 Inlet Valve High Lift Pump 5 Inlet Valve High Lift Pump 5 Inlet Valve High Lift Pump 5 Check Valve High Lift Pump 5 Check Valve High Lift Pump 6 Check Valve Flocculation Tank 1 Drain Plug Flocculation Tank 2 Drain Plug Settling Tank 2 Mud Valve Sump Valve by Filter 2 Sump Valve by NE Filter 3 - Basement Safety Shower Clearwell 1 North Drain Clearwell 2 North Drain Clearwell 2 South Drain Filter 1 BW/AirScour Relief Valve Filter 3 BW/AirScour Relief Valve Filter 3 BW/AirScour Relief Valve Filter 4 Inlet Gate Filter 5 Inlet Gate Filter 6 Inlet Gate	No # in drawing, Pipe removed to WW Replaced with Header Upgrades 2020 Replaced Replaced Replaced Removed & Capped Removed & Capped Removed & Capped No # in Drawing No # in Drawing No # in Drawing No # in Drawing	TWFP 1972 Build ENG 1976-09-01 TWFP 1972 Bui	

75	330-MOV-02	Filter 6 Effluent Gate		TWFP Expansion ENG 1984 01-01
76	310-FIC-03B	Filter 4 Rate of Control Valve		TWFP Expansion ENG 1984 01-01
77	320-FIC-03B	Filter 5 Rate of Control Valve		TWFP Expansion ENG 1984 01-01
78	330-FIC-03B	Filter 6 Rate of Control Valve		TWFP Expansion ENG 1984 01-01
79	310-MOV-05	Filter 4 Backwash Isolate Valve		TWFP Expansion ENG 1984 01-01
80	320-MOV-05	Filter 5 Backwash Isolate Valve		TWEP Expansion ENG 1984 01-01
81	330-MOV-05	Filter 6 Backwash Isolate Valve		TWEP Expansion ENG 1984 01-01
82	310-MOV-06	Filter 4 Surface Sween valve		TWEP Expansion ENG 1984 01-01
83	320-MOV-06	Filter 5 Surface Sweep valve		TWEP Expansion ENG 1984 01-01
84	330-MOV-06	Filter 6 Surface Sweep valve		TWEP Expansion ENG 1984 01-01
04	210-MOV-00	Filter 4 Filter to Waste Valve		TWEP Expansion ENG 1984 01 01
05	220 MOV 07	Filter E Filter to Waste Valve		TWEP Expansion ENG 1984 01-01
00	320-10100-07	Filter & Filter to Waste Valve		TWEP Expansion ENG 1984 01-01
0/	310 MOV-07			TWFP Expansion ENG 1984 01-01
88	310-1000-04			TWFP Expansion ENG 1984 01-01
89	320-IVIOV-04	Filter S AirScour Valve		TWFP Expansion ENG 1984 01-01
90	330-IVIOV-04			TWFP Expansion ENG 1984 01-01
91	FILT#4-310-CV-001	Filter 4 BW/AirScour Relief Valve		TWFP Expansion ENG 1984 01-01
92	FILT#5-320-CV-002	Filter 5 BW/AirScour Relief Valve		TWFP Expansion ENG 1984 01-01
93	FILT#6-330-CV-003	Filter 6 BW/AirScour Releif Valve		TWFP Expansion ENG 1984 01-01
94	BWP2-300-FY-10	Degremont Backwash Isolation Valve	Relocated / spool piece installed see 273	TWFP Expansion ENG 1984 01-01
95	BLWR-300-BFV-001	Air Scour Blower Isolation Valve		TWFP Expansion ENG 1984 01-01
96	FILT-300-DV-001	Sump Valve by Filter 6		TWFP Expansion ENG 1984 01-01
97		Pulsator Drain Valves	Removed & Capped	TWFP Expansion ENG 1984 01-01
98		Pulsator Drain Valves	Removed & Capped	TWFP Expansion ENG 1984 01-01
99		Pulsator Drain Valves	Removed & Capped	TWFP Expansion ENG 1984 01-01
100		Pulsator Drain Valves	Removed & Capped	TWFP Expansion ENG 1984 01-01
101		Sludge Removal Valves	Removed & Capped	TWFP Expansion ENG 1984 01-01
102		Sludge Removal Valves	Removed & Capped	TWFP Expansion ENG 1984 01-01
103		Sludge Removal Valves	Removed & Capped	TWFP Expansion ENG 1984 01-01
104		Sludge Removal Valves	Removed & Capped	TWFP Expansion ENG 1984 01-01
105		Sludge Removal Valves	Removed & Capped	TWFP Expansion ENG 1984 01-01
106		Sludge Removal Valves	Removed & Capped	TWFP Expansion ENG 1984 01-01
107	200-MOV-03	Settling Tank 1 Desludge Valve		TWFP Expansion ENG 1984 01-01
108	200-MOV-02	Settling Tank 2 Desludge Valve		TWFP Expansion ENG 1984 01-01
109	SLU-400-GV-01	Sludge Pump 1 Isolation Valve		TWFP Expansion ENG 1984 01-01
110	SLU-400-GV-02	Sludge Pump 2 Isolation Valve		TWFP Expansion ENG 1984 01-01
111	SLU-400-CV-01	Sludge Pump 1 Check Valve		TWEP Expansion ENG 1984 01-01
112	SLU-400-CV-02	Sludge Pump 2 Check Valve		TWEP Expansion ENG 1984 01-01
113	RAW-100-CV-003	Low Lift Pump #3 Isolation Valve		TWEP Expansion ENG 1984 01-01
113	RAW-100-CV-003	Low Lift Pump #4 Isolation Valve		TWEP Expansion ENG 1984 01-01
114	RAW-115	Low Lift Pump #2 Chock Valve		TWEP Expansion ENG 1984 01 01
115	RAW-100-CV-004	Low Lift Pump #3 Check Valve		TWEP Expansion ENG 1984 01-01
110		HI B By Dars yolyo	Now used as Overflow Isolation Valve	TWEP Expansion ENG 1984 01-01
117		HLP Dy-PdSS valve		TWFP Expansion ENG 1984 01-01
110		High Lift Pump 7 Inlet Valve		TWFP Expansion ENG 1984 01-01
119	HLP8-BFV-003	High Lift Pump 8 Iniet Valve		TWFP Expansion ENG 1984 01-01
120	HLP7-CV-001			TWFP Expansion ENG 1984 01-01
121	HLP8-CV-002	High Lift Pump 8 Check Valve		TWFP Expansion ENG 1984 01-01
122	HLP7-GV-122	High Lift Pump 7 Discharge Valve		TWFP Expansion ENG 1984 01-01
123	HLP8-GV-123	High Lift Pump & Discharge Valve		I WEP Expansion ENG 1984 01-01
124		High Lift Pump 9 Inlet Valve	Reserved for Future	TWFP Expansion ENG 1984 01-01
125		High Lift Pump 9 Check Valve	Reserved for Future	IWFP Expansion ENG 1984 01-01
126		High Lift Pump 9 Discharge Valve	Reserved for Future	TWFP Expansion ENG 1984 01-01
127	Same as 52	High Lift Pump 5 Check Valve	Replaced	TWFP Expansion ENG 1984 01-01
128	Same as 55	High Lift Pump 6 Check Valve	Replaced	TWFP Expansion ENG 1984 01-01
129		Blending Chamber Flapper Gate	Removed	TWFP Expansion ENG 1984 01-01
130	OVFL-300-GV-01	Blending Chamber West Drain	Now Overflow Chamber West Drain	TWFP Expansion ENG 1984 01-01
131	OVFL-300-GV-02	Blending Chamber East Drain	Now Overflow Chamber East Drain	TWFP Expansion ENG 1984 01-01
132	CT3-V1	Clearwell 3 Drain		TWFP Expansion ENG 1984 01-01
133	CW4-V1	Clearwell 4 Drain		TWFP Expansion ENG 1984 01-01
134	BLWR-300-CV-001	Air Scour Check Valve	No # in Drawing	TWFP Expansion ENG 1984 01-01
135	HLP456-GV-001	Discharge Header Isolate Valve North Side of Tee	Replaced with Header Upgrades 2020	TWFP Expansion ENG 1984 01-01
136	HLP456-GV-002	Discharge Header Isolate Valve South Side of Tee	Replaced with Header Upgrades 2020	TWFP Expansion ENG 1984 01-01
137	Dist Valve # 9	Low Lift Header Isolation to Flash Mix	Valve Chamber	TWFP Expansion ENG 1984 01-01
138	Dist Valve # 6	Low Lift Header Isolation to Microfloc	Valve Chamber Capped	TWFP Expansion ENG 1984 01-01
139	Dist Valve # 6A	Distribution Valve by North Mag Meter		TWFP Expansion ENG 1984 01-01
140	Dist Valve # 21	Distribution Valve by East of Driveway	New Butterfly May 2022	TWFP Expansion ENG 1984 01-01
141	Dist Valve # 22	Distribution Valve by West of Driveway		TWFP Expansion ENG 1984 01-01
142	SEW-200-CV-01	Maintenance Storage Sump Pump 1 Check Valve	No # in drawing	TWFP Expansion ENG 1984 01-01
142	SEW-200-CV-02	Maintenance Storage Sump Pump 2 Check Valve	No # in drawing	TWEP Expansion FNG 1984 01-01
143	32 200 01-02	Not Assigned		TWEP Expansion FNG 1984 01-01
1/15		Not Assigned		TWEP Expansion ENG 1984 01-01
145		Not Assigned		TWEP Expansion ENG 1984 01-01
140		Not Assigned		TWEP Expansion FNG 1994 01-01
147		Not Assigned		TWEP Expansion ENG 1984 01 01
140		Not Assigned		TWED Expansion ENC 1094 01 01
149		NUL ASSIGNEU	Pemoved	TWEP Expansion ENC 1984 01-01
150		ruisatul 1 Cildillei Odte	nemoveu	1 WITE EXPANSION ENG 1984 01-01
151		Pulsator 2 Channel Gate	Removed	TWFP Expansion ENG 1984 01-01
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152		Rapid Mix to Microfloc Channel Gate	Removed	TWEP Expansion ENG 1984 01-01
153		Settling Tank 1 Discharge Channel Gate	Now BM Clarifier 1 Channel Discharge Gate	TWEP Expansion ENG 1984 01-01
153		Settling Tank 2 Discharge Channel Gate	Now RM Clarifier 2 Channel Discharge Gate	TWEP Expansion ENG 1984 01-01
104		Net Assigned	Now Kin claimer 2 channer Discharge Gate	TWIF Expansion ENG 1984 01-01
155		Not Assigned		TWFP Expansion ENG 1984 01-01
156		Not Assigned		TWFP Expansion ENG 1984 01-01
157		Not Assigned		TWFP Expansion ENG 1984 01-01
158		Not Assigned		TWFP Expansion ENG 1984 01-01
159		Not Assigned		TWFP Expansion ENG 1984 01-01
160	RAW-1200-SG-001	Rapid Mix to Pulsator 2 Vacuum Chamber Gate	Now Flash Mix to Actiflo 2 Gate	TWFP Expansion ENG 1984 01-01
161	RAW-1200-SG-002	Rapid Mix to Pulsator 1 Vacuum Chamber Gate	Now Flash Mix to Actiflo 1 Gate	TWFP Expansion ENG 1984 01-01
162	SG-0402	Clearwell 4 Discharge Gate		TWFP Expansion ENG 1984 01-01
163	SG-0302	Clearwell 3 Discharge Gate (ByPass CW 4)	Normally Closed	TWEP Expansion ENG 1984 01-01
164	SG-0301	Clearwell 3 Inlet Gate		TWEP Expansion ENG 1984 01-01
165	50 0301	Clearwell 3 Discharge Cate to CW/4		TWEE Expansion ENG 1984 01 01
105	SG-0303	Clearwell A Julet Cate (DuDaes CM 2)	Name alle Classed	TWFP Expansion ENG 1984 01-01
166	SG-0401	Clearwell 4 Inlet Gate (ByPass CW 3)	Normally Closed	TWFP Expansion ENG 1984 01-01
167				
168				
169				
170	BLWR-300-CV-003	Air Scour to Filters 456 Check Valve		Air Scour Modifications
171	BLWR-300-CV-002	Air Scour to Filters 123 Check Valve		Air Scour Modifications
172	210-MOV-03	Filter 1 Air Scour Valve		Air Scour Modifications
173	220-MOV-03	Filter 2 Air Scour Valve		Air Scour Modifications
174	230-MOV-03	Filter 3 Air Scour Valve		Air Scour Modifications
175	230 1100-03	Blanding Chamber to CW 2 Gate	Removed during LIV upgrade	Plant Modifications 2002 14/001
175		Planding Chamber to CW 193 Cate	Removed during UV upgrade	Plant Modifications 2002 W001
1/6	100780.0514.003	Dienuing champer to CW 102 Gate	Nemoved during UV upgrade	
177	HLP/&8-BFV-001	Pump Room 2 Suction Isolation Valve		Plant Modifications 2003-W001
178	BWP2-500-BW-BF1	BW Pump 2 Inlet Valve		Plant Modifications 2003-W001
179	BWP2-500-BW-CV1	BW Pump 2 Check Valve		Plant Modifications 2003-W001
180	BWP2-500-FY-12	BW Pump 2 Discharge Valve		Plant Modifications 2003-W001
181	FILT-200-BFV-001	Filter 123 to Sightwell Valve	Capped in Sightwell During UV upgrade	Plant Modifications 2003-W001
182	FILT-300-BFV-001	Filter 456 to Blending Chamber	Now Filter 456 to UV	Plant Modifications 2003-W001
183				
184				
185				
105				
180				
407				
187				
187 188				
187 188 189				
187 188 189 190		Actiflo 1 Channel Gate		Actiflo Upgrade ENG 2012-03-14
187 188 189 190 191		Actiflo 1 Channel Gate Actiflo 2 Channel Gate		Actiflo Upgrade ENG 2012-03-14 Actiflo Upgrade ENG 2012-03-14
187 188 189 190 191 192		Actiflo 1 Channel Gate Actiflo 2 Channel Gate Actiflo 2 Channel Gate Actiflo Crossover Channel Gate		Actiflo Upgrade ENG 2012-03-14 Actiflo Upgrade ENG 2012-03-14 Actiflo Upgrade ENG 2012-03-14
187 188 189 190 191 192 193	ACT1-V-1001	Actiflo 1 Channel Gate Actiflo 2 Channel Gate Actiflo Crossover Channel Gate Actiflo 1 Inlet Valve		Actiflo Upgrade ENG 2012-03-14 Actiflo Upgrade ENG 2012-03-14 Actiflo Upgrade ENG 2012-03-14 Actiflo Upgrade ENG 2012-03-14
187 188 189 190 191 192 193 194	ACT1-V-1001 ACT1-V-1000	Actiflo 1 Channel Gate Actiflo 2 Channel Gate Actiflo Crossover Channel Gate Actiflo 1 Inlet Valve Actiflo 1 Inlet Valve		Actiflo Upgrade ENG 2012-03-14 Actiflo Upgrade ENG 2012-03-14 Actiflo Upgrade ENG 2012-03-14 Actiflo Upgrade ENG 2012-03-14 Actiflo Upgrade ENG 2012-03-14
187 188 189 190 191 192 193 194 195	ACT1-V-1001 ACT1-V-1000 ACT2-V-2001	Actiflo 1 Channel Gate Actiflo 2 Channel Gate Actiflo Crossover Channel Gate Actiflo 1 Inlet Valve Actiflo 1 Inlet Isolation Valve Actiflo 1 Inlet Valve		Actiflo Upgrade ENG 2012-03-14 Actiflo Upgrade ENG 2012-03-14
187 188 189 190 191 192 193 194 195	ACT1-V-1001 ACT1-V-1000 ACT2-V-2001	Actiflo 1 Channel Gate Actiflo 2 Channel Gate Actiflo Crossover Channel Gate Actiflo 1 Inlet Valve Actiflo 1 Inlet Isolation Valve Actiflo 2 Inlet Valve		Actiflo Upgrade ENG 2012-03-14 Actiflo Upgrade ENG 2012-03-14
187 188 189 190 191 192 193 194 195 196	ACT1-V-1001 ACT1-V-1000 ACT2-V-2001 ACT2-V-2000	Actiflo 1 Channel Gate Actiflo 2 Channel Gate Actiflo 2 Channel Gate Actiflo 1 Inlet Valve Actiflo 1 Inlet Isolation Valve Actiflo 2 Inlet Valve Actiflo 2 Inlet Valve		Actiflo Upgrade ENG 2012-03-14 Actiflo Upgrade ENG 2012-03-14
187 188 189 190 191 192 193 194 195 196 197	ACT1-V-1001 ACT1-V-1000 ACT2-V-2001 ACT2-V-2000 ACT1-PV-1001	Actiflo 1 Channel Gate Actiflo 2 Channel Gate Actiflo 2 Channel Gate Actiflo Crossover Channel Gate Actiflo 1 Inlet Valve Actiflo 1 Inlet Isolation Valve Actiflo 2 Inlet Valve Actiflo 2 Inlet Isolation Valve Coagulation Tank 1 Drain Valve		Actiflo Upgrade ENG 2012-03-14 Actiflo Upgrade ENG 2012-03-14
187 188 189 190 191 192 193 194 195 196 197 198	ACT1-V-1001 ACT1-V-1000 ACT2-V-2001 ACT2-V-2000 ACT1-PV-1001 ACT1-PV-1002	Actiflo 1 Channel Gate Actiflo 2 Channel Gate Actiflo 2 Channel Gate Actiflo 1 Inlet Valve Actiflo 1 Inlet Isolation Valve Actiflo 2 Inlet Isolation Valve Actiflo 2 Inlet Isolation Valve Coagulation Tank 1 Drain Valve Injection Tank 1 Drain Valve		Actiflo Upgrade ENG 2012-03-14 Actiflo Upgrade ENG 2012-03-14
187 188 189 190 191 192 193 194 195 196 197 198 199	ACT1-V-1001 ACT1-V-1000 ACT2-V-2001 ACT2-V-2000 ACT1-PV-1001 ACT1-PV-1002 ACT1-BUV-1004	Actiflo 1 Channel Gate Actiflo 2 Channel Gate Actiflo Crossover Channel Gate Actiflo 1 Inlet Valve Actiflo 1 Inlet Isolation Valve Actiflo 2 Inlet Isolation Valve Actiflo 2 Inlet Isolation Valve Coagulation Tank 1 Drain Valve Injection Tank 1 Drain Valve		Actiflo Upgrade ENG 2012-03-14 Actiflo Upgrade ENG 2012-03-14
187 188 189 190 191 192 193 194 195 196 197 198 199 200	ACT1-V-1001 ACT2-V-2001 ACT2-V-2001 ACT2-V-2000 ACT1-PV-1001 ACT1-PV-1002 ACT1-BUV-1004 ACT2-PV-2001	Actiflo 1 Channel Gate Actiflo 2 Channel Gate Actiflo Crossover Channel Gate Actiflo 1 Inlet Valve Actiflo 1 Inlet Isolation Valve Actiflo 2 Inlet Isolation Valve Actiflo 2 Inlet Isolation Valve Coagulation Tank 1 Drain Valve Injection Tank 1 Drain Valve Settling Tank 1 Drain Valve Coagulation Tank 2 Drain Valve		Actiflo Upgrade ENG 2012-03-14 Actiflo Upgrade ENG 2012-03-14
187 188 189 190 191 192 193 194 195 196 197 198 199 200 201	ACT1-V-1001 ACT1-V-1000 ACT2-V-2001 ACT2-V-2000 ACT1-PV-1001 ACT1-PV-1002 ACT1-BUV-1004 ACT2-PV-2001 ACT2-PV-2002	Actiflo 1 Channel Gate Actiflo 2 Channel Gate Actiflo 2 Channel Gate Actiflo 1 Inlet Valve Actiflo 1 Inlet Isolation Valve Actiflo 2 Inlet Valve Actiflo 2 Inlet Valve Coagulation Tank 1 Drain Valve Injection Tank 1 Drain Valve Settling Tank 1 Drain Valve Coagulation Tank 2 Drain Valve Injection Tank 2 Drain Valve		Actiflo Upgrade ENG 2012-03-14 Actiflo Upgrade ENG 2012-03-14
187 188 189 190 191 192 193 194 195 196 197 198 199 200 201 202	ACT1-V-1001 ACT1-V-1000 ACT2-V-2001 ACT2-V-2000 ACT1-PV-1001 ACT1-PV-1002 ACT1-BUV-1004 ACT2-PV-2001 ACT2-PV-2002 ACT2-BUV-2004	Actiflo 1 Channel Gate Actiflo 2 Channel Gate Actiflo 2 Channel Gate Actiflo 1 Inlet Valve Actiflo 1 Inlet Isolation Valve Actiflo 2 Inlet Valve Actiflo 2 Inlet Isolation Valve Coagulation Tank 1 Drain Valve Settling Tank 1 Drain Valve Injection Tank 2 Drain Valve Settling Tank 2 Drain Valve		Actiflo Upgrade ENG 2012-03-14 Actiflo Upgrade ENG 2012-03-14
187 188 189 190 191 192 193 194 195 196 197 198 199 200 201 201 202 203	ACT1-V-1001 ACT1-V-1000 ACT2-V-2001 ACT2-V-2000 ACT1-PV-1001 ACT1-PV-1002 ACT1-BUV-1004 ACT2-PV-2001 ACT2-PV-2002 ACT2-BUV-2004 ACT1-V2-012	Actiflo 1 Channel Gate Actiflo 2 Channel Gate Actiflo 2 Channel Gate Actiflo 1 Inlet Valve Actiflo 1 Inlet Isolation Valve Actiflo 2 Inlet Valve Actiflo 2 Inlet Isolation Valve Actiflo 2 Inlet Isolation Valve Coagulation Tank 1 Drain Valve Injection Tank 1 Drain Valve Settling Tank 1 Drain Valve Injection Tank 2 Drain Valve Settling Tank 2 Drain Valve Settling Tank 2 Drain Valve MicroSand Pump 1 Inlet Valve		Actiflo Upgrade ENG 2012-03-14 Actiflo Upgrade ENG 2012-03-14
187 188 189 190 191 192 193 194 195 196 197 198 199 200 201 201 202 203 204	ACT1-V-1001 ACT2-V-2001 ACT2-V-2001 ACT2-V-2000 ACT1-PV-1001 ACT1-PV-1002 ACT1-BUV-1004 ACT2-PV-2001 ACT2-PV-2002 ACT2-PU-2004 ACT1-V2-012 ACT1-V2-014	Actiflo 1 Channel Gate Actiflo 2 Channel Gate Actiflo 1 Crossover Channel Gate Actiflo 1 Inlet Valve Actiflo 1 Inlet Isolation Valve Actiflo 2 Inlet Isolation Valve Actiflo 2 Inlet Isolation Valve Actiflo 2 Inlet Isolation Valve Coagulation Tank 1 Drain Valve Injection Tank 1 Drain Valve Coagulation Tank 2 Drain Valve Injection Tank 2 Drain Valve Settling Tank 2 Drain Valve Settling Tank 2 Drain Valve MicroSand Pump 1 Inlet Valve MicroSand Pump 1 Discharge Valve		Actiflo Upgrade ENG 2012-03-14 Actiflo Upgrade ENG 2012-03-14
187 188 189 190 191 192 193 194 195 196 197 198 199 200 201 201 202 203 203 204 205	ACT1-V-1001 ACT1-V-1000 ACT2-V-2001 ACT2-V-2000 ACT1-PV-1001 ACT1-PV-1002 ACT1-BUV-1004 ACT2-PV-2001 ACT2-PV-2002 ACT1-V2-012 ACT1-V2-014 ACT1-V2-014	Actiflo 1 Channel Gate Actiflo 2 Channel Gate Actiflo 1 Inlet Valve Actiflo 1 Inlet Isolation Valve Actiflo 2 Inlet Isolation Valve Actiflo 2 Inlet Valve Actiflo 2 Inlet Isolation Valve Coagulation Tank 1 Drain Valve Injection Tank 1 Drain Valve Coagulation Tank 2 Drain Valve Injection Tank 2 Drain Valve Settling Tank 2 Drain Valve MicroSand Pump 1 Discharge Valve MicroSand Pump 1 Sinker Valve		Actiflo Upgrade ENG 2012-03-14 Actiflo Upgrade ENG 2012-03-14
187 188 189 190 191 192 193 194 195 196 197 198 199 200 201 202 203 204 205 205	ACT1-V-1001 ACT2-V-2001 ACT2-V-2001 ACT2-V-2000 ACT1-PV-1001 ACT1-PV-1002 ACT1-BUV-1004 ACT2-PV-2001 ACT2-PV-2002 ACT2-BUV-2004 ACT1-V2-012 ACT1-V2-014 ACT2-V2-023 ACT2-V2-025	Actiflo 1 Channel Gate Actiflo 2 Channel Gate Actiflo 1 Crossover Channel Gate Actiflo 1 Inlet Valve Actiflo 1 Inlet Isolation Valve Actiflo 2 Inlet Isolation Valve Actiflo 2 Inlet Isolation Valve Coagulation Tank 1 Drain Valve Injection Tank 1 Drain Valve Settling Tank 1 Drain Valve Injection Tank 2 Drain Valve Settling Tank 2 Drain Valve MicroSand Pump 1 Inlet Valve MicroSand Pump 3 Inlet Valve MicroSand Pump 3 Discharge Valve		Actiflo Upgrade ENG 2012-03-14 Actiflo Upgrade ENG 2012-03-14
187 188 189 190 191 192 193 194 195 196 197 198 199 200 201 201 202 203 204 205 206 207	ACT1-V-1001 ACT1-V-1000 ACT2-V-2001 ACT2-V-2000 ACT1-PV-1001 ACT1-PV-1002 ACT1-PV-1002 ACT1-BUV-1004 ACT2-PV-2001 ACT2-PV-2002 ACT2-BUV-2004 ACT2-V2-012 ACT1-V2-012 ACT1-V2-013	Actiflo 1 Channel Gate Actiflo 2 Channel Gate Actiflo Crossover Channel Gate Actiflo 1 Inlet Valve Actiflo 1 Inlet Isolation Valve Actiflo 2 Inlet Isolation Valve Actiflo 2 Inlet Isolation Valve Actiflo 2 Inlet Isolation Valve Coagulation Tank 1 Drain Valve Injection Tank 1 Drain Valve Settling Tank 1 Drain Valve Coagulation Tank 2 Drain Valve Injection Tank 2 Drain Valve Settling Tank 2 Drain Valve MicroSand Pump 1 Inlet Valve MicroSand Pump 3 Discharge Valve MicroSand Pump 3 Discharge Valve		Actiflo Upgrade ENG 2012-03-14 Actiflo Upgrade ENG 2012-03-14
187 188 189 190 191 192 193 194 195 196 197 198 199 200 201 202 203 204 205 206 207 207	ACT1-V-1001 ACT1-V-1000 ACT2-V-2001 ACT2-V-2000 ACT1-PV-1001 ACT1-PV-1002 ACT1-BUV-1004 ACT2-PV-2001 ACT2-PV-2002 ACT2-BUV-2004 ACT1-V2-012 ACT1-V2-012 ACT1-V2-014 ACT2-V2-023 ACT2-V2-023 ACT2-V2-023 ACT2-V2-03 ACT2-V2-03	Actiflo 1 Channel Gate Actiflo 2 Channel Gate Actiflo 1 Crossover Channel Gate Actiflo 1 Inlet Valve Actiflo 1 Inlet Isolation Valve Actiflo 2 Inlet Valve Actiflo 2 Inlet Isolation Valve Coagulation Tank 1 Drain Valve Injection Tank 1 Drain Valve Coagulation Tank 1 Drain Valve Settling Tank 1 Drain Valve Coagulation Tank 2 Drain Valve Settling Tank 2 Drain Valve MicroSand Pump 1 Inlet Valve MicroSand Pump 3 Inlet Valve (Actiflo 1) MicroSand Pump 2 Inlet Valve (Actiflo 1)		Actiflo Upgrade ENG 2012-03-14 Actiflo Upgrade ENG 2012-03-14
187 188 189 190 191 192 193 194 195 196 197 198 199 200 201 202 203 203 204 205 206 207 208	ACT1-V-1001 ACT1-V-1000 ACT2-V-2001 ACT2-V-2000 ACT1-PV-1001 ACT1-PV-1002 ACT1-BUV-1004 ACT2-PV-2001 ACT2-PV-2001 ACT2-PV-2002 ACT2-V2-002 ACT1-V2-012 ACT1-V2-014 ACT2-V2-023 ACT2-V2-023 ACT2-V2-013 ACT2-V2-024	Actiflo 1 Channel Gate Actiflo 2 Channel Gate Actiflo 2 Channel Gate Actiflo 1 Inlet Valve Actiflo 1 Inlet Isolation Valve Actiflo 2 Inlet Valve Actiflo 2 Inlet Valve Actiflo 2 Inlet Valve Actiflo 2 Inlet Isolation Valve Coagulation Tank 1 Drain Valve Injection Tank 1 Drain Valve Settling Tank 1 Drain Valve Settling Tank 2 Drain Valve MicroSand Pump 1 Inlet Valve MicroSand Pump 3 Inlet Valve MicroSand Pump 2 Inlet Valve (Actiflo 1) MicroSand Pump 2 Inlet Valve (Actiflo 2) MicroSand Pump 2 Inlet Valve (Actiflo 2)		Actiflo Upgrade ENG 2012-03-14 Actiflo Upgrade ENG 2012-03-14
187 188 189 190 191 192 193 194 195 196 197 198 199 200 201 201 202 203 204 205 206 207 208 209	ACT1-V-1001 ACT1-V-1000 ACT2-V-2001 ACT2-V-2000 ACT1-PV-1001 ACT1-PV-1002 ACT1-BUV-1004 ACT2-PV-2002 ACT1-BUV-2004 ACT2-PV-2002 ACT1-V2-012 ACT1-V2-012 ACT2-V2-023 ACT2-V2-023 ACT2-V2-023 ACT2-V2-024 ACT1-V2-015 ACT1-V2-015	Actiflo 1 Channel Gate Actiflo 2 Channel Gate Actiflo 2 Cossover Channel Gate Actiflo 1 Inlet Valve Actiflo 1 Inlet Isolation Valve Actiflo 2 Inlet Valve Actiflo 2 Inlet Valve Actiflo 2 Inlet Isolation Valve Coagulation Tank 1 Drain Valve Injection Tank 1 Drain Valve Settling Tank 1 Drain Valve Coagulation Tank 2 Drain Valve Injection Tank 2 Drain Valve Settling Tank 2 Drain Valve MicroSand Pump 1 Inlet Valve MicroSand Pump 3 Inlet Valve MicroSand Pump 2 Inlet Valve (Actiflo 1) MicroSand Pump 2 Discharge Valve MicroSand Pump 2 Inlet Valve (Actiflo 1) MicroSand Pump 2 Discharge Valve MicroSand Pump 2 Discharge Valve (Actiflo 1)		Actiflo Upgrade ENG 2012-03-14 Actiflo Upgrade ENG 2012-03-14
187 188 189 190 191 192 193 194 195 196 197 198 199 200 201 202 203 204 205 206 207 208 209 209	ACT1-V-1001 ACT2-V-2001 ACT2-V-2001 ACT2-V-2000 ACT1-PV-1001 ACT1-PV-1002 ACT1-BUV-1004 ACT2-PV-2001 ACT2-PV-2002 ACT2-BUV-2004 ACT1-V2-012 ACT1-V2-014 ACT2-V2-023 ACT2-V2-025 ACT1-V2-013 ACT2-V2-024 ACT1-V2-015 ACT2-V2-016	Actiflo 1 Channel Gate Actiflo 2 Channel Gate Actiflo 2 Channel Gate Actiflo 1 Inlet Valve Actiflo 1 Inlet Isolation Valve Actiflo 2 Inlet Isolation Valve Actiflo 2 Inlet Isolation Valve Coagulation Tank 1 Drain Valve Injection Tank 1 Drain Valve Settling Tank 1 Drain Valve Coagulation Tank 2 Drain Valve Injection Tank 2 Drain Valve Settling Tank 2 Drain Valve MicroSand Pump 1 Inlet Valve MicroSand Pump 3 Discharge Valve MicroSand Pump 2 Inlet Valve (Actiflo 1) MicroSand Pump 2 Discharge Valve (Actiflo 1) MicroSand Pump 2 Discharge Valve (Actiflo 2) MicroSand Pump 2 Discharge Valve (Actiflo 2)		Actiflo Upgrade ENG 2012-03-14 Actiflo Upgrade ENG 2012-03-14
187 188 189 190 191 192 193 194 195 196 197 198 199 200 201 202 203 204 205 206 207 208 209 210	ACT1-V-1001 ACT1-V-1000 ACT2-V-2001 ACT2-V-2000 ACT1-PV-1001 ACT1-PV-1002 ACT1-PV-1002 ACT1-BUV-1004 ACT2-PV-2002 ACT2-BUV-2004 ACT2-V2-012 ACT1-V2-012 ACT1-V2-014 ACT2-V2-023 ACT2-V2-023 ACT2-V2-023 ACT2-V2-024 ACT1-V2-015 ACT1-V2-016 EQT1&2-PV-1011	Actiflo 1 Channel Gate Actiflo 2 Channel Gate Actiflo Crossover Channel Gate Actiflo 1 Inlet Valve Actiflo 1 Inlet Isolation Valve Actiflo 2 Inlet Isolation Valve Actiflo 2 Inlet Isolation Valve Actiflo 2 Inlet Isolation Valve Coagulation Tank 1 Drain Valve Injection Tank 1 Drain Valve Settling Tank 2 Drain Valve Coagulation Tank 2 Drain Valve Injection Tank 2 Drain Valve Settling Tank 2 Drain Valve MicroSand Pump 1 Inlet Valve MicroSand Pump 3 Discharge Valve MicroSand Pump 2 Inlet Valve (Actiflo 1) MicroSand Pump 2 Inlet Valve (Actiflo 1) MicroSand Pump 2 Discharge Valve MicroSand Pump 2 Discharge Valve (Actiflo 1) MicroSand Pump 2 Discharge Valve (Actiflo 1) MicroSand Pump 2 Discharge Valve (Actiflo 2)		Actiflo Upgrade ENG 2012-03-14 Actiflo Upgrade ENG 2012-03-14
187 188 189 190 191 192 193 194 195 196 197 198 199 200 201 203 204 205 206 207 208 209 210 211 212	ACT1-V-1001 ACT1-V-1000 ACT2-V-2001 ACT2-V-2000 ACT1-PV-1001 ACT1-PV-1002 ACT1-BUV-1004 ACT2-PV-2001 ACT2-PV-2001 ACT2-PU-2002 ACT2-BUV-2004 ACT1-V2-014 ACT1-V2-014 ACT1-V2-013 ACT2-V2-025 ACT1-V2-013 ACT2-V2-024 ACT1-V2-015 ACT2-V2-016 EQT1&2-PV-1011 EQT1-CV-3001	Actiflo 1 Channel Gate Actiflo 2 Channel Gate Actiflo 1 Crossover Channel Gate Actiflo 1 Inlet Valve Actiflo 1 Inlet Isolation Valve Actiflo 2 Inlet Isolation Valve Actiflo 2 Inlet Isolation Valve Coagulation Tank 1 Drain Valve Injection Tank 1 Drain Valve Settling Tank 1 Drain Valve Coagulation Tank 2 Drain Valve Injection Tank 2 Drain Valve Settling Tank 2 Drain Valve MicroSand Pump 1 Inlet Valve MicroSand Pump 2 Inlet Valve (Actiflo 1) MicroSand Pump 2 Inlet Valve (Actiflo 1) MicroSand Pump 2 Discharge Valve (Actiflo 2) Actiflo Sludge by-Pass Valve to Sludge Sump EQ Transfer Pump 1 Check Valve		Actiflo Upgrade ENG 2012-03-14 Actiflo Upgrade ENG 2012-03-14
187 188 189 190 191 192 193 194 195 196 197 198 199 200 201 202 203 204 205 206 207 208 209 210 211 212 213	ACT1-V-1001 ACT1-V-1000 ACT2-V-2001 ACT2-V-2000 ACT1-PV-1001 ACT1-PV-1002 ACT1-BUV-1004 ACT2-PV-2001 ACT2-PV-2002 ACT2-BUV-2004 ACT1-V2-012 ACT1-V2-014 ACT2-V2-023 ACT1-V2-013 ACT2-V2-025 ACT1-V2-013 ACT2-V2-024 ACT1-V2-015 ACT2-V2-024 ACT1-V2-016 EQT1&2-PV-1011 EQT1-CV-3001 EQT1-PV-3011	Actiflo 1 Channel Gate Actiflo 2 Channel Gate Actiflo 2 Channel Gate Actiflo 1 Inlet Valve Actiflo 1 Inlet Isolation Valve Actiflo 2 Inlet Valve Actiflo 2 Inlet Valve Actiflo 2 Inlet Valve Actiflo 2 Inlet Isolation Valve Coagulation Tank 1 Drain Valve Injection Tank 1 Drain Valve Settling Tank 1 Drain Valve Coagulation Tank 2 Drain Valve MicroSand Pump 1 Inlet Valve MicroSand Pump 1 Discharge Valve MicroSand Pump 2 Inlet Valve (Actiflo 1) MicroSand Pump 2 Discharge Valve MicroSand Pump 2 Discharge Valve (Actiflo 1) MicroSand Pump 2 Discharge Valve (Actiflo 1) MicroSand Pump 2 Discharge Valve (Actiflo 2) Actiflo Sludge by-Pass Valve to Sludge Sump EQ Transfer Pump 1 Discharge Valve		Actiflo Upgrade ENG 2012-03-14 Actiflo Upgrade ENG 2012-03-14
187 188 189 190 191 192 193 194 195 196 197 198 199 200 201 202 203 204 205 206 207 208 209 210 211 212 213 214	ACT1-V-1001 ACT1-V-1000 ACT2-V-2001 ACT2-V-2000 ACT1-PV-1001 ACT1-PV-1002 ACT1-BUV-1004 ACT2-PV-2002 ACT1-BUV-2004 ACT2-PV-2002 ACT1-V2-012 ACT1-V2-012 ACT1-V2-013 ACT2-V2-023 ACT2-V2-023 ACT2-V2-025 ACT1-V2-013 ACT2-V2-025 ACT1-V2-015 ACT2-V2-024 ACT1-V2-015 ACT2-V2-016 EQT1&2-PV-1011 EQT1-CV-3001 EQT1-PV-3011 EQT1-PV-3012	Actiflo 1 Channel Gate Actiflo 2 Channel Gate Actiflo 2 Channel Gate Actiflo 1 Inlet Valve Actiflo 1 Inlet Isolation Valve Actiflo 2 Inlet Isolation Valve Actiflo 2 Inlet Isolation Valve Actiflo 2 Inlet Isolation Valve Coagulation Tank 1 Drain Valve Injection Tank 1 Drain Valve Settling Tank 1 Drain Valve Coagulation Tank 2 Drain Valve Settling Tank 2 Drain Valve MicroSand Pump 1 Inlet Valve MicroSand Pump 1 Inlet Valve MicroSand Pump 2 Inlet Valve (Actiflo 1) MicroSand Pump 2 Discharge Valve (Actiflo 1) MicroSand Pump 2 Discharge Valve (Actiflo 2) Actiflo Sludge by-Pass Valve to Sludge Sump EQ Transfer Pump 1 Discharge Valve EQ Transfer Pump 1 Discharge Valve		Actiflo Upgrade ENG 2012-03-14 Actiflo Upgrade ENG 2012-03-14
187 188 189 190 191 192 193 194 195 196 197 198 199 200 201 202 203 204 205 206 207 208 209 210 211 212 213 214 215	ACT1-V-1001 ACT2-V-2001 ACT2-V-2001 ACT2-V-2000 ACT1-PV-1001 ACT1-PV-1002 ACT1-PV-1002 ACT1-BUV-1004 ACT2-PV-2002 ACT2-BUV-2004 ACT2-V2-020 ACT1-V2-014 ACT2-V2-023 ACT2-V2-025 ACT1-V2-013 ACT2-V2-025 ACT1-V2-013 ACT2-V2-025 ACT1-V2-015 ACT2-V2-024 ACT1-V2-015 ACT2-V2-024 ACT1-V2-015 ACT2-V2-016 EQT1&2-PV-1011 EQT1-CV-3001 EQT1-PV-3001 EQT2-CV-3002 EQT2-PV-3021	Actiflo 1 Channel Gate Actiflo 2 Channel Gate Actiflo 2 Channel Gate Actiflo 1 Inlet Valve Actiflo 1 Inlet Isolation Valve Actiflo 2 Inlet Isolation Valve Actiflo 2 Inlet Isolation Valve Coagulation Tank 1 Drain Valve Injection Tank 1 Drain Valve Settling Tank 1 Drain Valve Coagulation Tank 2 Drain Valve Settling Tank 2 Drain Valve MicroSand Pump 1 Inlet Valve MicroSand Pump 1 Inlet Valve MicroSand Pump 2 Inlet Valve (Actiflo 1) MicroSand Pump 2 Inlet Valve (Actiflo 1) MicroSand Pump 2 Discharge Valve (Actiflo 1) MicroSand Pump 2 Discharge Valve (Actiflo 2) Actiflo Sludge by-Pass Valve to Sludge Sump EQ Transfer Pump 1 Discharge Valve EQ Transfer Pump 1 Discharge Valve EQ Transfer Pump 2 Discharge Valve EQ Transfer Pump 2 Discharge Valve EQ Transfer Pump 1 Discharge Valve		Actiflo Upgrade ENG 2012-03-14 Actiflo Upgrade ENG 2012-03-14
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227	ACT2-KV-3002	Actiflo 2 Drain to EQ 2 Valve		Actiflo Upgrade ENG 2012-03-14
228	EQT-BUV-3013	EQ Tanks 1 & 2 isolation valve		Actiflo Upgrade ENG 2012-03-14
229	OVFL-1600-CV-01	EQ Tanks Overflow Duckbill		Actiflo Upgrade ENG 2012-03-14
230	RES-PV-3007	RM Channel 1 Inlet Valve		Actiflo Upgrade ENG 2012-03-14
231	RES-PV-3008	RM Channel 2 Inlet Valve		Actiflo Upgrade ENG 2012-03-14
232	RES-PV-3013	BM Settling Tank 1 Sludge Valve		Actiflo Upgrade ENG 2012-03-14
233	RES-PV-3014	RM Settling Tank 2 Sludge Valve		Actiflo Upgrade ENG 2012-03-14
234	RES-PV-3010	Sludge Transfer Pump 1 Inlet Valve		Actiflo Ungrade ENG 2012-03-14
234	RES-0V-2010	Sludge Transfer Pump 1 Check Valve		Actifle Upgrade ENG 2012-03-14
235	RES-PV-3010	Sludge Transfer Pump 1 Discharge Valve		Actiflo Upgrade ENG 2012-03-14
230	RES-FV-3003	Sludge Transfer Rump 2 Inlet Value		Actific Upgrade ENG 2012-03-14
237	RES-PV-5011	Sludge Transfer Pump 2 Check Valve		Actific Upgrade ENG 2012-03-14
230	RES-CV-SUII	Sludge Transfer Pump 2 Discharge Valve		Actific Upgrade ENG 2012-03-14
239	RES-PV-3012	Sludge Transfer Pump 2 Discharge Valve		Actilio Upgrade ENG 2012-03-14
240	RES-PV-3015	Transfer Pump to Sludge Sump valve		Actifio Upgrade ENG 2012-03-14
241	RES-PV-3016	Transfer Pump to RM Channel 2 Valve		Actifio Upgrade ENG 2012-03-14
242	RES-PV-3017	Transfer Pump to RM Channel 1 Valve		Actifio Upgrade ENG 2012-03-14
243	RES-KV-3003	RM Effluent to Discharge Gate		Actiflo Upgrade ENG 2012-03-14
244	RES-KV-3004	RM Effluent to Sludge Sump		Actiflo Upgrade ENG 2012-03-14
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250	1600-V-0001	UV Inlet Crossover Isolation Valve		UV Upgrade ENG 2015-401
251	1600-V-0002	UV Discharge Crossover Isolation Valve		UV Upgrade ENG 2015-401
252	1600-MV-1001	UV 1 Inlet Isolation Valve		UV Upgrade ENG 2015-401
253	1600-MV-1002	UV 1 Discharge Isolation Valve		UV Upgrade ENG 2015-401
254	1600-V-1003	UV to CW 1&2 Isolation Valve		UV Upgrade ENG 2015-401
255	1600-MV-2001	UV 2 Inlet Isolation Valve		UV Upgrade ENG 2015-401
256	1600-MV-2002	UV 2 Discharge Isolation Valve		UV Upgrade ENG 2015-401
257	1600-V-2003	UV to CW 3&4 Isolation Valve		UV Upgrade ENG 2015-401
258	1600-V-0004	Filters 123 to UV Isolation Valve		UV Upgrade ENG 2015-401
259	CW-1600-V-1	CW 3&4 to CW 1&2 Isolation Valve	Burried	UV Upgrade ENG 2015-401
260	UV-CV-0002	UV Sump Pump Check Valve		UV Upgrade ENG 2015-401
261	1600-HV-0015	UV Sump Pump Discharge Valve		UV Upgrade ENG 2015-401
262	500-CV-001	Overflow Duckbill		UV Upgrade ENG 2015-401
263	1600-HV-0014	Cold Water		
263	1600-INI-1001	IIV 1 Chlorine Injection Valve		
265	1600-INI-1002	IV 2 Chlorine Injection Valve		
205	1000 110 1002			
200		Isolation Value Retween HIRE & 6		Header Upgrader 2020
207	HLP450-GV-003	A" Valve North and of HID 456 bodder in DW Boom		Header Upgrades 2020
208	HLP456-GV-004	4 Valve, North end of HLP 456 fielder in BW Room		Header Opgrades 2020
269	HLP456-GV-005	2" Feed Line to 200 Feldman road isolation		Header Upgrades 2020
270	ESL456-500-BV-001	3 Emergency Supply Valve BW Pump Room Connection		Header Upgrades 2020
2/1	ESL-500-BFV-002	4"Emergency Supply Valve Main Supply Connection		Header Upgrades 2020
272	ESL-500-BV-003	2"Emergency Supply Valve to HLP 7&8 Header	Near hot Water Tanks	Header Upgrades 2020
273	ESL7&8-500-BV-004	2"Emergency Supply Valve HLP 7&8 Room Connection		Header Upgrades 2020
274	HLP7&8-500-GV-005	HLP 7 & 8 Smart Ball insertion Point Valve		Header Upgrades 2020
275	BWP2-300-FY-10	Filter 456 BW Isolation Valve	New Location	2020 Relocation
276	HLP456-500-GV-006	HLP 4, 5 & 6 Smart Ball insertion Point Valve		Header Upgrades 2020
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No Waste. More Labels. Less Effort.

BradyPrinter i3300 Industrial Label Printer

No waste. More labels. Less effort.

Picture your ideal label printing scenario - the labels and ribbons snap into place, there's no calibration process, you don't have to throw away blank labels before you actually print one. Ideal is now real with the BradyPrinter i3300 Industrial Label Printer. This mid-volume industrial label printer makes your identification projects easy, fast and affordable. Enjoy a variety of time- and money-saving advantages, including:

- No waste printing with print smart technology, you get auto setup and calibration without throwing out blank labels
- Fast material changeovers foolproof drop-in label rolls and ribbons snap into place for 20-second material changeovers
- Full-facility identification complete all of your identification tasks, from wires, panels and products to safety and facility labels, with one convenient and efficient tool

The complete BradyPrinter i3300 solution



BradyPrinter i3300 Industrial Label Printer

Pages 2-6



Compatible labels Product and Electronic Labels Pages 8-11

Wire and Panel Labels Pages 12-22

Safety and Facility Labels Pages 23-31

Laboratory Specimen Labels Pages 32-35



Compatible ribbons Pages 36-37



Software for label creation and data integration



Printer technical specifications

Page 39





2



1 Media roll cartridge with auto part detection

Printer auto-detects installed label part, communicating printer setting and part setup information to both printer and Brady software

2 15-second media roll changeover

Media cartridge roll drops in and out of place quickly with minimal thread-through, no sensor adjustment, no calibration and no label waste

3 Ribbon cartridge with auto part detection

Printer auto-detects installed ribbon part, then sets correct print heat level and shows a warning if incorrect ribbon is used

4 5-second ribbon changeover

Ribbon cartridge snaps into place in one quick motion and guarantees the ink always faces the right direction to the print head

5 Color touchscreen control panel

lcons and sliders for easy printer setting adjustments and on-display part information and amount remaining

6 Top-loading design

Reduces footprint in your work area and simplifies media alignment and loading

7 Double-sided PermaSleeve[®] bridge

Lowered into place to allow printing second side of double-sided PermaSleeve wire markers

8 Media wiper arm

Ensures dust-free surface and high print quality when printing large ink areas on continuous media. Felt pads are field-replaceable

9 Sensors located in guides

Label sensor is always correctly positioned as guides are closed, meaning no sensor location trial and error, no calibration required and no wasted labels

10 Integrated auto cutter

Built-in cutter for complete cut-through of media between labels, at end of job, or no cut at all

11 Interface options

2x USB, 1x USB 2.0, 1x Ethernet (back of printer)



Prints on first label

No wasting labels with print smart technology

Print on every label or sleeve – no more blank first label. With print smart technology, the printer, labels, ribbons and software all work together for efficient label setup. It's all in the smart chip embedded in our materials – it stores the material size, type, color, quantity and compatibility, and sets proper burn settings, sensor alignment and print speed. When installed, the chip sends that information to the printer and desktop software and auto calibrates without wasting any labels – and you get fast material setup and creation, without the waste.

Get no-hassle, 20-second material changeovers

Forget fumbling around with ribbon rolls that are great at rolling away or threading material around rollers or print heads. Switch to a new way of material changeovers with the BradyPrinter i3300 Industrial Label Printer. The easy-to-load label rolls and self-contained ribbons snap into place for easy 20-second material changeovers without cumbersome sensor adjustments. Switch materials frequently throughout the day? You'll save time to work on your more important tasks.



Easy drop-in loading

4

The right label from the right company

Nothing leaves Brady's doors without meeting the highest quality standards. Backed by more than 100 years of identification experience and rigorous R&D testing, Brady manufactures materials you can trust.



That strong background of material development allows us to create materials for all of your applications throughout your facility. Add the printing versatility of the BradyPrinter i3300 Industrial Label Printer, and you get a convenient tool for facility-wide identification that offers more than 825 parts and 70 material options, and additional custom label options for a variety of applications, including:

Product ID and production line applications







Electronics and PC board applications







Electrical and automation applications







- Metallized labels and rating plates
- Work-in-process and barcode labels
- QA testing labels
- Anti-tamper labels
- Product labels
- Polyimide labels
- Electrostatic dissipative labels
- Polyester labels
- Removable polyimide labels
- PC board component labels
- Wire markers and sleeves
- Inside panel labels
- Push button / engraved plate alternative labels
- Panel rating plate materials

Safety, maintenance and facility applications







- Pipe markers
- Safety signs and warnings
- Lean / 5S labels
- Floor marking
- GHS chemical labels

Laboratory and sample tracking applications







- Cryo tube and vial labels
- · Labels for humidity, moisture, water bath and autoclave
- Slide labels / solvent-resistant labels
- Removable labels for glassware

BradyPrinter i3300 Label Printer and Accessories

Printer Part Numbers

Catalog #	Description
150640	BradyPrinter i3300 with auto cutter, Wi-Fi version. Bundled with Brady Workstation Product and Wire ID Suite label creation software
150642	BradyPrinter i3300 with auto cutter, Wi-Fi version. Bundled with Brady Workstation Laboratory ID Suite label creation software
150643	BradyPrinter i3300 with auto cutter, Wi-Fi version. Bundled with Brady Workstation Safety and Facility ID Suite label creation software
150645	BradyPrinter i3300 with auto cutter, Wi-Fi version. Bundled with Brady Workstation GHS Label App label creation software
150639	BradyPrinter i3300 with auto cutter, Wi-Fi version. Bundled with Brady Workstation Scan and Print Suite label creation software and CR2600 Scanner
149552	BradyPrinter i3300 with auto cutter, Wi-Fi version (includes Brady Workstation Basic design suite)

See page 38 for descriptions of Brady Workstation suites. Base printer ships with power cord, USB cable, cleaning kit, cutter cleaning tool, quickstart guide, product CD with full user manual.

Brady WorkStation does not require the use of a driver. A Windows® driver for BradyPrinter i3300 is available if needed via free download from BradyID.com.



Accessories

Catalog #	Description
PCK-6	Cleaning swabs soaked in IPA (pkg of 50 swabs)
120994	Padded rolling case with handle and supplies pockets
B31-WIPER	5-pack of replaceable media wipers (fits BradyPrinter i3300)
B31-CCT	Cleaning tool for auto cutter blade



Windows® is a registered trademark of Microsoft Corporation.





Polyester Labels (B-422, B-423, B-430, B-432, B483, B-484A and B-489)

 For product, circuit board and component ID as well as for general purpose industrial identification. B-423, B-483, B-489: Service te Agency approvals: 🖲 🕅 🕅



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Agency approvals: \mathbb{R} Rolls \mathfrak{G}°			
B-430, B-432: Service temp: -40°F to 212°F Agency approvals:			
B-484A: Service temp: -40°F to 240°F Agency approvals:			
	Figure 1	Figure 2	F



Metallized Polyester Labels (B-428, B-434, B-435, B-438, B-486 and B-565)

- For product labeling, asset tracking and general industrial ID
- Ideal for serial number plates and rating plates with
- name-plate quality and metal-looking finish

B-428: Service temp: -40°F to 293°F	Age
B-434: Service temp: -40°F to 194°F	Age
B-435: Service temp: -40°F to 194°F	Age
B-438: Service temp: -40°F to 104°F	Age
B-486: Service temp: -40°F to 248°F	Age
B-565: Service temp: -40°F to 240°F	Age

RoHS 🐠	ncy approvals: 🖲
RoHS 🐠	ncy approvals: 🗓
Rolls 💽	ncy approvals: 👲
Rohs 👁	ncy approvals: 🖖
Rohs 👁	ncy approvals: 🕒
Rohs	ncv approvals.



Figure 3

Figure 2



Diagram	Catalog #	B#	Color	Label Width A Inch (mm)	Label Height B Inch (mm)	Horiz. Repeat C Inch (mm)	Vert. Repeat D Inch (mm)	Web Width E Inch (mm)	Labels Per Row	Labels Per Roll	Rec. Ribbon
Standar	d adhesive for smooth	surfaces	s (B-428 mai	ite):							
Fig. 1	B33-5-428	B-428	Matte Silver	1.000 (25.4)	0.500 (12.7)	1.075 (27.3)	0.600 (15.2)	3.350 (85.1)	3	5000	B30-R4300
Fig. 2	B33-53-428	B-428	Matte Silver	2.000 (50.8)	0.500 (12.7)	-	0.600 (15.2)	2.200 (55.9)	1	2500	B30-R4300
Fig. 2	B33-17-428	B-428	Matte Silver	2.000 (50.8)	1.000 (25.4)	-	1.125 (28.6)	2.200 (55.9)	1	1500	B30-R4300
Fig. 2	B33-18-428	B-428	Matte Silver	3.000 (76.2)	1.000 (25.4)	-	1.125 (28.6)	3.200 (81.3)	1	1500	B30-R4300
Fig. 2	B33-19-428	B-428	Matte Silver	3.000 (76.2)	2.000 (50.8)	-	2.125 (54.0)	3.200 (81.3)	1	500	B30-R4300
Fig. 3	B33C-3000-428	B-428	Matte Silver	3.000 (76.2)	85 ft. (25.9m)	-	-	3.400 (86.4)	1 roll	(cont.)	B30-R4300
Standar	d adhesive for smooth	surfaces	s (B-565 mai	tte):							
Fig. 3	B30C-1125-565-SL	B-565	Matte Silver	1.125 (28.6)	100 ft. (30.5m)	-	-	1.375 (34.9)	1 roll	(cont.)	B30-R4300
Fig. 3	B30C-2250-565-SL	B-565	Matte Silver	2.250 (57.5)	100 ft. (30.5m)	-	-	2.500 (63.5)	1 roll	(cont.)	B30-R4300
Fig. 3	B30C-4000-565-SL	B-565	Matte Silver	4.000 (101.6)	100 ft. (30.5m)	-	-	4.200 (106.7)	1 roll	(cont.)	B30-R4300
Standar	d adhesive for smooth	surfaces	s (B-435 glos	ss):							
Fig. 2	B33-18-435	B-435	Gloss Silver	3.000 (76.2)	1.000 (25.4)	-	1.125 (28.6)	3.200 (81.3)	1	1500	B30-R6000
Fig. 2	B33-19-435	B-435	Gloss Silver	3.000 (76.2)	2.000 (50.8)	-	2.125 (54.0)	3.200 (81.3)	1	500	B30-R6000
Fig. 2	B33-55-435	B-435	Gloss Silver	4.000 (101.6)	2.000 (50.8)	-	2.125 (54.0)	4.200 (106.7)	1	750	B30-R6000
Stronge	r adhesive for rougher	surfaces	s (B-434 glos	ss):							
Fig. 1	B33-5-434	B-434	Gloss Silver	1.000 (25.4)	0.500 (12.7)	1.075 (27.3)	0.600 (15.2)	3.350 (85.1)	3	5000	B30-R6000
Fig. 2	B33-136-434	B-434	Gloss Silver	1.500 (38.1)	0.750 (19.1)	-	0.875 (22.2)	1.700 (43.2)	1	1500	B30-R6000
Fig. 2	B33-17-434	B-434	Gloss Silver	2.000 (50.8)	1.000 (25.4)	-	1.125 (28.6)	2.200 (55.9)	1	1500	B30-R6000
Fig. 2	B33-18-434	B-434	Gloss Silver	3.000 (76.2)	1.000 (25.4)	-	1.125 (28.6)	3.200 (81.3)	1	1500	B30-R6000
Fig. 2	B33-19-434	B-434	Gloss Silver	3.000 (76.2)	2.000 (50.8)	-	2.125 (54.0)	3.200 (81.3)	1	500	B30-R6000
Fig. 2	B33-55-434	B-434	Gloss Silver	4.000 (101.6)	2.000 (50.8)	-	2.125 (54.0)	4.200 (106.7)	1	750	B30-R6000
Ultra-ag	gressive adhesive for	highly te	extured, pow	der coated and lo	w surface energy s	surfaces (B-486 ma	tte):				
Fig. 2	B33-59-486	B-486	Matte Silver	1.000 (25.4)	0.500 (12.7)	-	0.600 (15.2)	1.200 (30.5)	1	2500	B30-R4300
Fig. 1	B33-5-486	B-486	Matte Silver	1.000 (25.4)	0.500 (12.7)	1.075 (27.3)	0.600 (15.2)	3.350 (85.1)	3	5000	B30-R4300
Fig. 2	B33-53-486	B-486	Matte Silver	2.000 (50.8)	0.500 (12.7)	-	0.600 (15.2)	2.200 (55.9)	1	2500	B30-R4300
Fig. 2	B33-17-486	B-486	Matte Silver	2.000 (50.8)	1.000 (25.4)	-	1.125 (28.6)	2.200 (55.9)	1	1300	B30-R4300
Fig. 2	B33-7-486	B-486	Matte Silver	2.750 (69.9)	1.250 (31.8)	-	1.375 (34.9)	2.950 (74.9)	1	1000	B30-R4300
Fig. 2	B33-18-486	B-486	Matte Silver	3.000 (76.2)	1.000 (25.4)	-	1.125 (28.6)	3.200 (81.3)	1	1300	B30-R4300
Fig. 2	B33-19-486	B-486	Matte Silver	3.000 (76.2)	2.000 (50.8)	-	2.125 (54.0)	3.200 (81.3)	1	500	B30-R4300
Fig. 2	B33-76-486	B-486	Matte Silver	4.000 (101.6)	3.000 (76.2)	-	3.125 (79.4)	4.200 (106.7)	1	500	B30-R4300
Fig. 2	B33-161-486	B-486	Matte Silver	4.000 (101.6)	4.000 (101.6)	-	4.125 (104.8)	4.200 (106.7)	1	250	B30-R4300

Tamper-Evident Asset ID Labels (B-438)

• Leaves checkerboard footprint on surface and on label if removed to prevent re-use





Diagram	Catalog #	B#	Color	Label Width A Inch (mm)	Label Height B Inch (mm)	Vert. Repeat D Inch (mm)	Web Width E Inch (mm)	Labels Per Row	Labels Per Roll	Rec. Ribbon
Fig. 2	B30-17-438	B-438	Matte Silver	2.000 (50.8)	1.000 (25.4)	2.500 (63.5)	1.125 (28.6)	1	1225	B30-R4300
Fig. 2	B30-18-438	B-438	Matte Silver	3.000 (76.2)	1.000 (25.4)	3.250 (82.6)	1.250 (31.8)	1	1225	B30-R4300
Fig. 2	B30-222-438	B-438	Matte Silver	3.000 (76.2)	2.000 (50.8)	3.250 (82.6)	2.250 (57.2)	1	650	B30-R4300
Fig. 3	B30C-3000-438-SL	B-438	Matte Silver	3.000 (76.2)	100 ft. (30.5m)	-	3.250 (82.6)	1 roll (c	ont.)	B30-R4300

Standard Polyimide Labels (B-724 and B-727)

• Top- or bottom-side component ID or board ID labels that withstand the various processes, fluxes and cleaning solvents encountered in the manufacture of printed circuit boards

B-724: Service temp: -94°F to 518°F (short burst max temp: 80 sec at 626°F, 5 min at 536°F) Agency approvals: Rolls





Diogram	Cotolog #	D#	Color	Label Width A	Label Height B	Horiz. Repeat C	Vert. Repeat D	Web Width E	Labels	Labels	Rec.
Diagrain	Galalog #	D#	GUIUT	Inch (mm)	Inch (mm)	Inch (mm)	Inch (mm)	Inch (mm)	Per Row	Per Roll	Ribbon
Standard	temperature (B-3	727 gloss v	vhite):								
Fig. 1	B33-11-727	B-727	Gloss White	0.250 (6.35)	0.250 (6.4)	0.250 (6.4)	0.375 (9.5)	3.200 (81.3)	12	5000	B30-R6000
Fig. 1	B33-38-727	B-727	Gloss White	0.375 (9.5)	0.375 (9.5)	0.438 (11.1)	0.475 (12.1)	3.200 (81.3)	9	5000	B30-R6000
Fig. 1	B33-149-727	B-727	Gloss White	0.500 (12.7)	0.500 (12.7)	0.600 (15.2)	0.600 (15.2)	2.500 (63.5)	4	5000	B30-R6000
Fig. 1	B33-1-727	B-727	Gloss White	0.750 (19.1)	0.250 (6.4)	0.800 (20.3)	0.350 (8.9)	3.350 (85.1)	4	5000	B30-R6000
Fig. 2	B33-49-727	B-727	Gloss White	0.900 (22.9)	0.250 (6.4)	-	0.350 (8.9)	1.100 (27.9)	1	5000	B30-R6000
Fig. 1	B33-2-727	B-727	Gloss White	0.900 (22.9)	0.250 (6.4)	1.125 (28.6)	0.350 (8.9)	3.350 (85.1)	3	5000	B30-R6000
Fig. 2	B33-103-727	B-727	Gloss White	1.000 (25.4)	0.250 (6.4)	-	0.350 (8.9)	1.200 (30.5)	1	5000	B30-R6000
Fig. 2	B33-58-727	B-727	Gloss White	1.000 (25.4)	0.375 (9.5)	-	0.475 (12.1)	1.200 (30.5)	1	4000	B30-R6000
Fig. 2	B33-59-727	B-727	Gloss White	1.000 (25.4)	0.500 (12.7)	-	0.600 (15.2)	1.200 (30.5)	1	2500	B30-R6000
Fig. 2	B33-43-727	B-727	Gloss White	1.250 (31.8)	0.250 (6.4)	-	0.350 (8.9)	1.450 (36.8)	1	5000	B30-R6000
Fig. 2	B33-44-727	B-727	Gloss White	1.375 (34.9)	0.250 (6.4)	-	0.350 (8.9)	1.600 (40.6)	1	5000	B30-R6000
Fig. 2	B33-45-727	B-727	Gloss White	1.500 (38.1)	0.250 (6.4)	-	0.350 (8.9)	1.700 (43.2)	1	5000	B30-R6000
Fig. 2	B33-72-727	B-727	Gloss White	1.750 (44.5)	0.250 (6.4)	-	0.350 (8.9)	1.950 (49.5)	1	5000	B30-R6000
Extremel	y high temperatu	re (B-724 n	natte amber):								
Fig. 1	B33-149-724	B-724	Matte Amber	0.500 (12.7)	0.500 (12.7)	0.600 (15.2)	0.600 (15.2)	2.500 (63.5)	4	5000	B30-R4300
Fig. 2	B33-46-724	B-724	Matte Amber	0.750 (19.1)	0.250 (6.4)	-	0.350 (8.9)	0.950 (24.1)	1	5000	B30-R4300
Fig. 1	B33-1-724	B-724	Matte Amber	0.750 (19.1)	0.250 (6.4)	0.800 (20.3)	0.350 (8.9)	3.350 (85.1)	4	5000	B30-R4300
Fig. 1	B33-2-724	B-724	Matte Amber	0.900 (22.9)	0.250 (6.4)	1.125 (28.6)	0.350 (8.9)	3.350 (85.1)	3	5000	B30-R4300
Fig. 2	B33-43-724	B-724	Matte Amber	1.250 (31.8)	0.250 (6.4)	-	0.350 (8.9)	1.450 (36.8)	1	5000	B30-R4300
Fig. 1	B33-4-724	B-724	Matte Amber	1.500 (38.1)	0.250 (6.4)	-	0.350 (8.9)	3.350 (85.1)	2	5000	B30-R4300

Paper Labels (B-424)

- Economical choice for light duty general ID
- White finish and matte topcoat
- Excellent contrast and smear resistance for barcode printing

Service temp: -40°F to 124°F Agency approvals: RHS





Diagram	Catalog #	B#	Color	Label Width A Inch (mm)	Label Height B Inch (mm)	Horiz. Repeat C Inch (mm)	Vert. Repeat D Inch (mm)	Web Width E Inch (mm)	Labels Per Row	Labels Per Roll	Rec. Ribbon
Fig. 2	B33-53-424	B-424	White	2.000 (50.8)	0.500 (12.7)	-	0.600 (15.2)	2.200 (55.9)	1	2500	B30-R4300
Fig. 2	B33-17-424	B-424	White	2.000 (50.8)	1.000 (25.4)	1.125 (28.6)	2.200 (55.9)	-	1	1500	B30-R4300
Fig. 2	B33-7-424	B-424	White	2.750 (69.9)	1.250 (31.8)	-	1.375 (34.9)	2.950 (74.9)	1	1000	B30-R4300
Fig. 2	B33-18-424	B-424	White	3.000 (76.2)	1.000 (25.4)	1.125 (28.6)	3.200 (81.3)	-	1	1500	B30-R4300
Fig. 2	B33-19-424	B-424	White	3.000 (76.2)	2.000 (50.8)	2.125 (54.0)	3.200 (81.3)	-	1	500	B30-R4300
Fig. 2	B33-20-424	B-424	White	3.000 (76.2)	5.000 (127)	-	5.125 (130.2)	3.200 (81.3)	1	250	B30-R4300
Fig. 2	B33-55-424	B-424	White	4.000 (101.6)	2.000 (50.8)	-	2.125 (54.0)	4.200 (106.7)	1	750	B30-R4300
Fig. 2	B33-25-424	B-424	White	4.000 (101.6)	6.000 (152.4)	6.125 (155.6)	4.200 (106.7)	-	1	350	B30-R4300



Static Dissipative Polyimide Labels (B-717, B-718 and B-719)

- Circuit board and electronic component ID with static dissipative adhesive and release liner with surface resistivity values recommended for dissipative ESD packaging
- Complies with EIA-541 packaging material standards for ESD sensitive items
- For top- or bottom-side component or board identification
- All: Service temp: -94°F to 212°F (short burst max temp: 80 sec at 572°F, 5 min at 500°F, 2 hrs at 338°F) Agency approvals: N RHS





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Diagram	Catalog #	B#	Color	Label Width A Inch (mm)	Label Height B Inch (mm)	Horiz. Repeat C Inch (mm)	Vert. Repeat D Inch (mm)	Web Width E Inch (mm)	Labels Per Row	Labels Per Roll	Rec. Ribbon
Standard	thickness (B-717	gloss white	e):								
Fig. 2	* B33-46-717	B-717	Gloss White	0.750 (19.1)	0.250 (6.4)	-	0.350 (8.9)	0.950 (24.1)	1	5000	B30-R6000
Fig. 2	* B33-103-717	B-717	Gloss White	1.000 (25.4)	0.250 (6.4)	-	0.350 (8.9)	1.200 (30.5)	1	5000	B30-R6000
Fig. 2	* B33-43-717	B-717	Gloss White	1.250 (31.8)	0.250 (6.4)	-	0.350 (8.9)	1.450 (36.8)	1	5000	B30-R6000
Fig. 2	* B33-45-717	B-717	Gloss White	1.500 (38.1)	0.250 (6.4)	-	0.350 (8.9)	1.700 (43.2)	1	5000	B30-R6000
Low prof	ile label (B-718 glo	oss white):									
Fig. 4	* B33-11-718	B-718	Gloss White	0.250 (6.4)	0.250 (6.4)	0.250 (6.4)	0.375 (9.5)	3.200 (81.3)	12	1500	B30-R6000
Fig. 1	* B33-38-718	B-718	Gloss White	0.375 (9.5)	0.375 (9.5)	0.438 (11.1)	0.475 (12.1)	3.200 (81.3)	9	5000	B30-R6000
Fig. 1	* B33-149-718	B-718	Gloss White	0.500 (12.7)	0.500 (12.7)	0.600 (15.2)	0.600 (15.2)	2.500 (63.5)	4	5000	B30-R6000
Fig. 1	* B33-1-718	B-718	Gloss White	0.750 (19.1)	0.250 (6.4)	0.800 (20.3)	0.350 (8.9)	3.350 (85.1)	4	5000	B30-R6000
Fig. 2	* B33-46-718	B-718	Gloss White	0.750 (19.1)	0.250 (6.4)	=	0.350 (8.9)	0.950 (24.1)	1	5000	B30-R6000
Fig. 2	* B33-49-718	B-718	Gloss White	0.900 (22.9)	0.250 (6.4)	-	0.350 (8.9)	1.100 (27.9)	1	5000	B30-R6000
Fig. 2	* B33-43-718	B-718	Gloss White	1.250 (31.8)	0.250 (6.4)	-	0.350 (8.9)	1.450 (36.8)	1	5000	B30-R6000
Fig. 2	* B33-45-718	B-718	Gloss White	1.500 (38.1)	0.250 (6.4)	-	0.350 (8.9)	1.700 (43.2)	1	5000	B30-R6000
Fig. 2	* B33-72-718	B-718	Gloss White	1.750 (44.5)	0.250 (6.4)	-	0.350 (8.9)	1.950 (49.5)	1	5000	B30-R6000
Low prof	ile label to prevent	sticking o	f solder balls (B-	719 matte white):							
Fig. 1	* B33-38-719	B-719	Matte White	0.375 (9.5)	0.375 (9.5)	0.438 (11.1)	0.475 (12.1)	3.200 (81.3)	9	5000	B30-R6000
Fig. 2	* B33-46-719	B-719	Matte White	0.750 (19.1)	0.250 (6.4)	-	0.350 (8.9)	0.950 (24.1)	1	5000	B30-R6000
Fig. 1	* B33-2-719	B-719	Matte White	0.900 (22.9)	0.250 (6.4)	1.125 (28.6)	0.350 (8.9)	3.350 (85.1)	3	5000	B30-R6000
Fig. 2	* B33-43-719	B-719	Matte White	1.250 (31.8)	0.250 (6.4)	-	0.350 (8.9)	1.450 (36.8)	1	5000	B30-R6000

* \Lambda WARNING: Cancer www.P65Warnings.ca.gov

Polypropylene Labels (B-425)

- General labeling material for indoor use
- Outstanding chemical and solvent resistance and print performance
- Not recommended for prolonged outdoor use

Service temp: -94°F to 212°F

Agency approvals: 🔥 🖲 RHS 🚱





Diagram	Catalog #	B#	Color	Label Width A Inch (mm)	Label Height B Inch (mm)	Horiz. Repeat C Inch (mm)	Vert. Repeat D Inch (mm)	Web Width E Inch (mm)	Labels Per Row	Labels Per Roll	Rec. Ribbon
Fig. 1	B33-5-425	B-425	White	1.000 (25.4)	0.500 (12.7)	1.075 (27.3)	0.600 (15.2)	3.350 (85.1)	3	5000	B30-R4300
Fig. 2	B33-17-425	B-425	White	2.000 (50.8)	1.000 (25.4)	-	1.125 (28.6)	2.200 (55.9)	1	1500	B30-R4300
Fig. 2	B33-18-425	B-425	White	3.000 (76.2)	1.000 (25.4)	-	1.125 (28.6)	3.200 (81.3)	1	1500	B30-R4300
Fig. 2	B33-19-425	B-425	White	3.000 (76.2)	2.000 (50.8)	=	2.125 (54.0)	3.200 (81.3)	1	500	B30-R4300

Raised Profile Labels – Engraved Plate Substitutes – Push Button Style (B-593)

Costs up to 80% less than engraved legend plates

- High gloss, polyester label with thick raised profile and ultra-aggressive adhesive (0.70 mm thick)
- High-performance, low-cost substitute to engraved plates
- 10-year outdoor durability rating
- On-demand labeling: labels print out in fewer than 4 seconds
- 5 push button sizes (including keyed and non-keyed 22.5 mm and 30.5 mm hole dia. keyed)







Diagram	Catalog #	B#	Color	Label Height A Inch (mm)	Label Width B Inch (mm)	Hole Diameter C Inch (mm)	Vert. Repeat D Inch (mm)	Web Width E Inch (mm)	Labels Per Row	Labels Per Roll	Rec. Ribbon
Fig. 18a	B30EP-167-593-WT	B-593	White	1.500 (38.1)	1.200 (30.5)	0.885 (22.5)	1.750 (44.5)	2.500 (63.5)	1	200	B30-R6000
Fig. 18b	B30EP-167U-593-WT	B-593	White	1.500 (38.1)	1.200 (30.5)	0.885 (22.5)	1.750 (44.5)	2.500 (63.5)	1	200	B30-R6000
Fig. 18a	B30EP-169-593-WT	B-593	White	1.800 (45.7)	1.800 (45.7)	1.200 (30.5)	2.000 (50.8)	2.500 (63.5)	1	190	B30-R6000
Fig. 18a	B30EP-168-593-WT	B-593	White	1.900 (48.3)	1.200 (30.5)	0.885 (22.5)	2.125 (54.0)	2.500 (63.5)	1	180	B30-R6000
Fig. 18a	B30EP-170-593-WT	B-593	White	2.400 (60.9)	2.400 (60.9)	1.200 (30.5)	2.625 (66.7)	3.250 (82.6)	1	145	B30-R6000
Fig. 18a	B30EP-167-593-YL	B-593	Yellow	1.500 (38.1)	1.200 (30.5)	0.885 (22.5)	1.750 (44.5)	2.500 (63.5)	1	200	B30-R6000
Fig. 18b	B30EP-167U-593-YL	B-593	Yellow	1.500 (38.1)	1.200 (30.5)	0.885 (22.5)	1.750 (44.5)	2.500 (63.5)	1	200	B30-R6000
Fig. 18a	B30EP-169-593-YL	B-593	Yellow	1.800 (45.7)	1.800 (45.7)	1.200 (30.5)	2.000 (50.8)	2.500 (63.5)	1	190	B30-R6000
Fig. 18a	B30EP-168-593-YL	B-593	Yellow	1.900 (48.3)	1.200 (30.5)	0.885 (22.5)	2.125 (54.0)	2.500 (63.5)	1	180	B30-R6000
Fig. 18a	B30EP-170-593-YL	B-593	Yellow	2.400 (60.9)	2.400 (60.9)	1.200 (30.5)	2.625 (66.7)	3.250 (82.6)	1	145	B30-R6000
Fig. 18a	B30EP-167-593-BK	B-593	Black	1.500 (38.1)	1.200 (30.5)	0.885 (22.5)	1.750 (44.5)	2.500 (63.5)	1	200	B30-R4400-WT
Fig. 18b	B30EP-167U-593-BK	B-593	Black	1.500 (38.1)	1.200 (30.5)	0.885 (22.5)	1.750 (44.5)	2.500 (63.5)	1	200	B30-R4400-WT
Fig. 18a	B30EP-169-593-BK	B-593	Black	1.800 (45.7)	1.800 (45.7)	1.200 (30.5)	2.000 (50.8)	2.500 (63.5)	1	190	B30-R4400-WT
Fig. 18a	B30EP-168-593-BK	B-593	Black	1.900 (48.3)	1.200 (30.5)	0.885 (22.5)	2.125 (54.0)	2.500 (63.5)	1	180	B30-R4400-WT
Fig. 18a	B30EP-170-593-BK	B-593	Black	2.400 (60.9)	2.400 (60.9)	1.200 (30.5)	2.625 (66.7)	3.250 (82.6)	1	145	B30-R4400-WT
Fig. 18a	B30EP-167-593-GN	B-593	Green	1.500 (38.1)	1.200 (30.5)	0.885 (22.5)	1.750 (44.5)	2.500 (63.5)	1	200	B30-R4400-WT
Fig. 18b	B30EP-167U-593-GN	B-593	Green	1.500 (38.1)	1.200 (30.5)	0.885 (22.5)	1.750 (44.5)	2.500 (63.5)	1	200	B30-R4400-WT
Fig. 18a	B30EP-169-593-GN	B-593	Green	1.800 (45.7)	1.800 (45.7)	1.200 (30.5)	2.000 (50.8)	2.500 (63.5)	1	190	B30-R4400-WT
Fig. 18a	B30EP-168-593-GN	B-593	Green	1.900 (48.3)	1.200 (30.5)	0.885 (22.5)	2.125 (54.0)	2.500 (63.5)	1	180	B30-R4400-WT
Fig. 18a	B30EP-170-593-GN	B-593	Green	2.400 (60.9)	2.400 (60.9)	1.200 (30.5)	2.625 (66.7)	3.250 (82.6)	1	145	B30-R4400-WT
Fig. 18a	B30EP-167-593-RD	B-593	Red	1.500 (38.1)	1.200 (30.5)	0.885 (22.5)	1.750 (44.5)	2.500 (63.5)	1	200	B30-R4400-WT
Fig. 18b	B30EP-167U-593-RD	B-593	Red	1.500 (38.1)	1.200 (30.5)	0.885 (22.5)	1.750 (44.5)	2.500 (63.5)	1	200	B30-R4400-WT
Fig. 18a	B30EP-169-593-RD	B-593	Red	1.800 (45.7)	1.800 (45.7)	1.200 (30.5)	2.000 (50.8)	2.500 (63.5)	1	190	B30-R4400-WT
Fig. 18a	B30EP-168-593-RD	B-593	Red	1.900 (48.3)	1.200 (30.5)	0.885 (22.5)	2.125 (54.0)	2.500 (63.5)	1	180	B30-R4400-WT
Fig. 18a	B30EP-170-593-RD	B-593	Red	2.400 (60.9)	2.400 (60.9)	1.200 (30.5)	2.625 (66.7)	3.250 (82.6)	1	145	B30-R4400-WT

U.S. Patent Nos. US8475914B2; US9005729B2.



Raised Profile Labels – Engraved Plate Substitutes – Rectangular Style (B-593)

Costs up to 80% less than engraved legend plates

- High gloss, polyester label with thick raised profile and ultra-aggressive adhesive (0.70 mm thick)
- Ideal for inside-panel backer board labels and front-of-enclosure labeling
- Costs up to 80% less than engraved plates and prints out in about 4 seconds
- 10-year outdoor durability rating







Diagram	Catalog #	B#	Color	Label Height A Inch (mm)	Label Width B Inch (mm)	Vert. Repeat D Inch (mm)	Web Width E Inch (mm)	Labels Per Row	Labels Per Roll	Rec. Ribbon
Fig. 18c	B30EP-171-593-WT	B-593	White	0.490 (12.5)	1.060 (26.9)	0.750 (19.1)	1.375 (34.9)	1	500	B30-R6000
Fig. 18c	B30EP-172-593-WT	B-593	White	0.590 (15.0)	1.770 (45.0)	0.850 (21.6)	2.500 (63.5)	1	450	B30-R6000
Fig. 18c	B30EP-175-593-WT	B-593	White	0.750 (19.1)	3.000 (76.2)	1.000 (25.4)	3.250 (82.6)	1	375	B30-R6000
Fig. 18c	B30EP-173-593-WT	B-593	White	1.000 (25.4)	2.000 (50.8)	1.250 (31.8)	2.500 (63.5)	1	300	B30-R6000
Fig. 18c	B30EP-174-593-WT	B-593	White	1.000 (25.4)	4.000 (101.6)	1.250 (31.8)	4.250 (108.0)	1	300	B30-R6000
Fig. 18c	B30EP-176-593-WT	B-593	White	1.000 (25.4)	3.000 (76.2)	1.250 (31.8)	3.250 (82.6)	1	300	B30-R6000
Fig. 18c	B30EP-177-593-WT	B-593	White	2.500 (63.5)	3.000 (76.2)	2.750 (69.9)	3.250 (82.6)	1	125	B30-R6000
Fig. 18c	B30EP-171-593-YL	B-593	Yellow	0.490 (12.5)	1.060 (26.9)	0.750 (19.1)	1.375 (34.9)	1	500	B30-R6000
Fig. 18c	B30EP-172-593-YL	B-593	Yellow	0.590 (15.0)	1.770 (45.0)	0.850 (21.6)	2.500 (63.5)	1	450	B30-R6000
Fig. 18c	B30EP-175-593-YL	B-593	Yellow	0.750 (19.1)	3.000 (76.2)	1.000 (25.4)	3.250 (82.6)	1	375	B30-R6000
Fig. 18c	B30EP-173-593-YL	B-593	Yellow	1.000 (25.4)	2.000 (50.8)	1.250 (31.8)	2.500 (63.5)	1	300	B30-R6000
Fig. 18c	B30EP-174-593-YL	B-593	Yellow	1.000 (25.4)	4.000 (101.6)	1.250 (31.8)	4.250 (108.0)	1	300	B30-R6000
Fig. 18c	B30EP-176-593-YL	B-593	Yellow	1.000 (25.4)	3.000 (76.2)	1.250 (31.8)	3.250 (82.6)	1	300	B30-R6000
Fig. 18c	B30EP-177-593-YL	B-593	Yellow	2.500 (63.5)	3.000 (76.2)	2.750 (69.9)	3.250 (82.6)	1	125	B30-R6000
Fig. 18c	B30EP-171-593-BK	B-593	Black	0.490 (12.5)	1.060 (26.9)	0.750 (19.1)	1.375 (34.9)	1	500	B30-R4400-WT
Fig. 18c	B30EP-172-593-BK	B-593	Black	0.590 (15.0)	1.770 (45.0)	0.850 (21.6)	2.500 (63.5)	1	450	B30-R4400-WT
Fig. 18c	B30EP-175-593-BK	B-593	Black	0.750 (19.1)	3.000 (76.2)	1.000 (25.4)	3.250 (82.6)	1	375	B30-R4400-WT
Fig. 18c	B30EP-173-593-BK	B-593	Black	1.000 (25.4)	2.000 (50.8)	1.250 (31.8)	2.500 (63.5)	1	300	B30-R4400-WT
Fig. 18c	B30EP-174-593-BK	B-593	Black	1.000 (25.4)	4.000 (101.6)	1.250 (31.8)	4.250 (108.0)	1	300	B30-R4400-WT
Fig. 18c	B30EP-176-593-BK	B-593	Black	1.000 (25.4)	3.000 (76.2)	1.250 (31.8)	3.250 (82.6)	1	300	B30-R4400-WT
Fig. 18c	B30EP-177-593-BK	B-593	Black	2.500 (63.5)	3.000 (76.2)	2.750 (69.9)	3.250 (82.6)	1	125	B30-R4400-WT
Fig. 18c	B30EP-171-593-GN	B-593	Green	0.490 (12.5)	1.060 (26.9)	0.750 (19.1)	1.375 (34.9)	1	500	B30-R4400-WT
Fig. 18c	B30EP-172-593-GN	B-593	Green	0.590 (15.0)	1.770 (45.0)	0.850 (21.6)	2.500 (63.5)	1	450	B30-R4400-WT
Fig. 18c	B30EP-175-593-GN	B-593	Green	0.750 (19.1)	3.000 (76.2)	1.000 (25.4)	3.250 (82.6)	1	375	B30-R4400-WT
Fig. 18c	B30EP-173-593-GN	B-593	Green	1.000 (25.4)	2.000 (50.8)	1.250 (31.8)	2.500 (63.5)	1	300	B30-R4400-WT
Fig. 18c	B30EP-174-593-GN	B-593	Green	1.000 (25.4)	4.000 (101.6)	1.250 (31.8)	4.250 (108.0)	1	300	B30-R4400-WT
Fig. 18c	B30EP-176-593-GN	B-593	Green	1.000 (25.4)	3.000 (76.2)	1.250 (31.8)	3.250 (82.6)	1	300	B30-R4400-WT
Fig. 18c	B30EP-177-593-GN	B-593	Green	2.500 (63.5)	3.000 (76.2)	2.750 (69.9)	3.250 (82.6)	1	125	B30-R4400-WT
Fig. 18c	B30EP-171-593-RD	B-593	Red	0.490 (12.5)	1.060 (26.9)	0.750 (19.1)	1.375 (34.9)	1	500	B30-R4400-WT
Fig. 18c	B30EP-172-593-RD	B-593	Red	0.590 (15.0)	1.770 (45.0)	0.850 (21.6)	2.500 (63.5)	1	450	B30-R4400-WT
Fig. 18c	B30EP-173-593-RD	B-593	Red	1.000 (25.4)	2.000 (50.8)	1.250 (31.8)	2.500 (63.5)	1	300	B30-R4400-WT
Fig. 18c	B30EP-174-593-RD	B-593	Red	1.000 (25.4)	4.000 (101.6)	1.250 (31.8)	4.250 (108.0)	1	300	B30-R4400-WT
Fig. 18c	B30EP-171-593-SL	B-593	Silver	0.490 (12.5)	1.060 (26.9)	0.750 (19.1)	1.375 (34.9)	1	500	B30-R6000
Fig. 18c	B30EP-172-593-SL	B-593	Silver	0.590 (15.0)	1.770 (45.0)	0.850 (21.6)	2.500 (63.5)	1	450	B30-R6000
Fig. 18c	B30EP-173-593-SL	B-593	Silver	1.000 (25.4)	2.000 (50.8)	1.250 (31.8)	2.500 (63.5)	1	300	B30-R6000
Fig. 18c	B30EP-174-593-SL	B-593	Silver	1.000 (25.4)	4.000 (101.6)	1.250 (31.8)	4.250 (108.0)	1	300	B30-R6000

U.S. Patent Nos. US8475914B2; US9005729B2.

Panel ID Labels (B-483, B-484A, B-499, B-593 and B-595)

- Various sizes in several durable material types
- Also ideal for marking backer board, DIN rail, relays, PLCs, switches, solenoids, drive motors and other components inside panels
- All recommended materials are flexible and have high-tack adhesives for adhesion to wide variety of surface

B-483: Service temp: -40°F to 248°F **B-484A:** Service temp: -40°F to 240°F **B-499:** Service temp: -40°F to 193°F B-593: Service temp: -4°F to 212° F B-595: Service temp: -40°F to 180°F, 8-10 years average outdoor durability Agency approvals: RollS

Figure 1

surfaces and compo	onent	IS
Agency approvals: 🗓	RoHS	€ ₽•
Agency approvals: 🕒	RoHS	_
Agency approvals: 🖲	RoHS	€P•







Figure 18c







Figure 3



Diagram	Catalog #	B#	Color	Label Width A Inch (mm)	Labei Height B Inch (mm)	Horiz. Repeat C Inch (mm)	vert. Repeat D Inch (mm)	web Width E Inch (mm)	Labels Per Row	Labels Per Roll	Rec. Ribbon
Nylon Clo	th - Permanent adhesive (B	-499):									
Fig. 1	B33-68-499	B-499	White	0.500 (12.7)	0.750 (19.1)	0.600 (15.2)	0.875 (22.2)	2.500 (63.5)	4	1500	B30-R6000
Fig. 1	B33-165-499	B-499	White	0.800 (20.3)	1.437 (36.5)	0.900 (22.9)	1.562 (39.7)	3.700 (94.0)	4	2500	B30-R6000
Fig. 2	B33-125-499	B-499	White	0.900 (22.9)	0.500 (12.7)	-	-	-	1	1500	B30-R6000
Fig. 1	B33-126-499	B-499	White	0.900 (22.9)	0.500 (12.7)	-	-	-	2	1500	B30-R6000
Fig. 2	B33-163-499	B-499	White	1.000 (25.4)	0.375 (9.5)	-	-	-	1	1500	B30-R6000
Fig. 1	B33-152-499	B-499	White	1.000 (25.4)	0.375 (9.5)	-	-	-	2	1500	B30-R6000
Fig. 2	B33-136-499	B-499	White	1.500 (38.1)	0.750 (19.1)	-	0.875 (22.2)	1.770 (45.0)	1	1500	B30-R6000
Fig. 2	B33-137-499	B-499	White	2.000 (50.8)	1.000 (25.4)	-	1.125 (28.6)	2.200 (55.9)	1	1100	B30-R6000
Fig. 2	B33-125-499	B-499	White	2.000 (50.8)	0.250 (6.4)	-	-	-	1	1500	B30-R6000
Polyester	- Ultra-aggressive adhesiv	e for highly	textured and	low surface energy	surfaces (B-483):					
Fig. 1	B33-149-483	B-483	White	0.500 (12.7)	0.500 (12.7)	0.600 (15.2)	0.600 (15.2)	2.500 (63.5)	4	5000	B30-R6000
Fig. 1	B33-5-483	B-483	White	1.000 (25.4)	0.500 (12.7)	1.075 (27.3)	0.600 (15.2)	3.350 (85.1)	3	5000	B30-R6000
Fig. 2	B33-17-483	B-483	White	2.000 (50.8)	1.000 (25.4)	-	1.125 (28.6)	2.200 (55.9)	1	1500	B30-R6000
Fig. 2	B33-7-483	B-483	White	2.750 (69.9)	1.250 (31.8)	-	1.375 (34.9)	2.950 (74.9)	1	1000	B30-R6000
Fig. 2	B33-18-483	B-483	White	3.000 (76.2)	1.000 (25.4)	-	1.125 (28.6)	3.200 (81.3)	1	1500	B30-R6000
Fig. 2	B33-19-483	B-483	White	3.000 (76.2)	2.000 (50.8)	-	2.125 (54.0)	3.200 (81.3)	1	500	B30-R6000
Fig. 2	B33-55-483	B-483	White	4.000 (101.6)	2.000 (50.8)	-	2.125 (54.0)	4.200 (106.7)	1	750	B30-R6000
Polyester	- Ultra-aggressive adhesiv	e and pliab	le for conform	ing to angular surfa	aces (B-484A):						
Fig. 2	B33-125-484	B-484A	White	0.900 (22.9)	0.500 (12.7)	-	0.600 (15.2)	1.100 (27.9)	1	1500	B30-R6000
Fig. 1	B33-5-484	B-484A	White	1.000 (25.4)	0.500 (12.7)	1.075 (27.3)	0.600 (15.2)	3.350 (85.1)	3	5000	B30-R6000
Fig. 2	B33-136-484	B-484A	White	1.500 (38.1)	0.750 (19.1)	-	0.875 (22.2)	1.700 (43.2)	1	1500	B30-R6000
Fig. 2	B33-17-484	B-484A	White	2.000 (50.8)	1.000 (25.4)	-	1.125 (28.6)	2.200 (55.9)	1	1500	B30-R6000
Fig. 2	B33-18-484	B-484A	White	3.000 (76.2)	1.000 (25.4)	-	1.125 (28.6)	3.200 (81.3)	1	1500	B30-R6000
Fig. 2	B33-19-484	B-484A	White	3.000 (76.2)	2.000 (50.8)	-	2.125 (54.0)	3.200 (81.3)	1	500	B30-R6000
Raised Pr	ofile Polyester - Thick raise	ed profile la	ibel with ultra-	agressive adhesive	e (B-593):						
Fig. 18c	B30EP-171-593-WT	B-593	White	0.490 (12.5)	1.060 (26.9)	-	0.750 (19.1)	1.375 (34.9)	1	500	B30-R6000
Fig. 18c	B30EP-171-593-BK	B-593	Black	0.490 (12.5)	1.060 (26.9)	-	0.750 (19.1)	1.375 (34.9)	1	500	B30-R6000
Pre-Printe	ed Vinyl - Permanent adhes	ive, confor	mable; Indoor	/ outdoor grade (B-	·595):						
Fig. 70	B30-241-595-ANSIDA	B-595	A DANGER	2.250 (57.5)	3.000 (76.2)	-	-	-	1	300	B30-R10000
Fig. 70	B30-25-595-ANSIDA	B-595		4.000 (101.6)	6.000 (152.4)	-	-	-	1	175	B30-R10000
Fig. 70	B30-241-595-ANSIWA	B-595	AWARNING	2.250 (57.5)	3.000 (76.2)	-	-	-	1	300	B30-R10000
Fig. 70	B30-25-595-ANSIWA	B-595	-	4.000 (101.6)	6.000 (152.4)	-	-	-	1	175	B30-R10000

All part numbers above are compatible with BradyPrinter i3300 and BBP®33. Parts may also be compatible with BradyPrinter S3000, BradyPrinter S3100, BBP®30, BBP®31, BBP®35 and BBP®37 printers. Visit BradyID.com to confirm compatibility.



Self-Laminating Wire and Cable Labels (B-427)

- Brady's most popular wire marker!
- Features white printable area with clear "tail" that wraps around marker to protect text
- Superior resistance to abrasion, handling, solvents, water, oil and dirt

 Vinyl with permanent acrylic adhesive designed specifically for tightly curved surfaces Service temp: -40°F to 158°F Agency approvals:
 Agency approvals:
 Agency approvals:
 Agency approvals:
 Agency approvals:



Diagram	Catalog #	B#	Color	Label Width A Inch (mm)	Label Height B Inch (mm)	Horiz. Repeat C Inch (mm)	Vert. Repeat D Inch (mm)	Web Width E Inch (mm)	Print Area Height F Inch (mm)	Labels Per Row	Labels Per Roll	Rec. Ribbon
Fig. 12	B33-80-427	B-427	White	0.500 (12.7)	0.750 (19.1)	0.600 (15.2)	0.950 (24.1)	2.500 (63.5)	0.375 (9.5)	4	2500	B30-R4300
Fig. 12	B33-113-427	B-427	White	0.500 (12.7)	1.000 (25.4)	0.600 (15.2)	0.950 (24.1)	2.500 (63.5)	0.375 (9.5)	4	2500	B30-R4300
Fig. 12	B33-8-427	B-427	White	0.500 (12.7)	1.437 (36.5)	0.662 (16.8)	1.625 (41.3)	3.350 (85.1)	0.500 (12.7)	5	5000	B30-R4300
Fig. 12	B33-56-427	B-427	White	0.750 (19.1)	0.937 (23.8)	0.800 (20.3)	1.125 (28.6)	3.350 (85.1)	0.375 (9.5)	4	5000	B30-R4300
Fig. 12	B33-73-427	B-427	White	0.750 (19.1)	1.750 (44.6)	0.800 (20.3)	1.875 (47.6)	3.350 (85.1)	0.500 (12.7)	4	3500	B30-R4300
Fig. 12	B33-74-427	B-427	White	0.800 (20.3)	1.437 (36.5)	0.800 (20.3)	1.625 (41.3)	3.400 (86.4)	0.500 (12.7)	4	4000	B30-R4300
Fig. 12	B33-115-427	B-427	White	1.000 (25.4)	0.750 (19.1)	1.100 (27.9)	0.875 (22.2)	2.300 (58.4)	0.375 (9.5)	2	2500	B30-R4300
Fig. 12	B33-116-427	B-427	White	1.000 (25.4)	1.000 (25.4)	1.100 (27.9)	1.125 (28.6)	2.300 (58.4)	0.375 (9.5)	2	2500	B30-R4300
Fig. 12	B33-9-427	B-427	White	1.000 (25.4)	1.437 (36.5)	1.075 (27.3)	1.625 (41.3)	3.350 (85.1)	0.500 (12.7)	3	2500	B30-R4300
Fig. 12	B33-75-427	B-427	White	1.000 (25.4)	2.250 (57.2)	1.100 (27.9)	2.375 (60.3)	2.300 (58.4)	0.750 (19.1)	2	1400	B30-R4300
Fig. 15	B33-131-427	B-427	White	1.000 (25.4)	2.625 (66.7)	-	1.125 (28.6)	2.825 (71.8)	1.000 (25.4)	1	1500	B30-R4300
Fig. 12	B33-10-427	B-427	White	1.000 (25.4)	3.750 (95.3)	1.075 (27.3)	4.000 (101.6)	3.350 (85.1)	1.000 (25.4)	3	1200	B30-R4300
Fig. 12	B33-81-427	B-427	White	1.000 (25.4)	6.000 (152.4)	1.100 (27.9)	6.187 (157.1)	2.300 (58.4)	1.500 (38.1)	2	500	B30-R4300
Fig. 9a	B33-135-427AW	B-427	White	1.500 (38.1)	0.750 (19.1)	-	0.875 (22.2)	1.700 (43.2)	-	1	1500	B30-R4300
Fig. 14	B33-118-427	B-427	White	1.500 (38.1)	1.000 (25.4)	-	1.125 (28.6)	1.700 (43.2)	0.375 (9.5)	1	1250	B30-R4300
Fig. 14	B33-119-427	B-427	White	1.500 (38.1)	1.500 (38.1)	-	1.750 (44.5)	1.700 (43.2)	0.500 (12.7)	1	1000	B30-R4300
Fig. 14	B33-272-427	B-427	White	1.500 (38.1)	2.250 (57.2)	-	2.500 (63.5)	1.700 (43.2)	0.750 (19.1)	1	700	B30-R4300
Fig. 14	B33-120-427	B-427	White	1.750 (44.5)	1.000 (25.4)	-	1.125 (28.6)	1.950 (49.5)	0.375 (9.5)	1	1250	B30-R4300
Fig. 14	B33-121-427	B-427	White	1.750 (44.5)	1.500 (38.1)		1.750 (44.5)	1.950 (49.5)	0.500 (12.7)	1	1000	B30-R4300
Fig. 14	B33-273-427	B-427	White	1.750 (44.5)	2.250 (57.2)	-	2.500 (63.5)	1.950 (49.5)	0.750 (19.1)	1	500	B30-R4300
Fig. 9a	B33-137-427AW	B-427	White	2.000 (50.8)	1.000 (25.4)	-	1.125 (28.6)	2.200 (55.9)	-	1	1500	B30-R4300
Fig. 14	B33-27-427	B-427	White	2.000 (50.8)	3.750 (95.3)	-	4.000 (101.6)	2.200 (55.9)	1.000 (25.4)	1	400	B30-R4300
Fig. 14	B33-26-427	B-427	White	2.500 (63.5)	2.250 (57.2)	-	2.438 (61.9)	2.700 (68.8)	0.750 (19.1)	1	500	B30-R4300
Fig. 14	B33-82-427	B-427	White	2.000 (50.8)	6.000 (152.4)	-	6.187 (157.1)	2.200 (55.9)	1.500 (38.1)	1	200	B30-R4300

Zero-Halogen Cable Markers (B-7643)

Thermoplastic Polyether Polyurethane is a zero-halogen high-density, thermoplastic cable marker designed for dot matrix or thermal-transfer printing.

- Meets the requirements of a halogen-free material per IEC 61249-2-21 (2003-11)
- Excellent chemical, oil and water resistance
- RoHS compliant using EU Directive 2002/95/EC
- Operating temperature of -40°F to 193°F (-40°C to 90°C)



Diagram	Catalog #	B#	Color	Label Width A Inch (mm)	Label Height B Inch (mm)	Labels Per Row	Labels Per Roll	Rec. Ribbon
Fig. 61	B33-6010-7643-WT	B-7643	White	2.36 (60)	0.39 (9.91)	1	500	B30-R6000
Fig. 61	B33-7525-7643-WT	B-7643	White	2.95 (75)	0.98 (24.9)	1	250	B30-R6000
Fig. 61	B33-7510-7643-WT	B-7643	White	2.95 (75)	0.39 (9.91)	1	500	B30-R6000
Fig. 61	B33-7515-7643-WT	B-7643	White	2.95 (75)	0.59 (14.9)	1	500	B30-R6000
Fig. 61	B33-6010-7643-YL	B-7643	Yellow	2.36 (60)	0.39 (9.91)	1	500	B30-R6000
Fig. 61	B33-7525-7643-YL	B-7643	Yellow	2.95 (75)	0.98 (24.9)	1	250	B30-R6000
Fig. 61	B33-7510-7643-YL	B-7643	Yellow	2.95 (75)	0.39 (9.91)	1	500	B30-R6000
Fig. 61	B33-7515-7643-YL	B-7643	Yellow	2.95 (75)	0.59 (14.9)	1	500	B30-R6000



High-Temp Adhesive Topcoated Polyvinyfluoride Wire and Cable Labels (B-437)

- Topcoated polyvinyfluoride label for wire and cable marking where high temperature and self-extinguishing features are required
- Heavy duty performance with excellent resistance to water, oil and other fluids
- Meets MIL-M-87958 Standard

Service temp: -94°F to 275°F

Agency spprovals: RoHS



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			FI	gure i	Figure 3		Figure	4			
Diagram	Catalog #	B#	Color	Label Width A Inch (mm)	Label Height B Inch (mm)	Horiz. Repeat C Inch (mm)	Vert. Repeat D Inch (mm)	Web Width E Inch (mm)	Labels Per Row	Labels Per Roll	Rec. Ribbon
Fig. 4	B33-11-437	B-437	White	0.250 (6.4)	0.250 (6.4)	0.250 (6.4)	0.375 (9.5)	3.200 (81.3)	12	15000	B30-R4300
Fig. 1	B33-1-437	B-437	White	0.750 (19.1)	0.250 (6.4)	0.800 (20.3)	0.350 (8.9)	3.350 (85.1)	4	5000	B30-R4300
Fig. 1	B33-2-437	B-437	White	0.900 (22.9)	0.250 (6.4)	1.125 (28.6)	0.350 (8.9)	3.350 (85.1)	3	5000	B30-R4300
Fig. 1	B33-5-437	B-437	White	1.000 (25.4)	0.500 (12.7)	1.075 (27.3)	0.600 (15.2)	3.350 (85.1)	3	5000	B30-R4300
Fig. 1	B33-29-437	B-437	White	1.250 (31.8)	0.375 (9.5)	1.300 (33.0)	0.475 (12.1)	2.750 (69.9)	2	5000	B30-R4300
Fig. 1	B33-5-437YL	B-437	Yellow	1.000 (25.4)	0.500 (12.7)	1.075 (27.3)	0.600 (15.2)	3.350 (85.1)	3	5000	B30-R4300
Fig. 1	B33-29-437YL	B-437	Yellow	1.250 (31.8)	0.375 (9.5)	1.300 (33.0)	0.475 (12.1)	2.750 (69.9)	2	5000	B30-R4300
Continuo	ous Rolls:										
Fig. 3	B33C-1000-437	B-437	White	1.000 (25.4)	85 ft. (25.9m)	-	-	1.200 (30.5)	1 roll (cont.)	B30-R4300
Fig. 3	B33C-1500-437	B-437	White	1.500 (38.1)	85 ft. (25.9m)	-	-	1.900 (48.3)	1 roll (cont.)	B30-R4300
Fig. 3	B33C-2000-437	B-437	White	2.000 (50.8)	85 ft. (25.9m)	-	-	2.200 (55.9)	1 roll (cont.)	B30-R4300
Fig. 3	B33C-3000-437	B-437	White	3.000 (76.2)	85 ft. (25.9m)	-	-	3.400 (86.4)	1 roll (cont.)	B30-R4300
Fig. 3	B33C-1000-437YL	B-437	Yellow	1.000 (25.4)	85 ft. (25.9m)	-	-	1.200 (30.5)	1 roll (cont.)	B30-R4300
Fig. 3	B33C-1500-437YL	B-437	Yellow	1.500 (38.1)	85 ft. (25.9m)	-	-	1.900 (48.3)	1 roll (cont.)	B30-R4300
Fig. 3	B33C-2000-437YL	B-437	Yellow	2.000 (50.8)	85 ft. (25.9m)	-	-	2.200 (55.9)	1 roll (cont.)	B30-R4300
Fig. 3	B33C-3000-437YL	B-437	Yellow	3.000 (76.2)	85 ft. (25.9m)	=	-	3.400 (86.4)	1 roll (cont.)	B30-R4300

Also available in self-laminating format

B-437 High-Temp Adhesive Wire and Cable Labels are available in self-laminating format as a custom order. Contact Brady to order B-642 material and B30-R4300 ribbon.



Vinyl Cloth Adhesive Wire and Cable Labels (B-498)

- A vinyl cloth label for marking wires, cables and inside-panel components
- Repositionable a highly unique adhesive and cloth construction gives excellent holding power and still allows for clean removal and reapplication
- Ideal choice for marking both ends of a wire that you may need to cut shorter before final termination

Service temp: -40°F to 175°F Agency approvals: (b) RHS (b)





Diagram	Catalog #	B#	Color	Label Width A Inch (mm)	Label Height B Inch (mm)	Horiz. Repeat C Inch (mm)	Vert. Repeat D Inch (mm)	Web Width E Inch (mm)	Labels Per Row	Labels Per Roll	Rec. Ribbon
Fig. 1	B33-90-498	B-498	White	0.250 (6.4)	1.437 (36.5)	0.350 (8.9)	1.562 (39.7)	2.200 (55.9)	6	2500	B30-R6200
Fig. 1	B33-68-498	B-498	White	0.500 (12.7)	0.750 (19.1)	0.600 (15.2)	0.875 (22.2)	2.500 (63.5)	4	5000	B30-R6200
Fig. 1	B33-87-498	B-498	White	0.500 (12.7)	1.437 (36.5)	0.600 (15.2)	1.562 (39.7)	3.700 (94)	6	2500	B30-R6200
Fig. 1	B33-1-498	B-498	White	0.750 (19.1)	0.250 (6.4)	0.800 (20.3)	0.350 (8.9)	3.350 (85.1)	4	5000	B30-R6200
Fig. 1	B33-91-498	B-498	White	0.750 (19.1)	0.937 (23.8)	0.850 (21.6)	1.062 (27.0)	3.500 (88.9)	4	2500	B30-R6200
Fig. 1	B33-95-498	B-498	White	0.800 (20.3)	1.437 (36.5)	0.900 (22.9)	1.562 (39.7)	2.800 (71.1)	3	2300	B30-R6200
Fig. 1	B33-5-498	B-498	White	1.000 (25.4)	0.500 (12.7)	1.075 (27.3)	0.600 (15.2)	3.350 (85.1)	3	5000	B30-R6200
Fig. 1	B33-88-498	B-498	White	1.000 (25.4)	0.750 (19.1)	1.100 (27.9)	0.875 (22.2)	2.300 (58.4)	2	2500	B30-R6200
Fia. 1	B33-89-498	B-498	White	1.000 (25.4)	1,437 (36,5)	1,100 (27,9)	1,562 (39,7)	3,400 (86,4)	3	2300	B30-R6200



High-Temp Adhesive Wire and Cable Labels – Polyimide (B-472)

 Topcoated Polyimide label for wire and cable marking where high temperature and self-extinguishing features are required



Agency approvals: Rolls









Diagram	Catalog #	B#	Color	Label Width A Inch (mm)	Label Height B Inch (mm)	Horiz. Repeat C Inch (mm)	Vert. Repeat D Inch (mm)	Web Width E Inch (mm)	Labels Per Row	Labels Per Roll	Rec. Ribbon
Fig. 4	B33-11-472	B-472	White	0.250 (6.4)	0.250 (6.4)	0.250 (6.4)	0.375 (9.5)	3.200 (81.3)	12	15000	B30-R4300
Fig. 1	B33-1-472	B-472	White	0.750 (19.1)	0.250 (6.4)	0.800 (20.3)	0.350 (8.9)	3.350 (85.1)	4	5000	B30-R4300
Fig. 1	B33-2-472	B-472	White	0.900 (22.9)	0.250 (6.4)	1.125 (28.6)	0.350 (8.9)	3.350 (85.1)	3	5000	B30-R4300
Fig. 1	B33-5-472	B-472	White	1.000 (25.4)	0.500 (12.7)	1.075 (27.3)	0.600 (15.2)	3.350 (85.1)	3	5000	B30-R4300
Fig. 1	B33-29-472	B-472	White	1.250 (31.8)	0.375 (9.5)	1.300 (33.0)	0.475 (12.1)	2.750 (69.9)	2	5000	B30-R4300
Fig. 1	B33-5-472YL	B-472	Yellow	1.000 (25.4)	0.500 (12.7)	1.075 (27.3)	0.600 (15.2)	3.350 (85.1)	3	5000	B30-R4300
Fig. 1	B33-29-472YL	B-472	Yellow	1.250 (31.8)	0.375 (9.5)	1.300 (33.0)	0.475 (12.1)	2.750 (69.9)	2	5000	B30-R4300
Continuo	us Rolls:										
Fig. 3	B33C-1000-472	B-472	White	1.000 (25.4)	85ft (25.9m)	-	-	1.200 (30.5)	1 roll (c	cont.)	B30-R4300
Fig. 3	B33C-1500-472	B-472	White	1.500 (38.1)	85ft (25.9m)	-	-	1.900 (48.3)	1 roll (c	cont.)	B30-R4300
Fig. 3	B33C-2000-472	B-472	White	2.000 (50.8)	85ft (25.9m)	-	-	2.200 (55.9)	1 roll (c	cont.)	B30-R4300
Fig. 3	B33C-3000-472	B-472	White	3.000 (76.2)	85ft (25.9m)	-	-	3.400 (86.4)	1 roll (c	cont.)	B30-R4300
Fig. 3	B33C-1000-472YL	B-472	Yellow	1.000 (25.4)	85ft (25.9m)	-	-	1.200 (30.5)	1 roll (c	cont.)	B30-R4300
Fig. 3	B33C-1500-472YL	B-472	Yellow	1.500 (38.1)	85ft (25.9m)	-	-	1.900 (48.3)	1 roll (c	cont.)	B30-R4300
Fig. 3	B33C-2000-472YL	B-472	Yellow	2.000 (50.8)	85ft (25.9m)	-	-	2.200 (55.9)	1 roll (c	cont.)	B30-R4300
Fig. 3	B33C-3000-472YL	B-472	Yellow	3.000 (76.2)	85ft (25.9m)	-	-	3.400 (86.4)	1 roll (c	cont.)	B30-R4300

Terminal Block Adhesive Strips (B-498)

- Specially designed narrow-width continuous label for alignment on terminal blocks and patch panels
- Highly unique adhesive and vinyl cloth construction gives excellent holding power and still allows for clean removal and reapplication *Service temp: -40°F to 175°F*

Agency approvals:
 Rolls



Diagram	Catalog #	B#	Color	Label Width A Inch (mm)	Roll Length B Feet (m)	Web Width E Inch (mm)	Labels Per Roll	Rec. Ribbon
Fig. 3	B33C-312-498	B-498	White	0.312 (7.9)	85 (25.9)	1.000 (25.4)	1 roll (cont.)	B30-R6200
Fia. 3	B33C-375-498	B-498	White	0.375 (9.5)	85 (25,9)	1.000 (25.4)	1 roll (cont.)	B30-R6200

Patch Panel Adhesive Strips (B-422)

- Continuous supply in 3 widths to make labeling patch panels and other datacomm components quick and easy
- Aggressive adhesive suitable for rough, highly textured and powder-coated surfaces as well as smooth surfaces

Service temp: -40°F to 212°F

Agency approvals: 🚯 Rolls 🚱





Diagram	Catalog #	B#	Color	Label Width A Inch (mm)	Roll Length B Feet (m)	Web Width E Inch (mm)	Labels Per Roll	Rec. Ribbon
Fig. 3	B33C-312-422	B-422	White	0.312 (7.9)	85 (25.9)	1.000 (25.4)	1 roll (cont.)	B30-R6000
Fig. 3	B33C-375-422	B-422	White	0.375 (9.5)	85 (25.9)	1.000 (25.4)	1 roll (cont.)	B30-R6000

PermaSleeve® PS Polyolefin Wire Marking Sleeves (B-342)

Standard Military/Industrial Grade. 3:1 Shrink ratio.

- A 3:1 heat-shrinkable wire marker sleeve that fits snugly around wires
- Can be used for identification or wire protection
- Fade-resistant and flame-retardant
- Meets the following insulating and physical property specifications: - SAE-AS-23053/5 and SAE-AS-81531
- Tested per ASTM E162, ASTM E662 and MIL-STD-202

Service temp: -40°F to 267°F (short burst max temp: 5 min at 500°F, 24 hrs at 350°F) Agency approvals: **(b) R0HS**



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Figure 20

Diagram		Catalog #	Material	Color	For Wire Gauge (approx.)	Range For Wire Diameters Inch (mm)	Supplied Diameter B Inch (mm)	Recovered Diameter Inch (mm)	Recovered Wall Thickness Inch (mm)	Sle Per Row	eves Per Roll	Rec. Ribbon
3:1 Shrink ra	ati	io single-side printabl	e, 2" slee	eve widt	h (dimension	A):						
Fig. 20	*	B33-94-2-342	B-342	White	28 to 20	0.023 (0.6) - 0.080 (2.0)	0.094 (2.4)	0.024 (0.6)	.024 (0.6) +/003 (0.07)	1	1000	B30-R4300
Fig. 20	*	B33-125-2-342	B-342	White	22 to 16	0.046 (1.2) - 1.110 (2.8)	0.125 (3.2)	0.047 (1.2)	.020 (0.5) +/003 (0.07)	1	1000	B30-R4300
Fig. 20	*	B33-187-2-342	B-342	White	20 to 10	0.062 (1.6) - 0.150 (3.8)	0.187 (4.7)	0.062 (1.6)	.020 (0.5) +/003 (0.07)	1	750	B30-R4300
Fig. 20	*	B33-250-2-342	B-342	White	16 to 8	0.094 (2.4) - 0.215 (5.5)	0.250 (6.4)	0.093 (2.4)	.025 (0.6) +/003 (0.07)	1	500	B30-R4300
Fig. 20	*	B33-375-2-342	B-342	White	12 to 4	0.125 (3.2) - 0.320 (8.1)	0.375 (9.5)	0.125 (3.1)	.025 (0.6) +/003 (0.07)	1	500	B30-R4300
Fig. 20	*	B33-500-2-342	B-342	White	8 to 1	0.187 (4.8) - 0.450 (11.4)	0.500 (12.7)	0.187 (4.7)	.025 (0.6) +/003 (0.07)	1	350	B30-R4300
Fig. 20	*	B33-750-2-342	B-342	White	6 to 4/0	0.250 (6.4) - 0.700 (17.8)	0.750 (19.0)	0.250 (6.4)	.025 (0.6) +/003 (0.07)	1	250	B30-R4300
Fig. 20	*	B33-1000-2-342	B-342	White	2 to 0.950 dia	0.333 (8.5) - 0.950 (24.1)	1.000 (25.4)	0.375 (9.5)	.036 (0.9) +/003 (0.07)	1	250	B30-R4300
Fig. 20	*	B33-1500-2-342	B-342	White	n/a	0.500 (12.7) - 1.400 (35.6)	1.500 (38.1)	0.500 (12.7)	.035 (0.9) +/003 (0.07)	1	150	B30-R4300
Fig. 20	*	B33-94-2-342YL	B-342	Yellow	28 to 20	0.023 (0.6) - 0.080 (2.0)	0.094 (2.4)	0.024 (0.6)	.024 (0.6) +/003 (0.07)	1	1000	B30-R4300
Fig. 20	*	B33-125-2-342YL	B-342	Yellow	22 to 16	0.046 (1.2) - 1.110 (2.8)	0.125 (3.2)	0.047 (1.2)	.020 (0.5) +/003 (0.07)	1	1000	B30-R4300
Fig. 20	*	B33-187-2-342YL	B-342	Yellow	20 to 10	0.062 (1.6) - 0.150 (3.8)	0.187 (4.7)	0.062 (1.6)	.020 (0.5) +/003 (0.07)	1	750	B30-R4300
Fig. 20	*	B33-250-2-342YL	B-342	Yellow	16 to 8	0.094 (2.4) - 0.215 (5.5)	0.250 (6.4)	0.093 (2.4)	.025 (0.6) +/003 (0.07)	1	500	B30-R4300
Fig. 20	*	B33-375-2-342YL	B-342	Yellow	12 to 4	0.125 (3.2) - 0.320 (8.1)	0.375 (9.5)	0.125 (3.1)	.025 (0.6) +/003 (0.07)	1	500	B30-R4300
Fig. 20	*	B33-500-2-342YL	B-342	Yellow	8 to 1	0.187 (4.8) - 0.450 (11.4)	0.500 (12.7)	0.187 (4.7)	.025 (0.6) +/003 (0.07)	1	350	B30-R4300
Fig. 20	*	B33-750-2-342YL	B-342	Yellow	6 to 4/0	0.250 (6.4) - 0.700 (17.8)	0.750 (19.0)	0.250 (6.4)	.025 (0.6) +/003 (0.07)	1	250	B30-R4300
Fig. 20	*	B33-1000-2-342YL	B-342	Yellow	2 to 0.950 dia	0.333 (8.5) - 0.950 (24.1)	1.000 (25.4)	0.375 (9.5)	.036 (0.9) +/003 (0.07)	1	250	B30-R4300
Fig. 20	*	B33-1500-2-342YL	B-342	Yellow	n/a	0.500 (12.7) - 1.400 (35.6)	1.500 (38.1)	0.500 (12.7)	.035 (0.9) +/003 (0.07)	1	150	B30-R4300
Fig. 20	*	B33-1500-2-342BK	B-342	Black	n/a	0.500 (12.7) - 1.400 (35.6)	1.500 (38.1)	0.500 (12.7)	.035 (0.9) +/003 (0.07)	1	150	B30-R4500-SV
3:1 Shrink ra	ati	io single-side printabl	e, 1" slee	eve widt	h in "2-up pre	-cut" configuration (dime	ension A):					
Fig. 20-2	*	B33-94-2-342-2	B-342	White	28 to 20	0.023 (0.6) - 0.080 (2.0)	0.094 (2.4)	0.024 (0.6)	.024 (0.6) +/003 (0.07)	2	2000	B30-R4300
Fig. 20-2	*	B33-125-2-342-2	B-342	White	22 to 16	0.046 (1.2) - 0.111 (2.8)	0.125 (3.2)	0.047 (1.2)	.020 (0.5) +/003 (0.07)	2	2000	B30-R4300
Fig. 20-2	*	B33-187-2-342-2	B-342	White	20 to 10	0.062 (1.6) - 0.150 (3.8)	0.187 (4.7)	0.062 (1.6)	.020 (0.5) +/003 (0.07)	2	1500	B30-R4300
Fig. 20-2	*	B33-250-2-342-2	B-342	White	16 to 8	0.094 (2.4) - 0.215 (5.5)	0.250 (6.4)	0.093 (2.4)	.025 (0.6) +/003 (0.07)	2	1000	B30-R4300
Fig. 20-2	*	B33-375-2-342-2	B-342	White	12 to 4	0.125 (3.2) - 0.320 (8.1)	0.375 (9.5)	0.125 (3.1)	.025 (0.6) +/003 (0.07)	2	1000	B30-R4300
Fig. 20-2	*	B33-500-2-342-2	B-342	White	8 to 1	0.187 (4.8) - 0.450 (11.4)	0.500 (12.7)	0.119 (3.0)	.025 (0.6) +/003 (0.07)	2	700	B30-R4300
Fig. 20-2	*	B33-750-2-342-2	B-342	White	6 to 4/0	0.250 (6.4) - 0.700 (17.8)	0.750 (19.1)	0.250 (6.35)	.025 (0.6) +/003 (0.07)	2	500	B30-R4300
Fig. 20-2	*	B33-1000-2-342-2	B-342	White	2 to 0.950 dia	0.333 (8.5) - 0.950 (24.1)	1.000 (25.4)	0.375 (9.5)	.036 (0.9) +/003 (0.07)	2	500	B30-R4300
Fig. 20-2	*	B33-1500-2-342-2	B-342	White	n/a	0.500 (12.7) - 1.400 (35.6)	1.500 (38.1)	0.500 (12.7)	.035 (0.9) +/003 (0.07)	2	150	B30-R4300
Fig. 20-2	*	B33-94-2-342YL-2	B-342	Yellow	28 to 20	0.023 (0.6) - 0.080 (2.0)	0.094 (2.4)	0.024 (0.6)	.024 (0.6) +/003 (0.07)	2	2000	B30-R4300
Fig. 20-2	*	B33-125-2-342YL-2	B-342	Yellow	22 to 16	0.046 (1.2) - 0.111 (2.8)	0.125 (3.2)	0.047 (1.2)	.020 (0.5) +/003 (0.07)	2	2000	B30-R4300
Fig. 20-2	*	B33-750-2-342YL-2	B-342	Yellow	6 to 4/0	0.250 (6.4) - 0.700 (17.8)	0.750 (19.1)	0.250 (6.35)	.025 (0.6) +/003 (0.07)	2	500	B30-R4300
Fig. 20-2	*	B33-500-2-342YL-2	B-342	Yellow	8 to 1	0.187 (4.8) - 0.450 (11.4)	0.500 (12.7)	0.119 (3.0)	.025 (0.6) +/003 (0.07)	2	700	B30-R4300
Fig. 20-2	*	B33-1000-2-342YL-2	B-342	Yellow	2 to 0.950 dia	0.333 (8.5) - 0.950 (24.1)	1.000 (25.4)	0.375 (9.5)	.036 (0.9) +/003 (0.07)	2	500	B30-R4300
Fig. 20-2	*	B33-1500-2-342YL-2	B-342	Yellow	n/a	0.500 (12.7) - 1.400 (35.6)	1.500 (38.1)	0.500 (12.7)	.035 (0.9) +/003 (0.07)	2	300	B30-R4300

MARNING: Cancer www.P65Warnings.ca.gov





B-342 PermaSleeve® PS Polyolefin Wire Marking Sleeves (Continued)

Diagram	Catalog #	Material	Color	For Wire Gauge (approx.)	Range For Wire Diameters Inch (mm)	Supplied Diameter B Inch (mm)	Recovered Diameter Inch (mm)	Recovered Wall Thickness Inch (mm)	Sle Per Row	eves Per Roll	Rec. Ribbon
3:1 Shrink rat	tio double-side printab	le, 2" sle	eve wid	th (dimension	A):						
Fig. 20 *	B33D-94-2-342	B-342	White	28 to 20	0.023 (0.6) - 0.080 (2.0)	0.094 (2.4)	0.024 (0.6)	.024 (0.6) +/003 (0.07)	1	1000	B30-R4300
Fig. 20 *	B33D-125-2-342	B-342	White	22 to 16	0.046 (1.2) - 1.110 (2.8)	0.125 (3.2)	0.047 (1.2)	.020 (0.5) +/003 (0.07)	1	1000	B30-R4300
Fig. 20 *	B33D-125-2-342-2	B-342	White	22 to 16	0.046 (1.2) - 1.110 (2.8)	0.125 (3.2)	0.047 (1.2)	.020 (0.5) +/003 (0.07)	2	2000	B30-R4300
Fig. 20 *	B33D-187-2-342	B-342	White	20 to 10	0.062 (1.6) - 0.150 (3.8)	0.187 (4.7)	0.062 (1.6)	.020 (0.5) +/003 (0.07)	1	750	B30-R4300
Fig. 20 *	B33D-250-2-342	B-342	White	16 to 8	0.094 (2.4) - 0.215 (5.5)	0.250 (6.4)	0.093 (2.4)	.025 (0.6) +/003 (0.07)	1	500	B30-R4300
Fig. 20 *	B33D-375-2-342	B-342	White	12 to 4	0.125 (3.2) - 0.320 (8.1)	0.375 (9.5)	0.125 (3.1)	.025 (0.6) +/003 (0.07)	1	500	B30-R4300
Fig. 20 *	B33D-500-2-342	B-342	White	8 to 1	0.187 (4.8) - 0.450 (11.4)	0.500 (12.7)	0.187 (4.7)	.025 (0.6) +/003 (0.07)	1	350	B30-R4300
Fig. 20 *	B33D-750-2-342	B-342	White	6 to 4/0	0.250 (6.4) - 0.700 (17.8)	0.750 (19.0)	0.250 (6.4)	.025 (0.6) +/003 (0.07)	1	250	B30-R4300
Fig. 20 *	B33D-1000-2-342	B-342	White	2 to 0.950 dia	0.333 (8.5) - 0.950 (24.1)	1.000 (25.4)	0.375 (9.5)	.036 (0.9) +/003 (0.07)	1	250	B30-R4300
Fig. 20 *	B33D-1500-2-342	B-342	White	n/a	0.500 (12.7) - 1.400 (35.6)	1.500 (38.1)	0.500 (12.7)	.035 (0.9) +/003 (0.07)	1	150	B30-R4300
Fig. 20 *	B33D-94-2-342YL	B-342	Yellow	28 to 20	0.023 (0.6) - 0.080 (2.0)	0.094 (2.4)	0.024 (0.6)	.024 (0.6) +/003 (0.07)	1	1000	B30-R4300
Fig. 20 *	B33D-125-2-342YL	B-342	Yellow	22 to 16	0.046 (1.2) - 1.110 (2.8)	0.125 (3.2)	0.047 (1.2)	.020 (0.5) +/003 (0.07)	1	1000	B30-R4300
Fig. 20 *	B33D-187-2-342YL	B-342	Yellow	20 to 10	0.062 (1.6) - 0.150 (3.8)	0.187 (4.7)	0.062 (1.6)	.020 (0.5) +/003 (0.07)	1	750	B30-R4300
Fig. 20 *	B33D-250-2-342YL	B-342	Yellow	16 to 8	0.094 (2.4) - 0.215 (5.5)	0.250 (6.4)	0.093 (2.4)	.025 (0.6) +/003 (0.07)	1	500	B30-R4300
Fig. 20 *	B33D-375-2-342YL	B-342	Yellow	12 to 4	0.125 (3.2) - 0.320 (8.1)	0.375 (9.5)	0.125 (3.1)	.025 (0.6) +/003 (0.07)	1	500	B30-R4300
Fig. 20 *	B33D-500-2-342YL	B-342	Yellow	8 to 1	0.187 (4.8) - 0.450 (11.4)	0.500 (12.7)	0.187 (4.7)	.025 (0.6) +/003 (0.07)	1	350	B30-R4300
Fig. 20 *	B33D-750-2-342YL	B-342	Yellow	6 to 4/0	0.250 (6.4) - 0.700 (17.8)	0.750 (19.0)	0.250 (6.4)	.025 (0.6) +/003 (0.07)	1	250	B30-R4300
Fig. 20 *	B33D-1000-2-342YL	B-342	Yellow	2 to 0.950 dia	0.333 (8.5) - 0.950 (24.1)	1.000 (25.4)	0.375 (9.5)	.036 (0.9) +/003 (0.07)	1	250	B30-R4300
Fig. 20 *	B33D-1500-2-342YL	B-342	Yellow	n/a	0.500 (12.7) - 1.400 (35.6)	1.500 (38.1)	0.500 (12.7)	.035 (0.9) +/003 (0.07)	1	150	B30-R4300
Fig. 20 *	B33D-94-2-342BK	B-342	Black	28 to 20	0.023 (0.6) - 0.080 (2.0)	0.094 (2.4)	0.024 (0.6)	.024 (0.6) +/003 (0.07)	1	1000	B30-R4500-SV
Fig. 20 *	B33D-125-2-342BK	B-342	Black	22 to 16	0.046 (1.2) - 1.110 (2.8)	0.125 (3.2)	0.047 (1.2)	.020 (0.5) +/003 (0.07)	1	1000	B30-R4500-SV
Fig. 20 *	B33D-187-2-342BK	B-342	Black	20 to 10	0.062 (1.6) - 0.150 (3.8)	0.187 (4.7)	0.062 (1.6)	.020 (0.5) +/003 (0.07)	1	750	B30-R4500-SV
Fig. 20 *	B33D-250-2-342BK	B-342	Black	16 to 8	0.094 (2.4) - 0.215 (5.5)	0.250 (6.4)	0.093 (2.4)	.025 (0.6) +/003 (0.07)	1	500	B30-R4500-SV
Fig. 20 *	B33D-375-2-342BK	B-342	Black	12 to 4	0.125 (3.2) - 0.320 (8.1)	0.375 (9.5)	0.125 (3.1)	.025 (0.6) +/003 (0.07)	1	500	B30-R4500-SV
Fig. 20 *	B33D-500-2-342BK	B-342	Black	8 to 1	0.187 (4.8) - 0.450 (11.4)	0.500 (12.7)	0.187 (4.7)	.025 (0.6) +/003 (0.07)	1	350	B30-R4500-SV
Fig. 20 *	B33D-750-2-342BK	B-342	Black	6 to 4/0	0.250 (6.4) - 0.700 (17.8)	0.750 (19.0)	0.250 (6.4)	.025 (0.6) +/003 (0.07)	1	250	B30-R4500-SV
Fig. 20 *	B33D-1000-2-342BK	B-342	Black	2 to 0.950 dia	0.333 (8.5) - 0.950 (24.1)	1.000 (25.4)	0.375 (9.5)	.036 (0.9) +/003 (0.07)	1	250	B30-R4500-SV
Fig. 20 *	B33D-1500-2-342BK	B-342	Black	n/a	0.500 (12.7) - 1.400 (35.6)	1.500 (38.1)	0.500 (12.7)	.035 (0.9) +/003 (0.07)	1	150	B30-R4500-SV

* \Lambda WARNING: Cancer www.P65Warnings.ca.gov

QuickSleeve Handheld Sleeve Applicator

The QuickSleeve Handheld Sleeve Applicator is an intuitive multi-tool designed to help you quickly apply sleeves on to wires in three simple steps – just pick, slip and apply. This tool includes:

- Four specially designed slanted tubes sized for sleeve sizes 0.094, 0.125, 0.187 and 0.250 inches
- Built-in LED flashlight for use in low-lit conditions
- Terminal block sized screwdriver





Pick

Slip

Apply

PermaSleeve® HT High-Temperature PVDF Wire Marking Sleeves (B-345)

High temperature, low outgassing. 2:1 Shrink ratio.

- A 2:1 shrink ratio wire marker sleeve specifically designed for high-temperature and low-vacuum outgassing applications
- Made from irradiated high-temp polyvinylidene fluoride (PVDF) heat-shrink tubing
- Fade-resistant and flame-retardant
- Meets the following industry specifications:
 - NASA SP-R-0022A Outgassing Performance
 - SAE-AS-81531
- Tested per ASTM E162, ASTM E662 and MIL-STD-202 Service temp: -67°F to 437°F Agency approvals: RMS





Diagram	am Catalog # Material Color		For Wire Gauge (approx.)	Range For Wire Diameters Inch (mm)	Supplied Diameter B Inch (mm)	Recovered Diameter Inch (mm)	Recovered Wall Thickness Inch (mm)	Sle Per Row	eves Per Roll	Rec. Ribbon	
3:1 Shrink	ratio double-side pr	intable, 2	2" sleeve v	width (dimensio	on A):						
Fig. 20	B33D-94-2-345	B-345	White	26 to 20	0.031 (0.8) - 0.080 (2.0)	0.094 (2.4)	0.031 (0.8)	.015 (0.4) +/003 (0.07)	1	1000	B30-R6000
Fig. 20	B33D-94-2-345BK	B-345	Black	26 to 20	0.031 (0.8) - 0.080 (2.0)	0.094 (2.4)	0.031 (0.8)	.015 (0.4) +/003 (0.07)	1	1000	B30-R4400-WT
2:1 Shrink	ratio double-side pr	intable, 2	2" sleeve v	width (dimensio	on A):						
Fig. 20	B33D-125-2-345	B-345	White	20 to 16	0.063 (1.6) - 0.110 (2.8)	0.125 (3.2)	0.062 (1.6)	.015 (0.4) +/003 (0.07)	1	1000	B30-R6000
Fig. 20	B33D-187-2-345	B-345	White	16 to 10	0.094 (2.4) - 0.150 (3.8)	0.187 (4.7)	0.093 (2.4)	.015 (0.4) +/003 (0.07)	1	750	B30-R6000
Fig. 20	B33D-250-2-345	B-345	White	12 to 8	0.125 (3.2) - 0.215 (5.5)	0.250 (6.4)	0.125 (3.2)	.015 (0.4) +/003 (0.07)	1	500	B30-R6000
Fig. 20	B33D-375-2-345	B-345	White	8 to 4	0.187 (3.2) - 0.320 (8.1)	0.375 (9.5)	0.187 (4.7)	.015 (0.4) +/003 (0.07)	1	500	B30-R6000
Fig. 20	B33D-500-2-345	B-345	White	6 to 1	0.250 (6.4) - 0.450 (11.4)	0.500 (12.7)	0.250 (6.4)	.015 (0.4) +/003 (0.07)	1	350	B30-R6000
Fig. 20	B33D-750-2-345	B-345	White	2 to 4/0	0.375 (9.5) - 0.700 (17.8)	0.750 (19.0)	0.375 (9.5)	.015 (0.4) +/003 (0.07)	1	250	B30-R6000
Fig. 20	B33D-1000-2-345	B-345	White	2/0 to 0.950 dia	0.450 (11.4) - 0.950 (24.1)	1.000 (25.4)	0.500 (12.7)	.017 (0.4) +/004 (0.1)	1	250	B30-R6000
Fig. 20	B33D-1500-2-345	B-345	White	N/A	0.750 (19.1) - 1.400 (35.6)	1.500 (38.1)	0.750 (19.1)	.024 (0.6) +/004 (0.1)	1	150	B30-R6000
Fig. 20	B33D-125-2-345BK	B-345	Black	20 to 16	0.063 (1.6) - 0.110 (2.8)	0.125 (3.2)	0.062 (1.6)	.015 (0.4) +/003 (0.07)	1	1000	B30-R4400-WT
Fig. 20	B33D-187-2-345BK	B-345	Black	16 to 10	0.094 (2.4) - 0.150 (3.8)	0.187 (4.7)	0.093 (2.4)	.015 (0.4) +/003 (0.07)	1	750	B30-R4400-WT
Fig. 20	B33D-250-2-345BK	B-345	Black	12 to 8	0.125 (3.2) - 0.215 (5.5)	0.250 (6.4)	0.125 (3.2)	.015 (0.4) +/003 (0.07)	1	500	B30-R4400-WT
Fig. 20	B33D-375-2-345BK	B-345	Black	8 to 4	0.187 (3.2) - 0.320 (8.1)	0.375 (9.5)	0.187 (4.7)	.015 (0.4) +/003 (0.07)	1	500	B30-R4400-WT
Fig. 20	B33D-500-2-345BK	B-345	Black	6 to 1	0.250 (6.4) - 0.450 (11.4)	0.500 (12.7)	0.250 (6.4)	.015 (0.4) +/003 (0.07)	1	350	B30-R4400-WT
Fig. 20	B33D-750-2-345BK	B-345	Black	3 to 4/0	0.375 (9.5) - 0.700 (17.8)	0.750 (19.0)	0.375 (9.5)	.015 (0.4) +/003 (0.07)	1	250	B30-R4400-WT
Fig. 20	B33D-1000-2-345BK	B-345	Black	2/0 to 0.950 dia	0.450 (11.4) - 0.950 (24.1)	1.000 (25.4)	0.500 (12.7)	.017 (0.4) +/004 (0.1)	1	250	B30-R4400-WT
Fig. 20	B33D-1500-2-345BK	B-345	Black	N/A	0.750 (19.1) - 1.400 (35.6)	1.500 (38.1)	0.750 (19.1)	.024 (0.6) +/004 (0.1)	1	150	B30-R4400-WT



PermaSleeve® HX Polyolefin Wire Marking Sleeves (B-7642)

Military/Industrial Grade. 2:1 Shrink ratio.

- Flame retardant and high-temp rated but not as high temp as B-345 "HT" sleeves
- Meets the following industry specifications:
 - SAE-AS23053/5 and SAE-AS-81531
 - Tested per ASTM E162, ASTM E662 and MIL-STD-202

Service temp: -40°F to 248°F (short burst max temp: 5 min at 464°F, 24 hrs at 320°F) Agency approval: Rolls





Diagram	Catalog #	Material	Color	For Wire Gauge (approx.)	Range For Wire Diameters Inch (mm)	Supplied Diameter B Inch (mm)	Recovered Diameter Inch (mm)	Recovered Wall Thickness Inch (mm)	Slee Per Row	eves Per Roll	Rec. Ribbon
2:1 Shrin	k ratio single-side pri	ntable, 2	" sleeve	width (dimensio	on A):						
Fig. 20	B33-94-2-7642	B-7642	White	24 to 20	0.047 (1.2) - 0.080 (2.0)	0.094 (2.4)	0.047 (1.2)	.020 (0.5) +/003 (0.07)	1	500	B30-R4300
Fig. 20	B33-125-2-7642	B-7642	White	20 to 16	0.062 (1.6) - 0.110 (2.8)	0.125 (3.2)	0.063 (1.6)	.020 (0.5) +/003 (0.07)	1	500	B30-R4300
Fig. 20	B33-187-2-7642	B-7642	White	16 to 10	0.094 (2.4) - 0.151 (3.8)	0.187 (4.8)	0.094 (2.4)	.020 (0.5) +/003 (0.07)	1	450	B30-R4300
Fig. 20	B33-250-2-7642	B-7642	White	12 to 8	0.125 (3.2) - 0.215 (5.5)	0.250 (6.4)	0.126 (3.2)	.025 (0.6) +/003 (0.07)	1	400	B30-R4300
Fig. 20	B33-375-2-7642	B-7642	White	8 to 4	0.188 (4.8)0320 (8.1)	0.375 (9.5)	0.189 (4.8)	.025 (0.6) +/003 (0.07)	1	250	B30-R4300
Fig. 20	B33-500-2-7642	B-7642	White	6 to 1	0.250 (6.4) - 0.450 (11.4)	0.500 (12.7)	0.252 (6.4)	.025 (0.6) +/003 (0.07)	1	225	B30-R4300
Fig. 20	B33-750-2-7642	B-7642	White	2 to 4/0	0.375 (9.5) - 0.700 (17.8)	0.750 (19.0)	0.374 (9.5)	.030 (0.8) +/003 (0.07)	1	150	B30-R4300
Fig. 20	B33-1000-2-7642	B-7642	White	2/0 to 0.950 dia	0.450 (11.4) - 0.950 (24.1)	1.000 (25.4)	0.500 (12.7)	.035 (0.9) +/005 (0.1)	1	150	B30-R4300
Fig. 20	B33-1500-2-7642	B-7642	White	N/A	0.750 (19.0) - 1.400 (35.6)	1.500 (38.1)	0.752 (19.1)	.040 (1.0) +/006 (0.2)	1	50	B30-R4300
Fig. 20	B33-2000-2-7642	B-7642	White	N/A	1.000 (25.4) - 1.900 (48.3)	2.000 (50.8)	1.000 (25.4)	.045 (1.1) +/007 (0.2)	1	50	B30-R4300
2:1 Shrin	k ratio double-side pr	intable, 2	?" sleeve	width (dimensi	on A):						
Fig. 20	B33D-94-2-7642	B-7642	White	24 to 20	0.047 (1.2) - 0.080 (2.0)	0.094 (2.4)	0.047 (1.2)	.020 (0.5) +/003 (0.07)	1	500	B30-R4300
Fig. 20	B33D-125-2-7642	B-7642	White	20 to 16	0.062 (1.6) - 0.110 (2.8)	0.125 (3.2)	0.063 (1.6)	.020 (0.5) +/003 (0.07)	1	500	B30-R4300
Fig. 20	B33D-187-2-7642	B-7642	White	16 to 10	0.094 (2.4) - 0.151 (3.8)	0.187 (4.8)	0.094 (2.4)	.020 (0.5) +/003 (0.07)	1	450	B30-R4300
Fig. 20	B33D-250-2-7642	B-7642	White	12 to 8	0.125 (3.2) - 0.215 (5.5)	0.250 (6.4)	0.126 (3.2)	.025 (0.6) +/003 (0.07)	1	400	B30-R4300
Fig. 20	B33D-375-2-7642	B-7642	White	8 to 4	0.188 (4.8) - 0.0320 (8.1)	0.375 (9.5)	0.189 (4.8)	.025 (0.6) +/003 (0.07)	1	250	B30-R4300
Fig. 20	B33D-500-2-7642	B-7642	White	6 to 1	0.250 (6.4) - 0.450 (11.4)	0.500 (12.7)	0.252 (6.4)	.025 (0.6) +/003 (0.07)	1	225	B30-R4300
Fig. 20	B33D-750-2-7642	B-7642	White	2 to 4/0	0.375 (9.5) - 0.700 (17.8)	0.750 (19.0)	0.374 (9.5)	.030 (0.8) +/003 (0.07)	1	150	B30-R4300
Fig. 20	B33D-1000-2-7642	B-7642	White	2/0 to 0.950 dia	0.450 (11.4) - 0.950 (24.1)	1.000 (25.4)	0.500 (12.7)	.035 (0.9) +/005 (0.1)	1	150	B30-R4300
Fig. 20	B33D-1500-2-7642	B-7642	White	N/A	0.750 (19.0) - 1.400 (35.6)	1.500 (38.1)	0.752 (19.1)	.040 (1.0) +/006 (0.2)	1	50	B30-R4300
Fig. 20	B33D-2000-2-7642	B-7642	White	N/A	1.000 (25.4) - 1.900 (48.3)	2.000 (50.8)	1.000 (25.4)	.045 (1.1) +/007 (0.2)	1	50	B30-R4300

PermaSleeve® LSZH Low Smoke Zero Halogen **Polyolefin Wire Marking Sleeves (B-7641)** Military/Industrial Grade. 2:1 Shrink ratio.

- Low halogen wire marking sleeves offer outstanding fire safety properties and minimal smoke emission
- Meets the following industry specifications: SAE-AS-81531 and EN45545-2
- Tested per ASTM E162, ASTM E662 and MIL-STD-202 Service temp: -22°F to 221°F Agency approval: RHS





Figure 20

Diagram	Catalog #	Material	Color	Range For Wire Diameters Inch (mm)	Supplied Diameter B Inch (mm)	Recovered Diameter Inch (mm)	Recovered Wall Thickness Inch (mm)	S Per Row	leeves Per Roll	Rec. Ribbon
2:1 Shrin	ık ratio double-side prin	itable, 2"	sleeve wi	dth (dimension A):						
Fig. 20	B33D-94-2-7641	B-7641	White	0.047 (1.2) - 0.080 (2.0)	0.094 (2.4)	0.047 (1.2)	.020 (0.5) +/003 (0.07)	1	1000	B30-R6000
Fig. 20	B33D-125-2-7641	B-7641	White	0.062 (1.6) - 0.110 (2.8)	0.125 (3.2)	0.063 (1.6)	.020 (0.5) +/003 (0.07)	1	1000	B30-R6000
Fig. 20	B33D-187-2-7641	B-7641	White	0.094 (2.4) - 0.151 (3.8)	0.187 (4.8)	0.094 (2.4)	.020 (0.5) +/003 (0.07)	1	450	B30-R6000
Fig. 20	B33D-250-2-7641	B-7641	White	0.125 (3.2) - 0.215 (5.5)	0.250 (6.4)	0.126 (3.2)	.025 (0.6) +/003 (0.07)	1	500	B30-R6000
Fig. 20	B33D-375-2-7641	B-7641	White	0.188 (4.8)0320 (8.1)	0.375 (9.5)	0.189 (4.8)	.025 (0.6) +/003 (0.07)	1	500	B30-R6000
Fig. 20	B33D-500-2-7641	B-7641	White	0.250 (6.4) - 0.450 (11.4)	0.500 (12.7)	0.252 (6.4)	.025 (0.6) +/003 (0.07)	1	225	B30-R6000
Fig. 20	B33D-750-2-7641	B-7641	White	0.375 (9.5) - 0.700 (17.8)	0.750 (19.0)	0.374 (9.5)	.030 (0.8) +/003 (0.07)	1	150	B30-R6000
Fig. 20	B33D-1000-2-7641	B-7641	White	0.450 (11.4) - 0.950 (24.1)	1.000 (25.4)	0.500 (12.7)	.035 (0.9) +/005 (0.1)	1	150	B30-R6000
Fig. 20	B33D-1500-2-7641	B-7641	White	0.750 (19.0) - 1.400 (35.6)	1.500 (38.1)	0.752 (19.1)	.040 (1.0) +/006 (0.2)	1	50	B30-R6000
Fig. 20	B33D-94-2-7641Y	B-7641	Yellow	0.047 (1.2) - 0.080 (2.0)	0.094 (2.4)	0.047 (1.2)	.020 (0.5) +/003 (0.07)	1	1000	B30-R6000
Fig. 20	B33D-125-2-7641Y	B-7641	Yellow	0.062 (1.6) - 0.110 (2.8)	0.125 (3.2)	0.063 (1.6)	.020 (0.5) +/003 (0.07)	1	1000	B30-R6000
Fig. 20	B33D-187-2-7641Y	B-7641	Yellow	0.094 (2.4) - 0.151 (3.8)	0.187 (4.8)	0.094 (2.4)	.020 (0.5) +/003 (0.07)	1	450	B30-R6000
Fig. 20	B33D-250-2-7641Y	B-7641	Yellow	0.125 (3.2) - 0.215 (5.5)	0.250 (6.4)	0.126 (3.2)	.025 (0.6) +/003 (0.07)	1	500	B30-R6000
Fig. 20	B33D-375-2-7641Y	B-7641	Yellow	0.188 (4.8)0320 (8.1)	0.375 (9.5)	0.189 (4.8)	.025 (0.6) +/003 (0.07)	1	500	B30-R6000
Fig. 20	B33D-500-2-7641Y	B-7641	Yellow	0.250 (6.4) - 0.450 (11.4)	0.500 (12.7)	0.252 (6.4)	.025 (0.6) +/003 (0.07)	1	225	B30-R6000
Fig. 20	B33D-750-2-7641Y	B-7641	Yellow	0.375 (9.5) - 0.700 (17.8)	0.750 (19.0)	0.374 (9.5)	.030 (0.8) +/003 (0.07)	1	150	B30-R6000
Fig. 20	B33D-1000-2-7641Y	B-7641	Yellow	0.450 (11.4) - 0.950 (24.1)	1.000 (25.4)	0.500 (12.7)	.035 (0.9) +/005 (0.1)	1	150	B30-R6000
Fig. 20	B33D-1500-2-7641Y	B-7641	Yellow	0.750 (19.0) - 1.400 (35.6)	1.500 (38.1)	0.752 (19.1)	.040 (1.0) +/006 (0.2)	1	50	B30-R6000

PermaSleeve® FR Fluid Resistant Wire Marking Sleeves (B-344) Military / Industrial Grade. 3:1 Shrink ratio.

- Designed for labeling wires in applications where they will be exposed to fuels, lubricants and harsh chemicals such as in the installation of hydrogen fuel cells in aerospace
- Resistant to harsh chemicals including JP8 Jet Fuel, Skydrol[®] and DOT 3 brake fluid
- Meets the following industry specifications:
 - SAE-AS23053/5
- Tested per: ASTM E162, ASTM E662, MIL-STD-202G Service temp: -94°F to 267°F
- Agency approvals: Rolls





Diagram	Catalog #	Material	Color	For Wire Gauge (approx.)	Range For Wire Diameters Inch (mm)	Supplied Diameter B Inch (mm)	Recovered Diameter Inch (mm)	Recovered Wall Thickness Inch (mm)	Sle Per Row	eves Per Roll	Rec. Ribbon
3:1 Shrin	k ratio double-side prir	ntable, 2"	' sleeve w	vidth (dimensio	n A):						
Fig. 20	* B33D-94-2-344	B-344	White	28 to 20	0.023 (0.6) - 0.080 (2.0)	0.094 (2.4)	0.024 (0.6)	0.024 (0.6) +/- 0.003 (0.1)	1	1000	B30-R6600
Fig. 20	* B33D-125-2-344	B-344	White	22 to 16	0.046 (1.2) - 0.111 (2.8)	0.125 (3.1)	0.047 (1.2)	0.020 (0.5) +/- 0.003 (0.1)	1	1000	B30-R6600
Fig. 20	* B33D-187-2-344	B-344	White	20 to 10	0.062 (1.6) - 0.15 (3.81)	0.187 (4.8)	0.062 (1.6)	0.020 (0.5) +/- 0.003 (0.1)	1	750	B30-R6600
Fig. 20	* B33D-250-2-344	B-344	White	16 to 8	0.094 (2.4) - 0.215 (5.5)	0.250 (6.35)	0.093 (2.4)	0.025 (0.6) +/- 0.003 (0.1)	1	500	B30-R6600
Fig. 20	* B33D-375-2-344	B-344	White	12 to 4	0.125 (3.2) - 0.320 (8.1)	0.375 (9.5)	0.125 (3.2)	0.025 (0.6) +/- 0.003 (0.1)	1	500	B30-R6600
Fig. 20	* B33D-500-2-344	B-344	White	8 to 1	0.187 (4.8) - 0.450 (11.4)	0.500 (12.7)	0.119 (3.0)	0.025 (0.6) +/- 0.003 (0.1)	1	350	B30-R6600
Fig. 20	* B33D-750-2-344	B-344	White	6 to 4/0	0.250 (6.4) - 0.700 (17.8)	0.750 (19.05)	0.250 (6.35)	0.025 (0.6) +/- 0.003 (0.1)	1	250	B30-R6600
Fig. 20	* B33D-1000-2-344	B-344	White	2 to 0.950 dia	0.333 (8.5) - 0.950 (24.1)	1.000 (25.4)	0.375 (9.5)	0.036 (0.9) +/- 0.003 (0.1)	1	250	B30-R6600
Fig. 20	* B33D-1500-2-344	B-344	White	n/a	0.500 (12.7) - 1.400 (35.6)	1.500 (38.1)	0.500 (12.7)	0.035 (0.9) +/-0 .003 (0.1)	1	150	B30-R6600
Fig. 20	* B33D-94-2-344YL	B-344	Yellow	28 to 20	0.023 (0.6) - 0.080 (2.0)	0.094 (2.4)	0.024 (0.6)	0.024 (0.6) +/- 0.003 (0.1)	1	1000	B30-R6600
Fig. 20	* B33D-125-2-344YL	B-344	Yellow	22 to 16	0.046 (1.2) - 0.111 (2.8)	0.125 (3.1)	0.047 (1.2)	0.020 (0.5) +/- 0.003 (0.1)	1	1000	B30-R6600
Fig. 20	* B33D-187-2-344YL	B-344	Yellow	20 to 10	0.062 (1.6) - 0.15 (3.81)	0.187 (4.8)	0.062 (1.6)	0.020 (0.5) +/- 0.003 (0.1)	1	750	B30-R6600
Fig. 20	* B33D-250-2-344YL	B-344	Yellow	16 to 8	0.094 (2.4) - 0.215 (5.5)	0.250 (6.35)	0.093 (2.4)	0.025 (0.6) +/- 0.003 (0.1)	1	500	B30-R6600
Fig. 20	* B33D-375-2-344YL	B-344	Yellow	12 to 4	0.125 (3.2) - 0.320 (8.1)	0.375 (9.5)	0.125 (3.2)	0.025 (0.6) +/- 0.003 (0.1)	1	500	B30-R6600
Fig. 20	* B33D-500-2-344YL	B-344	Yellow	8 to 1	0.187 (4.8) - 0.450 (11.4)	0.500 (12.7)	0.119 (3.0)	0.025 (0.6) +/- 0.003 (0.1)	1	350	B30-R6600
Fig. 20	* B33D-750-2-344YL	B-344	Yellow	6 to 4/0	0.250 (6.4) - 0.700 (17.8)	0.750 (19.05)	0.250 (6.35)	0.025 (0.6) +/- 0.003 (0.1)	1	250	B30-R6600
Fig. 20	* B33D-1000-2-344YL	B-344	Yellow	2 to 0.950 dia	0.333 (8.5) - 0.950 (24.1)	1.000 (25.4)	0.375 (9.5)	0.036 (0.9) +/- 0.003 (0.1)	1	250	B30-R6600
Fig. 20	* B33D-1500-2-344YL	B-344	Yellow	n/a	0.500 (12.7) - 1.400 (35.6)	1.500 (38.1)	0.500 (12.7)	0.035 (0.9) +/-0 .003 (0.1)	1	150	B30-R6600
Fig. 20	* B33D-94-2-344BK	B-344	Black	28 to 20	0.023 (0.6) - 0.080 (2.0)	0.094 (2.4)	0.024 (0.6)	0.024 (0.6) +/- 0.003 (0.1)	1	1000	B30-R6700-WT
Fig. 20	* B33D-125-2-344BK	B-344	Black	22 to 16	0.046 (1.2) - 0.111 (2.8)	0.125 (3.1)	0.047 (1.2)	0.020 (0.5) +/- 0.003 (0.1)	1	1000	B30-R6700-WT
Fig. 20	* B33D-187-2-344BK	B-344	Black	20 to 10	0.062 (1.6) - 0.15 (3.81)	0.187 (4.8)	0.062 (1.6)	0.020 (0.5) +/- 0.003 (0.1)	1	750	B30-R6700-WT
Fig. 20	* B33D-250-2-344BK	B-344	Black	16 to 8	0.094 (2.4) - 0.215 (5.5)	0.250 (6.35)	0.093 (2.4)	0.025 (0.6) +/- 0.003 (0.1)	1	500	B30-R6700-WT
Fig. 20	* B33D-375-2-344BK	B-344	Black	12 to 4	0.125 (3.2) - 0.320 (8.1)	0.375 (9.5)	0.125 (3.2)	0.025 (0.6) +/- 0.003 (0.1)	1	500	B30-R6700-WT
Fig. 20	* B33D-500-2-344BK	B-344	Black	8 to 1	0.187 (4.8) - 0.450 (11.4)	0.500 (12.7)	0.119 (3.0)	0.025 (0.6) +/- 0.003 (0.1)	1	350	B30-R6700-WT
Fig. 20	* B33D-750-2-344BK	B-344	Black	6 to 4/0	0.250 (6.4) - 0.700 (17.8)	0.750 (19.05)	0.250 (6.35)	0.025 (0.6) +/- 0.003 (0.1)	1	250	B30-R6700-WT
Fig. 20	* B33D-1000-2-344BK	B-344	Black	2 to 0.950 dia	0.333 (8.5) - 0.950 (24.1)	1.000 (25.4)	0.375 (9.5)	0.036 (0.9) +/- 0.003 (0.1)	1	250	B30-R6700-WT
Fig. 20	* B33D-1500-2-344BK	B-344	Black	n/a	0.500 (12.7) - 1.400 (35.6)	1.500 (38.1)	0.500 (12.7)	0.035 (0.9) +/-0 .003 (0.1)	1	150	B30-R6700-WT

WARNING: Cancer www.P65Warnings.ca.gov



Pre-Printed Pre-Cut Blank Sign Headers (B-595)

- Allows printer to create multicolor signs fast in a single print pass
- Headers meet NFPA 70E, OSHA 1910.145 and ASME/ANSI Z535 standards
- Indoor / outdoor grade material conforms to rough, highly textured and difficult-to-adhere-to surfaces Service temp: -40°F to 180°F

Application temp: 0°F to 180°F Average outdoor durability: 8-10 years Agency approvals: **RoHS**





Diagram	Catalog #	B#	Material	Header	Label Height A Inch (mm)	Label Width B Inch (mm)	Labels Per Row	Labels Per Roll	Rec. Ribbon
Fig. 70	B30-241-595-OSHADA	B-595	Vinyl	DANGER	2.250 (57.5)	3.000 (76.2)	1	300	B30-R10000
Fig. 70	B30-25-595-OSHADA	B-595	Vinyl		4.000 (101.6)	6.000 (152.4)	1	175	B30-R10000
Fig. 70	B30-241-595-OSHACA	B-595	Vinyl	CAUTION	2.250 (57.5)	3.000 (76.2)	1	300	B30-R10000
Fig. 70	B30-25-595-OSHACA	B-595	Vinyl		4.000 (101.6)	6.000 (152.4)	1	175	B30-R10000
Fig. 70	B30-241-595-ANSICA	B-595	Vinyl	A CAUTION	2.250 (57.5)	3.000 (76.2)	1	300	B30-R10000
Fig. 70	B30-25-595-ANSICA	B-595	Vinyl		4.000 (101.6)	6.000 (152.4)	1	175	B30-R10000
Fig. 70	B30-241-595-ANSIDA	B-595	Vinyl	A DANGER	2.250 (57.5)	3.000 (76.2)	1	300	B30-R10000
Fig. 70	B30-25-595-ANSIDA	B-595	Vinyl		4.000 (101.6)	6.000 (152.4)	1	175	B30-R10000
Fig. 70	B30-241-595-ANSIWA	B-595	Vinyl	AWARNING	2.250 (57.5)	3.000 (76.2)	1	300	B30-R10000
Fig. 70	B30-25-595-ANSIWA	B-595	Vinyl		4.000 (101.6)	6.000 (152.4)	1	175	B30-R10000
Fig. 70	B30-241-595-ANSINO	B-595	Vinyl	NOTICE	2.250 (57.5)	3.000 (76.2)	1	300	B30-R10000
Fig. 70	B30-25-595-ANSINO	B-595	Vinyl		4.000 (101.6)	6.000 (152.4)	1	175	B30-R10000
Fig. 70	B30-25-595-PREC	B-595	Vinyl	A PRECAUCION	4.000 (101.6)	6.000 (152.4)	1	175	B30-R10000
Fig. 70	B30-25-595-PEL	B-595	Vinyl	A PELIGRO	4.000 (101.6)	6.000 (152.4)	1	175	B30-R10000
Fig. 70	B30-242-595-BLNKWT	B-595	Vinyl		1.125 (28.6) *	2.750 (69.8)	300	B30-R10000	B30-R10000
Fig. 70	B30-241-595-BLNKWT	B-595	Vinyl		2.250 (57.5)	3.000 (76.2)	300	B30-R10000	B30-R10000
Fig. 70	B30-219-595-BLNKWT	B-595	Vinyl		2.250 (57.5) *	3.750 (95.3)	250	B30-R10000	B30-R10000
Fig. 70	B30-25-595-BLNKWT	B-595	Vinyl		4.000 (101.6)	6.000 (152.4)	175	B30-R10000	B30-R10000
Fig. 70	B30-241-595-BLNKYL	B-595	Vinyl		2.250 (57.5)	3.000 (76.2)	1	300	B30-R10000
Fig. 70	B30-25-595-BLNKYL	B-595	Vinyl		4.000 (101.6)	6.000 (152.4)	1	175	B30-R10000

Non-Adhesive Tags (B-551)

- Non-adhesive semi-rigid card stock in pre-cut and continuous styles
- Tags are pre-cut with hole or easy to hole punch, are micro-perforated between tags to separate cleanly and some feature chamfered corners
- Snap-in plastic grommets available for extra strength around mounting hole (Catalog #20596, 100/bag) Service temp: -40°F to 193°F

Average outdoor durability: Up to 2 years





Figure 69

Diagram	Catalog #	B#	Header	Tag Width A Inch (mm)	Tag Height B Inch (mm)	Tags Per Row	Tags Per Roll	Rec. Ribbon
Fig. 69	B30-255-551-ANSIDA	B-551		3.250 (82.6)	5.750 (146.1)	1	100	B30-R10000
Fig. 69	B30-255-551-OSHADA	B-551		3.250 (82.6)	5.750 (146.1)	1	100	B30-R10000
Fig. 69	B30-255-551-ANSICA	B-551		3.250 (82.6)	5.750 (146.1)	1	100	B30-R10000
Fig. 69	B30-255-551-WHT	B-551	0	3.250 (82.6)	5.750 (146.1)	1	100	B30-R10000
Fig. 3	B30C-2500-551-WT	B-551		2.500 (63.5)	50ft. (15.2m)	1 rc	oll (cont.)	B30-R10000
Fig. 3	B30C-3250-551-WT	B-551		3.250 (82.6)	50ft. (15.2m)	1 rc	oll (cont.)	B30-R10000
Fig. 3	B30C-4250-551-WT	B-551		4.250 (107.9)	50ft. (15.2m)	1 rc	oll (cont.)	B30-R10000

Indoor and Outdoor Vinyl (B-595)

- For general facility and safety identification
- Durable, low-shrink vinyl with our most aggressive adhesive
- Conforms to irregular, curved, rough and highly textured surfaces (painted cinder blocks, uneven wood, textured plastics, paper-jacketed pipes, powder-coated surfaces)
- Adheres to "difficult" low-surface energy items (PVC piping, blow-molded equipment cases, ABS plastics, recycled plastics)

Service temp: -40°F to 180°F Application temp: 0°F to 180°F Average outdoor durability: 8-10 years Agency approvals: RoHS







Facility and Safety Applications

• Lean / 5S Labels

- Pipe MarkersSafety and Warning Labels
- Equipment and Panel Labels
 Arc Flash and Chemical Labels
- And more

Diagram	Catalog #	B#	Color	Label Width A Inch (mm)	Roll Length B Feet (m)	Labels Per Roll	Rec. Ribbon
Fig. 3	B30C-500-595-WT	B-595	White	0.500 (12.7)	100 (30.5)	1 roll (cont.)	B30-R10000
Fig. 3	B30C-1125-595-WT	B-595	White	1.125 (28.6)	100 (30.5)	1 roll (cont.)	B30-R10000
Fig. 3	B30C-2250-595-WT	B-595	White	2.250 (57.5)	100 (30.5)	1 roll (cont.)	B30-R10000
Fig. 3	B30C-3000-595-WT	B-595	White	3.000 (76.2)	100 (30.5)	1 roll (cont.)	B30-R10000
Fig. 3	B30C-4000-595-WT	B-595	White	4.000 (101.6)	100 (30.5)	1 roll (cont.)	B30-R10000
Fig. 3	B30C-500-595-YL	B-595	Yellow	0.500 (12.7)	100 (30.5)	1 roll (cont.)	B30-R10000
Fig. 3	B30C-1125-595-YL	B-595	Yellow	1.125 (28.6)	100 (30.5)	1 roll (cont.)	B30-R10000
Fig. 3	B30C-2250-595-YL	B-595	Yellow	2.250 (57.5)	100 (30.5)	1 roll (cont.)	B30-R10000
Fig. 3	B30C-3000-595-YL	B-595	Yellow	3.000 (76.2)	100 (30.5)	1 roll (cont.)	B30-R10000
Fig. 3	B30C-4000-595-YL	B-595	Yellow	4.000 (101.6)	100 (30.5)	1 roll (cont.)	B30-R10000
Fig. 3	B30C-500-595-RD	B-595	Red	0.500 (12.7)	100 (30.5)	1 roll (cont.)	B30-R10000-WT
Fig. 3	B30C-1125-595-RD	B-595	Red	1.125 (28.6)	100 (30.5)	1 roll (cont.)	B30-R10000-WT
Fig. 3	B30C-2250-595-RD	B-595	Red	2.250 (57.5)	100 (30.5)	1 roll (cont.)	B30-R10000-WT
Fig. 3	B30C-4000-595-RD	B-595	Red	4.000 (101.6)	100 (30.5)	1 roll (cont.)	B30-R10000-WT
Fig. 3	B30C-500-595-BL	B-595	Blue	0.500 (12.7)	100 (30.5)	1 roll (cont.)	B30-R10000-WT
Fig. 3	B30C-1125-595-BL	B-595	Blue	1.125 (28.6)	100 (30.5)	1 roll (cont.)	B30-R10000-WT
Fig. 3	B30C-2250-595-BL	B-595	Blue	2.250 (57.5)	100 (30.5)	1 roll (cont.)	B30-R10000-WT
Fig. 3	B30C-4000-595-BL	B-595	Blue	4.000 (101.6)	100 (30.5)	1 roll (cont.)	B30-R10000-WT
Fig. 3	B30C-500-595-GN	B-595	Green	0.500 (12.7)	100 (30.5)	1 roll (cont.)	B30-R10000-WT
Fig. 3	B30C-1125-595-GN	B-595	Green	1.125 (28.6)	100 (30.5)	1 roll (cont.)	B30-R10000-WT
Fig. 3	B30C-2250-595-GN	B-595	Green	2.250 (57.5)	100 (30.5)	1 roll (cont.)	B30-R10000-WT
Fig. 3	B30C-4000-595-GN	B-595	Green	4.000 (101.6)	100 (30.5)	1 roll (cont.)	B30-R10000-WT
Fig. 3	B30C-500-595-OR	B-595	Orange	0.500 (12.7)	100 (30.5)	1 roll (cont.)	B30-R10000
Fig. 3	B30C-1125-595-OR	B-595	Orange	1.125 (28.6)	100 (30.5)	1 roll (cont.)	B30-R10000
Fig. 3	B30C-2250-595-OR	B-595	Orange	2.250 (57.5)	100 (30.5)	1 roll (cont.)	B30-R10000
Fig. 3	B30C-4000-595-OR	B-595	Orange	4.000 (101.6)	100 (30.5)	1 roll (cont.)	B30-R10000
Fig. 3	B30C-500-595-BK	B-595	Black	0.500 (12.7)	100 (30.5)	1 roll (cont.)	B30-R10000-WT
Fig. 3	B30C-1125-595-BK	B-595	Black	1.125 (28.6)	100 (30.5)	1 roll (cont.)	B30-R10000-WT
Fig. 3	B30C-2250-595-BK	B-595	Black	2.250 (57.5)	100 (30.5)	1 roll (cont.)	B30-R10000-WT
Fig. 3	B30C-4000-595-BK	B-595	Black	4.000 (101.6)	100 (30.5)	1 roll (cont.)	B30-R10000-WT
Fig. 3	B30C-500-595-BR	B-595	Brown	0.500 (12.7)	100 (30.5)	1 roll (cont.)	B30-R10000-WT
Fig. 3	B30C-1125-595-BR	B-595	Brown	1.125 (28.6)	100 (30.5)	1 roll (cont.)	B30-R10000-WT
Fig. 3	B30C-2250-595-BB	B-595	Brown	2 250 (57 5)	100 (30.5)	1 roll (cont.)	B30-B10000-WT
Fig. 3	B30C-4000-595-BR	B-595	Brown	4,000 (101.6)	100 (30.5)	1 roll (cont.)	B30-B10000-WT
Fig. 3	B30C-500-595-GD	B-595	Gold	0.500 (12.7)	100 (30.5)	1 roll (cont.)	B30-B10000
Fig. 3	B30C-1125-595-GD	B-595	Gold	1 125 (28.6)	100 (30.5)	1 roll (cont.)	B30-B10000
Fig. 3	B30C-2250-595-GD	B-595	Gold	2 250 (57 5)	100 (30.5)	1 roll (cont.)	B30-B10000
Fig. 3	B30C-4000-595-GD	B-595	Gold	4 000 (101 6)	100 (30.5)	1 roll (cont.)	B30-B10000
Fig. 3	B30C-500-595-GY	B-595	Grav	0.500 (12.7)	100 (30.5)	1 roll (cont.)	B30-B10000
Fig. 3	B30C-1125-595-GY	B-595	Grav	1 125 (28.6)	100 (30.5)	1 roll (cont.)	B30-B10000
Fig. 3	B30C-2250-595-GY	B-595	Gray	2 250 (57 5)	100 (30.5)	1 roll (cont.)	B30-B10000
Fig. 3	B30C-4000-595-GY	B-595	Grav	4,000 (101.6)	100 (30.5)	1 roll (cont.)	B30-B10000
Fig. 3	B30C-500-595-PI	B-595	Purple	0.500 (12.7)	100 (30.5)	1 roll (cont.)	B30-B10000-WT
Fig. 3	B30C-1125-595-Pl	B-595	Purple	1,125 (28.6)	100 (30.5)	1 roll (cont.)	B30-B10000-WT
Fig. 3	B30C-2250-595-Pl	B-595	Purple	2 250 (57 5)	100 (30.5)	1 roll (cont.)	B30-B10000-WT
Fig. 3	B30C-4000-595-Pl	B-595	Purple	4,000 (101.6)	100 (30.5)	1 roll (cont.)	B30-B10000-WT
Fig. 3	B30C 500 505 CI	B 595	Cloar	0.500 (12.7)	100 (30.5)	1 roll (cont.)	B30 B10000
Fig. 2	B000-000-090-0L	D-090	Clear	1 105 (00 6)	100 (30.5)	1 roll (cont.)	B20 B10000
Fig. 2	B300-1123-393-0L	D-090	Clear	1.123 (28.6)	100 (30.5)	1 roll (cont.)	B20 B10000
Fig. 3	D300-2230-393-0L	B-393	Clear	2.200 (07.0)	100 (30.5)	1 roll (cont.)	D3U-H 10000
FIG. 3	D300-4000-595-0L	B-392	Ciear	4.000 (101.6)	100 (30.5)	Troii (cont.)	B30-K10000

U.S. Patent Nos. 5,823,689; 6,570,602. Additional Patents Pending.





Low-Halide Polyester (B-569)

• Low-halide content for labeling stainless steel pipes and surfaces. Applies best to very smooth surfaces and ideal for mounting to rigid panels

Service temp: -40°F to 212°F Application temp: 0°F to 212°F Average outdoor durability: 3-5 years





Diagram	Catalog #	B#	Color	Label Width A Inch (mm)	Roll Length B Feet (m)	Labels Per Roll	Rec. Ribbon
Fig. 3	B30C-500-569-WT	B-569	White	0.500 (12.7)	100 (30.5)	1 roll (cont.)	B30-R10000
Fig. 3	B30C-1125-569-WT	B-569	White	1.125 (28.6)	100 (30.5)	1 roll (cont.)	B30-R10000
Fig. 3	B30C-2250-569-WT	B-569	White	2.250 (57.5)	100 (30.5)	1 roll (cont.)	B30-R10000
Fig. 3	B30C-3000-569-WT	B-569	White	3.000 (76.2)	100 (30.5)	1 roll (cont.)	B30-R10000
Fig. 3	B30C-4000-569-WT	B-569	White	4.000 (101.6)	100 (30.5)	1 roll (cont.)	B30-R10000
Fia. 3	B30C-500-569-YL	B-569	Yellow	0.500 (12.7)	100 (30.5)	1 roll (cont.)	B30-R10000
Fig. 3	B30C-1125-569-YL	B-569	Yellow	1.125 (28.6)	100 (30.5)	1 roll (cont.)	B30-R10000
Fig. 3	B30C-2250-569-YL	B-569	Yellow	2.250 (57.5)	100 (30.5)	1 roll (cont.)	B30-R10000
Fig. 3	B30C-4000-569-YL	B-569	Yellow	4.000 (101.6)	100 (30.5)	1 roll (cont.)	B30-R10000
Fig. 3	B30C-500-569-RD	B-569	Red	0.500 (12.7)	100 (30.5)	1 roll (cont.)	B30-R10000-WT
Fig. 3	B30C-1125-569-RD	B-569	Red	1.125 (28.6)	100 (30.5)	1 roll (cont.)	B30-R10000-WT
Fig. 3	B30C-2250-569-RD	B-569	Red	2.250 (57.5)	100 (30.5)	1 roll (cont.)	B30-R10000-WT
Fig. 3	B30C-4000-569-RD	B-569	Red	4.000 (101.6)	100 (30.5)	1 roll (cont.)	B30-R10000-WT
Fig. 3	B30C-500-569-BL	B-569	Blue	0.500 (12.7)	100 (30.5)	1 roll (cont.)	B30-R10000-WT
Fig. 3	B30C-1125-569-BL	B-569	Blue	1.125 (28.6)	100 (30.5)	1 roll (cont.)	B30-R10000-WT
Fig. 3	B30C-2250-569-BL	B-569	Blue	2.250 (57.5)	100 (30.5)	1 roll (cont.)	B30-R10000-WT
Fig. 3	B30C-4000-569-BL	B-569	Blue	4.000 (101.6)	100 (30.5)	1 roll (cont.)	B30-R10000-WT
Fig. 3	B30C-500-569-LB	B-569	Light Blue	0.500 (12.7)	100 (30.5)	1 roll (cont.)	B30-R10000
Fig. 3	B30C-1125-569-LB	B-569	Light Blue	1.125 (28.6)	100 (30.5)	1 roll (cont.)	B30-R10000
Fig. 3	B30C-2250-569-LB	B-569	Light Blue	2.250 (57.5)	100 (30.5)	1 roll (cont.)	B30-R10000
Fig. 3	B30C-4000-569-LB	B-569	Light Blue	4.000 (101.6)	100 (30.5)	1 roll (cont.)	B30-R10000
Fig. 3	B30C-500-569-SB	B-569	Sky Blue	0.500 (12.7)	100 (30.5)	1 roll (cont.)	B30-R10000
Fig. 3	B30C-1125-569-SB	B-569	Sky Blue	1.125 (28.6)	100 (30.5)	1 roll (cont.)	B30-R10000
Fig. 3	B30C-2250-569-SB	B-569	Sky Blue	2.250 (57.5)	100 (30.5)	1 roll (cont.)	B30-R10000
Fig. 3	B30C-4000-569-SB	B-569	Sky Blue	4.000 (101.6)	100 (30.5)	1 roll (cont.)	B30-R10000
Fig. 3	B30C-500-569-GN	B-569	Green	0.500 (12.7)	100 (30.5)	1 roll (cont.)	B30-R10000-WT
Fig. 3	B30C-1125-569-GN	B-569	Green	1.125 (28.6)	100 (30.5)	1 roll (cont.)	B30-R10000-WT
Fig. 3	B30C-2250-569-GN	B-569	Green	2.250 (57.5)	100 (30.5)	1 roll (cont.)	B30-R10000-WT
Fig. 3	B30C-4000-569-GN	B-569	Green	4.000 (101.6)	100 (30.5)	1 roll (cont.)	B30-R10000-WT
Fig. 3	B30C-500-569-OR	B-569	Orange	0.500 (12.7)	100 (30.5)	1 roll (cont.)	B30-R10000
Fig. 3	B30C-1125-569-OR	B-569	Orange	1.125 (28.6)	100 (30.5)	1 roll (cont.)	B30-R10000
Fig. 3	B30C-2250-569-OR	B-569	Orange	2.250 (57.5)	100 (30.5)	1 roll (cont.)	B30-R10000
Fig. 3	B30C-4000-569-OR	B-569	Orange	4.000 (101.6)	100 (30.5)	1 roll (cont.)	B30-R10000
Fig. 3	B30C-500-569-BK	B-569	Black	0.500 (12.7)	100 (30.5)	1 roll (cont.)	B30-R10000-WT
Fig. 3	B30C-1125-569-BK	B-569	Black	1.125 (28.6)	100 (30.5)	1 roll (cont.)	B30-R10000-W1
Fig. 3	B30C-2250-569-BK	B-569	Black	2.250 (57.5)	100 (30.5)	1 roll (cont.)	B30-R10000-WT
Fig. 3	B30C-4000-569-BK	B-569	Black	4.000 (101.6)	100 (30.5)	I roll (cont.)	B30-R10000-W1
Fig. 3	B30C-500-569-BR	B-569	Brown	0.500 (12.7)	100 (30.5)	I roll (cont.)	B30-R10000-WT
Fig. 3	B30C-1125-569-BR	B-369	Brown	1.120 (28.6)	100 (30.5)	1 roll (cont.)	B30-R10000-WT
Fig. 2	B30C-2230-309-BR	D-309	Brown	2.230 (37.3)	100 (30.5)	1 roll (cont.)	B30-R 10000-WT
Fig. 3	B30C-500-569-0C	B-569	Ochro	4.000 (101.0)	100 (30.5)	1 roll (cont.)	B30-R10000-W1
Fig. 3	B30C 1125 569 OC	B 569	Ochro	1 125 (28.6)	100 (30.5)	1 roll (cont.)	B30 R10000
Fig. 3	B30C-1123-509-0C	B-569	Ochro	2 250 (57 5)	100 (30.5)	1 roll (cont.)	B30 R10000
Fig. 3	B30C 4000 569 OC	B 569	Ochro	4.000 (101.6)	100 (30.5)	1 roll (cont.)	B30 R10000
Fig. 3	B30C-500-569-TN	B-569	Tan	0.500 (12.7)	100 (30.5)	1 roll (cont.)	B30-R10000
Fig. 3	B30C-1125-569-TN	B-569	Tan	1 125 (28.6)	100 (30.5)	1 roll (cont.)	B30-B10000
Fig. 3	B30C-2250-569-TN	B-569	Tan	2 250 (57 5)	100 (30.5)	1 roll (cont.)	B30-R10000
Fig. 3	B30C-4000-569-TN	B-569	Tan	4 000 (101 6)	100 (30.5)	1 roll (cont.)	B30-B10000
Fig. 3	B30C-500-569-GY	B-569	Grav	0.500 (12.7)	100 (30.5)	1 roll (cont.)	B30-R10000
Fig. 3	B30C-1125-569-GY	B-569	Grav	1.125 (28.6)	100 (30.5)	1 roll (cont.)	B30-R10000
Fig. 3	B30C-2250-569-GY	B-569	Grav	2.250 (57.5)	100 (30.5)	1 roll (cont.)	B30-R10000
Fig. 3	B30C-4000-569-GY	B-569	Grav	4.000 (101.6)	100 (30.5)	1 roll (cont.)	B30-R10000
Fia. 3	B30C-500-569-PL	B-569	Purple	0.500 (12.7)	100 (30.5)	1 roll (cont.)	B30-R10000-WT
Fig. 3	B30C-1125-569-PL	B-569	Purple	1,125 (28.6)	100 (30.5)	1 roll (cont.)	B30-R10000-WT
Fig. 3	B30C-2250-569-PL	B-569	Purple	2.250 (57.5)	100 (30.5)	1 roll (cont.)	B30-R10000-WT
Fig. 3	B30C-4000-569-PL	B-569	Purple	4.000 (101.6)	100 (30.5)	1 roll (cont.)	B30-R10000-WT
Fig. 3	B30C-500-569-PK	B-569	Pink	0.500 (12.7)	100 (30.5)	1 roll (cont.)	B30-R10000
Fig. 3	B30C-1125-569-PK	B-569	Pink	1.125 (28.6)	100 (30.5)	1 roll (cont.)	B30-R10000
Fig. 3	B30C-2250-569-PK	B-569	Pink	2.250 (57.5)	100 (30.5)	1 roll (cont.)	B30-R10000
Fig. 3	B30C-4000-569-PK	B-569	Pink	4.000 (101.6)	100 (30.5)	1 roll (cont.)	B30-R10000
Fig. 3	B30C-500-569-CL	B-569	Clear	0.500 (12.7)	100 (30.5)	1 roll (cont.)	B30-R10000
Fig. 3	B30C-1125-569-CL	B-569	Clear	1.125 (28.6)	100 (30.5)	1 roll (cont.)	B30-R10000
Fig. 3	B30C-2250-569-CL	B-569	Clear	2.250 (57.5)	100 (30.5)	1 roll (cont.)	B30-R10000
Fig. 3	B30C-4000-569-CL	B-569	Clear	4.000 (101.6)	100 (30.5)	1 roll (cont.)	B30-R10000

ToughWash® Washdown Resistant Labels (B-854 and B-855)

- Withstands high pressure, heat, harsh chemicals and numerous washdown cycles
- Legible and long-lasting for even the toughest washdown cycles
- Ideal for use in the food and beverage industry
- B-854 offers metal detectable layer to allow detection in food stream

Service temp: -40°F to 230°F Agency approvals: RoHS





Diagram	Catalog #	B#	Color	Label Width A Inch (mm)	Length B Inch (mm)	Labels Per Roll	Rec. Ribbon
ToughWash	n Metal Detectable Material (B-854):					
Fig. 3	B30C-4000-854-YL	B-854		4.000 (101.06)	50 ft. (15.2 m)	1 roll (cont.)	B30-R6000
Fig. 3	B30C-4000-854-WT	B-854		4.000 (101.06)	50 ft. (15.2 m)	1 roll (cont.)	B30-R6000
Fig. 73	B30-25-854-OSHADA	B-854	DANGER	4.000 (101.06)	6.250 (158.8)	100	B30-R6000
Fig. 73	B30-25-854-ANSIWA	B-854	AWARNING	4.000 (101.06)	6.250 (158.8)	100	B30-R6000
Fig. 73	B30-25-854-ANSIDA	B-854	A DANGER	4.000 (101.06)	6.250 (158.8)	100	B30-R6000
Fig. 73	B30-25-854-ANSICA	B-854	A CAUTION	4.000 (101.06)	6.250 (158.8)	100	B30-R6000
Fig. 73	B30-25-854-PEL	B-854	A PELIGRO	4.000 (101.06)	6.250 (158.8)	100	B30-R6000
Fig. 73	B30-25-854-PREC	B-854	A PRECAUCION	4.000 (101.06)	6.250 (158.8)	100	B30-R6000
ToughWash	n Material (B-855):						
Fig. 3	B30C-1125-855-YL	B-855		1.125 (28.6)	50 ft. (15.2 m)	1 roll (cont.)	B30-R6000
Fig. 3	B30C-2250-855-YL	B-855	<u> </u>	2.250 (57.5)	50 ft. (15.2 m)	1 roll (cont.)	B30-R6000
Fig. 3	B30C-4000-855-YL	B-855		4.000 (101.06)	50 ft. (15.2 m)	1 roll (cont.)	B30-R6000
Fig. 3	B30C-1125-855-WT	B-855		1.125 (28.6)	50 ft. (15.2 m)	1 roll (cont.)	B30-R6000
Fig. 3	B30C-2250-855-WT	B-855		2.250 (57.5)	50 ft. (15.2 m)	1 roll (cont.)	B30-R6000
Fig. 3	B30C-4000-855-WT	B-855		4.000 (101.06)	50 ft. (15.2 m)	1 roll (cont.)	B30-R6000
Fig. 73	B30-25-855-OSHADA	B-855	DANGER	4.000 (101.06)	6.250 (158.8)	100	B30-R6000
Fig. 73	B30-25-855-ANSIWA	B-855	AWARNING	4.000 (101.06)	6.250 (158.8)	100	B30-R6000
Fig. 73	B30-25-855-ANSIDA	B-855	A DANGER	4.000 (101.06)	6.250 (158.8)	100	B30-R6000
Fig. 73	B30-25-855-ANSICA	B-855	A CAUTION	4.000 (101.06)	6.250 (158.8)	100	B30-R6000
Fig. 73	B30-25-855-PEL	B-855	▲ PELIGRO	4.000 (101.06)	6.250 (158.8)	100	B30-R6000
Fig. 73	B30-25-855-PREC	B-855	A PRECAUCION	4.000 (101.06)	6.250 (158.8)	100	B30-R6000



Chemical and Solvent Resistant Polypropylene Labels (B-425, B-7425)

- Outstanding chemical and solvent resistance and print performance
- Not recommended for prolonged outdoor use
- B-425: Service temp: -94°F to 212°F

Figure 1 Figure 1 Figure 2 Figure 2 Figure 29



Diagram	Catalog #	B#	Color	Label Width A Inch (mm)	Label Height B Inch (mm)	Horiz. Repeat C Inch (mm)	Vert. Repeat D Inch (mm)	Web Width E Inch (mm)	Labels Per Row	Labels Per Roll	Rec. Ribbon
Fig. 1	B33-5-425	B-425	White	1.000 (25.4)	0.500 (12.7)	1.075 (27.3)	0.600 (15.2)	3.350 (85.1)	3	5000	B30-R4300
Fig. 2	B33-17-425	B-425	White	2.000 (50.8)	1.000 (25.4)	_	1.125 (28.6)	2.200 (55.9)	1	1500	B30-R4300
Fig. 2	B33-18-425	B-425	White	3.000 (76.2)	1.000 (25.4)	_	1.125 (28.6)	3.200 (81.3)	1	1500	B30-R4300
Fig. 2	B33-19-425	B-425	White	3.000 (76.2)	2.000 (50.8)	—	2.125 (54.0)	3.200 (81.3)	1	500	B30-R4300
Fig. 29	B33-88-7425	B-7425	White	1.000 (25.4)	0.750 (19.1)		_	_	2	2000	B30-R4300
Fig. 29	B33-179-7425	B-7425	White	1.000 (25.4)	1.000 (25.4)	_	—	_	1	1500	B30-R4300
Fig. 29	B33-37-7425	B-7425	White	1.500 (38.1)	0.500 (12.7)	_	_	_	2	1500	B30-R4300
Fig. 29	B33-136-7425	B-7425	White	1.500 (38.1)	0.750 (19.1)	_	_	_	1	1500	B30-R4300
Fig. 29	B33-235-7425	B-7425	White	1.500 (38.1)	1.000 (25.4)	_	_	_	1	1250	B30-R4300
Fig. 29	B33-258-7425	B-7425	White	1.500 (38.1)	1.750 (44.5)	_	_	_	1	900	B30-R4300
Fig. 29	B33-53-7425	B-7425	White	2.000 (50.8)	0.500 (12.7)	_	_	_	1	2000	B30-R4300

Retro Reflective Tape (B-584)

- Highly reflective material shines back brightly when struck by light
- Ideal for labeling outdoor utility pedestals, hard hats, jobsite equipment and roof-top equipment
- \bullet Recommended for low light or inclement weather conditions Service temp: -40°F to 158°F

Application temp: 0°F to 158°F (yellow and orange), 50°F to 158°F (silver) Average outdoor durability: 4 to 6 years



Diagram	Catalog #	B#	Color	Label Width A Inch (mm)	Roll Length B Feet (m)	Labels Per Roll	Rec. Ribbon
Fig. 3	B30C-1125-584-SL	B-584	Silver	1.125 (28.6)	50 (15.2)	1 roll (cont.)	B30-R10000
Fig. 3	B30C-2250-584-SL	B-584	Silver	2.250 (57.5)	50 (15.2)	1 roll (cont.)	B30-R10000
Fig. 3	B30C-4000-584-SL	B-584	Silver	4.000 (101.6)	50 (15.2)	1 roll (cont.)	B30-R10000
Fig. 3	B30C-1125-584-YL	B-584	Yellow	1.125 (28.6)	50 (15.2)	1 roll (cont.)	B30-R10000
Fig. 3	B30C-2250-584-YL	B-584	Yellow	2.250 (57.5)	50 (15.2)	1 roll (cont.)	B30-R10000
Fig. 3	B30C-4000-584-YL	B-584	Yellow	4.000 (101.6)	50 (15.2)	1 roll (cont.)	B30-R10000
Fig. 3	B30C-1125-584-OR	B-584	Orange	1.125 (28.6)	50 (15.2)	1 roll (cont.)	B30-R10000
Fig. 3	B30C-2250-584-OR	B-584	Orange	2.250 (57.5)	50 (15.2)	1 roll (cont.)	B30-R10000
Fig. 3	B30C-4000-584-OR	B-584	Orange	4.000 (101.6)	50 (15.2)	1 roll (cont.)	B30-R10000

BradyGlo[™] High-Intensity Photoluminescent Tape (B-526)

- For glow-in-the-dark identification up to 10 hours
- Designed for directional, evacuation and equipment marking. Ideal for marking emergency utility shut-offs, fire extinguishers, alarm pulls and vital equipment controls
- Complies with indoor use requirements specified in RS 6-1 and 6-1A of New York Local Law 26

Service temp: -40°F to 140°F Application temp: 40°F to 140°F



Diagram	Catalog #	B#	Color	Label Width A Inch (mm)	Roll Length B Feet (m)	Labels Per Roll	Rec. Ribbon
Fig. 3	B30C-1125-526	B-526	Luminous Green	1.125 (28.6)	50 (15.2)	1 roll (cont.)	B30-R10000
Fig. 3	B30C-2250-526	B-526	Luminous Green	2.250 (57.5)	50 (15.2)	1 roll (cont.)	B30-R10000
Fig. 3	B30C-4000-526	B-526	Luminous Green	4.000 (101.6)	50 (15.2)	1 roll (cont.)	B30-R10000

Printable Magnetic Supply (B-509)

- Easiest and quickest material for removing and repositioning
- Non-adhesive magnetic material that can be printed on directly
- Ideal for reusable, repositionable and Lean / 5S

identification applications

Service temp: 0°F to 158°F

Average outdoor durability: 3 to 5 years





Diagram	Catalog #	B#	Color	Label Width A Inch (mm)	Roll Length B Feet (m)	Labels Per Roll	Rec. Ribbon
Fig. 3	B30C-2500-509-WT	B-509	White	2.500 (63.5)	25 (7.62)	1 roll (cont.)	B30-R10000
Fig. 3	B30C-4250-509-WT	B-509	White	4.250 (107.8)	25 (7.62)	1 roll (cont.)	B30-R10000
Fig. 3	B30C-2500-509-YL	B-509	Yellow	2.500 (63.5)	25 (7.62)	1 roll (cont.)	B30-R10000
Fig. 3	B30C-4250-509-YL	B-509	Yellow	4.250 (107.8)	25 (7.62)	1 roll (cont.)	B30-R10000

Repositionable Vinyl (B-581)

- Aggressive adhesive stays in place but removes cleanly without leaving adhesive residue
- Ideal for temporary, removable and repositionable labels, such as Lean / 5S inventory labels
 Service temp: -40°F to 180°F

Application temp: 50°F to 180°F Average outdoor durability: 5 years





Diagram	Catalog #	B#	Color	Label Width A Inch (mm)	Feet (m)	Ladeis Per Roll	Rec. Ribbon	
Fig. 3	B30C-500-581-WT	B-581	White	0.500 (12.7)	100 (30.5)	1 roll (cont.)	B30-R10000	
Fig. 3	B30C-1125-581-WT	B-581	White	1.125 (28.6)	100 (30.5)	1 roll (cont.)	B30-R10000	
Fig. 3	B30C-2250-581-WT	B-581	White	2.250 (57.5)	100 (30.5)	1 roll (cont.)	B30-R10000	
Fig. 3	B30C-4000-581-WT	B-581	White	4.000 (101.6)	100 (30.5)	1 roll (cont.)	B30-R10000	
Fig. 3	B30C-500-581-YL	B-581	Yellow	0.500 (12.7)	100 (30.5)	1 roll (cont.)	B30-R10000	
Fig. 3	B30C-1125-581-YL	B-581	Yellow	1.125 (28.6)	100 (30.5)	1 roll (cont.)	B30-R10000	
Fig. 3	B30C-2250-581-YL	B-581	Yellow	2.250 (57.5)	100 (30.5)	1 roll (cont.)	B30-R10000	
Fig. 3	B30C-4000-581-YL	B-581	Yellow	4.000 (101.6)	100 (30.5)	1 roll (cont.)	B30-R10000	

Dissolvable Paper Labels (B-403)

- Designed for temporary applications where easy removal, re-identification or waste reduction are valued
- Ideal for labeling vials, tubes or general glassware, temporary asset tracking, animal housing identification, and general use
- Completely dissolves in warm water within 30 seconds, leaving no adhesive residue





Diagram	Catalog #	B#	Color	Label Width A Inch (mm)	Roll Length B Inch (mm)	Labels Per Roll	Rec. Ribbon
Fig. 3	B30C-1125-403-WT	B-403	White	1.125 (28.575)	100 (30.5)	1 (cont.)	B30-R4300
Fig. 3	B30C-2250-403-WT	B-403	White	2.250 (57.15)	100 (30.5)	1 (cont.)	B30-R4300
Fig. 3	B30C-3000-403-WT	B-403	White	3.000 (76.2)	100 (30.5)	1 (cont.)	B30-R4300
Fig. 3	B30C-4000-403-WT	B-403	White	4.000 (101.6)	100 (30.5)	1 (cont.)	B30-R4300



All part numbers above are compatible with BradyPrinter i3300 and BBP[®]33. Parts may also be compatible with BradyPrinter S3000, BradyPrinter S3100, BBP[®]30, BBP[®]31, BBP[®]35 and BBP[®]37 printers. Visit BradyID.com to confirm compatibility.

Pre-Printed GHS / CLP Chemical Labels (B-569 and B-7569)

- Blank labels with pre-printed red diamonds allow the printer to produce 2-color GHS / CLP labels in one print pass
- 3 sizes of labels, each with 6 diamond layouts that match templates in the printer app (if applicable) or in the Brady Workstation GHS App
 Indepr (author visual material and durable isla withstand averages to
- Indoor / outdoor vinyl material and durable inks withstand exposure to moisture, chemicals and handling

Service temp: -4°F to 180°F Application temp: 50°F to 180°F Average outdoor durability: 3-5 years

Catalog #	B#	Material	Legend		Label Height Inch (mm)	Label Width Inch (mm)	Labels Per Row	Labels Per Roll	Rec. Ribbon
B30-260-7569-CLP1	B-7569	Vinyl		L1 Diamond + Text	2.170 (55.0)	3.350 (85.0)	1	340	B30-R10000
B30-261-7569-CLP1	B-7569	Vinyl		L1 Diamond + Text	2.950 (75.0)	4.330 (110.0)	1	270	B30-R10000
B30-262-7569-CLP1	B-7569	Vinyl		L1 Diamond + Text	4.130 (105.0)	6.100 (155.0)	1	200	B30-R10000
B30-260-7569-CLP2	B-7569	Vinyl		L2 Diamond + Text	2.170 (55.0)	3.350 (85.0)	1	340	B30-R10000
B30-261-7569-CLP2	B-7569	Vinyl		L2 Diamond + Text	2.950 (75.0)	4.330 (110.0)	1	270	B30-R10000
B30-262-7569-CLP2	B-7569	Vinyl		L2 Diamond + Text	4.130 (105.0)	6.100 (155.0)	1	200	B30-R10000
B30-260-7569-CLP3A	B-7569	Vinyl		L3A Diamond + Text	2.170 (55.0)	3.350 (85.0)	1	340	B30-R10000
B30-261-7569-CLP3A	B-7569	Vinyl		L3A Diamond + Text	2.950 (75.0)	4.330 (110.0)	1	270	B30-R10000
B30-262-7569-CLP3A	B-7569	Vinyl		L3A Diamond + Text	4.130 (105.0)	6.100 (155.0)	1	200	B30-R10000
B30-260-7569-CLP3B	B-7569	Vinyl		L3B Diamond + Text	2.170 (55.0)	3.350 (85.0)	1	340	B30-R10000
B30-261-7569-CLP3B	B-7569	Vinyl		L3B Diamond + Text	2.950 (75.0)	4.330 (110.0)	1	270	B30-R10000
B30-262-7569-CLP3B	B-7569	Vinyl		L3B Diamond + Text	4.130 (105.0)	6.100 (155.0)	1	200	B30-R10000
B30-260-7569-CLP4A	B-7569	Vinyl		L4A Diamond + Text	2.170 (55.0)	3.350 (85.0)	1	340	B30-R10000
B30-261-7569-CLP4A	B-7569	Vinyl		L4A Diamond + Text	2.950 (75.0)	4.330 (110.0)	1	270	B30-R10000
B30-262-7569-CLP4A	B-7569	Vinyl		L4A Diamond + Text	4.130 (105.0)	6.100 (155.0)	1	200	B30-R10000
B30-260-569-CLP4B	B-569	Polyester		L4B Diamond + Text	2.170 (55.0)	3.350 (85.0)	1	340	B30-R10000
B30-260-7569-CLP4B	B-7569	Vinyl		L4B Diamond + Text	2.170 (55.0)	3.350 (85.0)	1	340	B30-R10000
B30-261-569-CLP4B	B-569	Polyester		L4B Diamond + Text	2.950 (75.0)	4.330 (110.0)	1	270	B30-R10000
B30-261-7569-CLP4B	B-7569	Vinyl		L4B Diamond + Text	2.950 (75.0)	4.330 (110.0)	1	270	B30-R10000
B30-262-569-CLP4B	B-569	Polyester		L4B Diamond + Text	4.130 (105.0)	6.100 (155.0)	1	200	B30-R10000
B30-262-7569-CLP4B	B-7569	Vinyl		L4B Diamond + Text	4.130 (105.0)	6.100 (155.0)	1	200	B30-R10000
B30-18-7569-CLP4C	B-7569	Vinyl		L4C Diamond + Text	1.000 (25.4)	3.000 (76.2)	1	1000	B30-R10000

Easily create your GHS labels with Brady Workstation GHS App

- Use built-in pre-formatted label layouts with approved GHS symbols
- Search the built-in chemical database by CAS number to auto-populate your label, then edit to meet your specific SDS
- Print any of the six template sizes
- No driver required when using the BradyPrinter i3300



General ID Labels for Lean / 5S, Bins and Production Areas (B-483, B-484A, B-498, B-499 and B-595)

- Also ideal for marking backer board, DIN rail, relays, PLCs, switches, solenoids, drive motors and other components inside panels
- All recommended materials are flexible and have high-tack adhesives for adhesion to wide variety of surfaces and components

B-483: Service temp: -40°F to 248°F **B-484A:** Service temp: -40°F to 240°F **B-498:** Service temp: -40°F to 175°F B-499: Service temp: -40°F to 193°F B-595: Service temp: -40°F to 180°F, 8-10 years average outdoor durability

RoHS Agency approvals: 🖲 Agency approvals: (6) Agency approvals: (6) Agency approvals: (6) RoH RoH RoHS

Agency approvals: $\hbox{\rm RoHS}$







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Figure 2

Figure 3







Diagram	Catalog #	B#	Color	Label Width A Inch (mm)	Label Height B Inch (mm)	Horiz. Repeat C Inch (mm)	Vert. Repeat D Inch (mm)	Web Width E Inch (mm)	Labels Per Row	Labels Per Roll	Rec. Ribbon
Vinyl Clo	oth - Aggressive but r	reposition	able ad <u>he</u>	sive (B-498):							
Fig. 1	B33-90-498	B-498	White	0.250 (6.4)	1.437 (36.5)	0.350 (8.9)	1.562 (39.7)	2.200 (55.9)	6	2500	B30-R6200
Fig. 1	B33-68-498	B-498	White	0.500 (12.7)	0.750 (19.1)	0.600 (15.2)	0.875 (22.2)	2.500 (63.5)	4	5000	B30-R6200
Fig. 1	B33-87-498	B-498	White	0.500 (12.7)	1.437 (36.5)	0.600 (15.2)	1.562 (39.7)	3.700 (94.0)	6	2500	B30-R6200
Fig. 1	B33-1-498	B-498	White	0.750 (19.1)	0.250 (6.4)	0.800 (20.3)	0.350 (8.9)	3.350 (85.1)	4	5000	B30-R6200
Fig. 1	B33-95-498	B-498	White	0.800 (20.3)	1.437 (36.5)	0.900 (22.9)	1.562 (39.7)	2.800 (71.1)	3	2300	B30-R6200
Fig. 1	B33-5-498	B-498	White	1.000 (25.4)	0.500 (12.7)	1.075 (27.3)	0.600 (15.2)	3.350 (85.1)	3	5000	B30-R6200
Fig. 1	B33-88-498	B-498	White	1.000 (25.4)	0.750 (19.1)	1.100 (27.9)	0.875 (22.2)	2.300 (58.4)	2	2500	B30-R6200
Fig. 1	B33-89-498	B-498	White	1.000 (25.4)	1.437 (36.5)	1.100 (27.9)	1.562 (39.7)	3.400 (86.4)	3	2300	B30-R6200
Nylon Cl	oth - Permanen <u>t adh</u>	esive (B-4	99):								
Fig. 1	B33-68-499	B-499	White	0.500 (12.7)	0.750 (19.1)	0.600 (15.2)	0.875 (22.2)	2.500 (63.5)	4	1500	B30-R6000
Fig. 1	B33-165-499	B-499	White	0.800 (20.3)	1.437 (36.5)	0.900 (22.9)	1.562 (39.7)	3.700 (94.0)	4	2500	B30-R6000
Fig. 2	B33-125-499	B-499	White	0.900 (22.9)	0.500 (12.7)	-	-	-	1	1500	B30-R6000
Fig. 1	B33-126-499	B-499	White	0.900 (22.9)	0.500 (12.7)	-	-	-	2	1500	B30-R6000
Fig. 2	B33-163-499	B-499	White	1.000 (25.4)	0.375 (9.5)	-	-	-	1	1500	B30-R6000
Fig. 1	B33-152-499	B-499	White	1.000 (25.4)	0.375 (9.5)	-	-	-	2	1500	B30-R6000
Fig. 2	B33-136-499	B-499	White	1.500 (38.1)	0.750 (19.1)	-	0.875 (22.2)	1.770 (45.0)	1	1500	B30-R6000
Fig. 2	B33-137-499	B-499	White	2.000 (50.8)	1.000 (25.4)	-	1.125 (28.6)	2.200 (55.9)	1	1100	B30-R6000
Fig. 2	B33-125-499	B-499	White	2.000 (50.8)	0.250 (6.4)	-	-	-	1	1500	B30-R6000
Polyeste	er - Ultra-aggressive	adhesive t	for highly	textured and low	v surface energy s	urfaces (B-483):					
Fig. 1	B33-149-483	B-483	White	0.500 (12.7)	0.500 (12.7)	0.600 (15.2)	0.600 (15.2)	2.500 (63.5)	4	5000	B30-R6000
Fig. 1	B33-5-483	B-483	White	1.000 (25.4)	0.500 (12.7)	1.075 (27.3)	0.600 (15.2)	3.350 (85.1)	3	5000	B30-R6000
Fig. 2	B33-17-483	B-483	White	2.000 (50.8)	1.000 (25.4)	-	1.125 (28.6)	2.200 (55.9)	1	1500	B30-R6000
Fig. 2	B33-7-483	B-483	White	2.750 (69.9)	1.250 (31.8)	-	1.375 (34.9)	2.950 (74.9)	1	1000	B30-R6000
Fig. 2	B33-18-483	B-483	White	3.000 (76.2)	1.000 (25.4)	-	1.125 (28.6)	3.200 (81.3)	1	1500	B30-R6000
Fig. 2	B33-19-483	B-483	White	3.000 (76.2)	2.000 (50.8)	-	2.125 (54.0)	3.200 (81.3)	1	500	B30-R6000
Fig. 2	B33-55-483	B-483	White	4.000 (101.6)	2.000 (50.8)	-	2.125 (54.0)	4.200 (106.7)	1	750	B30-R6000
Polyeste	er - Ultra-aggressive	adhesive	and pliab	le for conforming	to angular surfac	es (B-484A):					
Fig. 2	B33-125-484	B-484A	White	0.900 (22.9)	0.500 (12.7)	-	0.600 (15.2)	1.100 (27.9)	1	1500	B30-R6000
Fig. 1	B33-5-484	B-484A	White	1.000 (25.4)	0.500 (12.7)	1.075 (27.3)	0.600 (15.2)	3.350 (85.1)	3	5000	B30-R6000
Fig. 2	B33-136-484	B-484A	White	1.500 (38.1)	0.750 (19.1)	-	0.875 (22.2)	1.700 (43.2)	1	1500	B30-R6000
Fig. 2	B33-17-484	B-484A	White	2.000 (50.8)	1.000 (25.4)	-	1.125 (28.6)	2.200 (55.9)	1	1500	B30-R6000
Fig. 2	B33-18-484	B-484A	White	3.000 (76.2)	1.000 (25.4)	-	1.125 (28.6)	3.200 (81.3)	1	1500	B30-R6000
Fig. 2	B33-19-484	B-484A	White	3.000 (76.2)	2.000 (50.8)	-	2.125 (54.0)	3.200 (81.3)	1	500	B30-R6000
Continuo	ous cut-to-length viny	/I - Perma	nent adhe	esive, conformab	le; indoor / outdoo	or grade (B-595*):				
Fig. 3	B30C-500-595-WT	B-595	White	0.500 (12.7)	100 ft. (30.5m)	-	-	0.700 (17.8)	1 ro	ll (cont.)	B30-R10000
Fig. 3	B30C-1125-595-WT	B-595	White	1.125 (28.6)	100 ft. (30.5m)	-	-	1.375 (34.9)	1 ro	ll (cont.)	B30-R10000
Fig. 3	B30C-500-595-YL	B-595	Yellow	0.500 (12.7)	100 ft. (30.5m)	-	-	0.700 (17.8)	1 ro	ll (cont.)	B30-R10000
Fig. 3	B30C-1125-595-YL	B-595	Yellow	1.125 (28.6)	100 ft. (30.5m)	-	-	1.375 (34.9)	1 ro	II (cont.)	B30-R10000

* 46 additional sizes and colors available for B-595 (page 24)



ToughStripe[®] Printable Floor Marking Tape (B-483 with overlaminate)

- Revolutionary B-483 material has ultra-aggressive adhesive
- Withstands forklift and pallet jack traffic without tearing or lifting
- Each roll ships with a roll of clear overlaminate which must be applied over printed label and on to appropriate surface for best performance

Service temp: -40°F to 248°F Agency approvals: 🚯 🚯





Figure 3

Diagram	Catalog #	B#	Color	Label Width A Inch (mm)	Roll Length B Feet (m)	Labels Per Roll	Rec. Ribbon
Fig. 3	B30C-1125-483WT-KT	B-483	White	1.125 (28.6)	100 (30.5)	1 roll (cont.)	B30-R6000
Fig. 3	B30C-2250-483WT-KT	B-483	White	2.250 (57.5)	100 (30.5)	1 roll (cont.)	B30-R6000
Fig. 3	B30C-3000-483WT-KT	B-483	White	3.000 (76.2)	100 (30.5)	1 roll (cont.)	B30-R6000
Fig. 3	B30C-4000-483WT-KT	B-483	White	4.000 (101.6)	100 (30.5)	1 roll (cont.)	B30-R6000
Fig. 3	B30C-1125-483YL-KT	B-483	Yellow	1.125 (28.6)	100 (30.5)	1 roll (cont.)	B30-R6000
Fig. 3	B30C-2250-483YL-KT	B-483	Yellow	2.250 (57.5)	100 (30.5)	1 roll (cont.)	B30-R6000
Fig. 3	B30C-3000-483YL-KT	B-483	Yellow	3.000 (76.2)	100 (30.5)	1 roll (cont.)	B30-R6000
Fig. 3	B30C-4000-483YL-KT	B-483	Yellow	4.000 (101.6)	100 (30.5)	1 roll (cont.)	B30-R6000
Fig. 3	B30C-1125-483RD-KT	B-483	Red	1.125 (28.6)	100 (30.5)	1 roll (cont.)	B30-R4400-WT
Fig. 3	B30C-2250-483RD-KT	B-483	Red	2.250 (57.5)	100 (30.5)	1 roll (cont.)	B30-R4400-WT
Fig. 3	B30C-4000-483RD-KT	B-483	Red	4.000 (101.6)	100 (30.5)	1 roll (cont.)	B30-R4400-WT
Fig. 3	B30C-1125-483BL-KT	B-483	Blue	1.125 (28.6)	100 (30.5)	1 roll (cont.)	B30-R4400-WT
Fig. 3	B30C-2250-483BL-KT	B-483	Blue	2.250 (57.5)	100 (30.5)	1 roll (cont.)	B30-R4400-WT
Fig. 3	B30C-4000-483BL-KT	B-483	Blue	4.000 (101.6)	100 (30.5)	1 roll (cont.)	B30-R4400-WT
Fig. 3	B30C-1125-483GN-KT	B-483	Green	1.125 (28.6)	100 (30.5)	1 roll (cont.)	B30-R4400-WT
Fig. 3	B30C-2250-483GN-KT	B-483	Green	2.250 (57.5)	100 (30.5)	1 roll (cont.)	B30-R4400-WT
Fig. 3	B30C-4000-483GN-KT	B-483	Green	4.000 (101.6)	100 (30.5)	1 roll (cont.)	B30-R4400-WT
Fig. 3	B30C-1125-483BK-KT	B-483	Black	1.125 (28.6)	100 (30.5)	1 roll (cont.)	B30-R4400-WT
Fig. 3	B30C-2250-483BK-KT	B-483	Black	2.250 (57.5)	100 (30.5)	1 roll (cont.)	B30-R4400-WT
Fig. 3	B30C-4000-483BK-KT	B-483	Black	4.000 (101.6)	100 (30.5)	1 roll (cont.)	B30-R4400-WT
Fig. 3	B30C-1125-483OR-KT	B-483	Orange	1.125 (28.6)	100 (30.5)	1 roll (cont.)	B30-R6000
Fig. 3	B30C-2250-483OR-KT	B-483	Orange	2.250 (57.5)	100 (30.5)	1 roll (cont.)	B30-R6000
Fig. 3	B30C-4000-483OR-KT	B-483	Orange	4.000 (101.6)	100 (30.5)	1 roll (cont.)	B30-R6000

ToughStripe part numbers above are compatible with BradyPrinter i3300, BradyPrinter S3000, BradyPrinter S3100, and BBP®35 and BBP®37 printers. ToughStripe material is not compatible with BBP®30, BBP®33 and BBP®31 printers.

Cold Temperature Application Material (B-549)

- Special adhesive permanently adheres to extremely cold surfaces
- Can be applied in -10°F and lasts in -40°F
- Ideal for cold storage warehouses, coolers, freezers and short-term winter outdoor use

Service temp: -40°F to 212°F Application temp: -10°F to 212°F Average outdoor durability: Up to 1 year





Diagram	Catalog #	В#	Color	Label Width A Inch (mm)	Roll Length B Feet (m)	Labels Per Roll	Rec. Ribbon
Fig. 3	B30C-1125-549-WT	B-549	White	1.125 (28.6)	100 (30.5)	1 roll (cont.)	B30-R10000
Fig. 3	B30C-2250-549-WT	B-549	White	2.250 (57.5)	100 (30.5)	1 roll (cont.)	B30-R10000
Fig. 3	B30C-4000-549-WT	B-549	White	4.000 (101.6)	100 (30.5)	1 roll (cont.)	B30-R10000
Fig. 3	B30C-1125-549-YL	B-549	Yellow	1.125 (28.6)	100 (30.5)	1 roll (cont.)	B30-R10000
Fig. 3	B30C-2250-549-YL	B-549	Yellow	2.250 (57.5)	100 (30.5)	1 roll (cont.)	B30-R10000
Fig. 3	B30C-4000-549-YL	B-549	Yellow	4.000 (101.6)	100 (30.5)	1 roll (cont.)	B30-R10000

Cryogenic Tube and Vial Labels (B-461, B-490, B-492 and B-7425)

FreezerBondz[™] labels can be applied to room temperature or already frozen samples, with a small overlap. The label remains legible and will stick to the tube during processing, even when immersed in liquid or vapor phase nitrogen and ultra-low temperature freezer storage.

- B-461 Self-Laminating Polyester: Ultra-thin polyester label with clear overlaminate tail that protects print and allows liquid levels to be visible
- **B-490 Polyester:** White FreezerBondz label ideal for flat frozen surfaces. Adheres to frozen tubes and vials when wrapped around itself by at least 1/8".
- **B-492 Polyester:** FreezerBondz ultra-thin white polyester label for labeling of frosted/frozen or room temperature vials, tubes and canes. Superior chemical and abrasion resistance.
- **B-7425 Polypropylene:** Ideal for labeling dry, room temperature specimen containers. Material withstands temperature ranges from -196°C to 121°C (-320°F to 248°F). Chemical resistance to ethanol, DMSO, IPS, short-term xylene, 10% formalin, 50% acetic acid and toluene





Diagram	Catalog #	B#	Color	Label Width A Inch (mm)	Label Height B Inch (mm)	Print-On Height C Inch (mm)	Labels Per Row	Labels Per Roll	Rec. Ribbon
Self-Lamina	ting Polyester (B-461):								
Fig. 15c	B33-127-461	B-461	White	0.500 (12.7)	2.200 (55.9)	0.750 (19.1)	1	1500	B30-R4300
Fig. 15c	B33-133-461	B-461	White	0.600 (15.2)	1.625 (41.3)	1.000 (25.4)	1	1500	B30-R4300
Fig. 14c	B33-139-461	B-461	White	1.000 (25.4)	5.250 (133.4)	1.500 (38.1)	2	650	B30-R4300
Fig. 15c	B33-123-461	B-461	White	1.800 (45.7)	0.375 (9.5)	0.750 (19.1)	1	1500	B30-R4300
Fig. 15c	B33-122-461	B-461	White	1.800 (45.7)	0.500 (12.7)	0.750 (19.1)	1	1500	B30-R4300
Fig. 14c	B33-276-461	B-461	White	2.625 (66.7)	1.000 (25.4)	1.000 (25.4)	1	1500	B30-R4300
Fig. 15c	B33-134-461	B-461	White	3.500 (88.9)	1.500 (38.1)	1.250 (31.8)	1	1000	B30-R4300
Polyester (B	-490):								
Fig. 7	B33-126-490	B-490	White	0.900 (22.9)	0.500 (12.7)	0.500 (12.7) dia.	1	2500	B30-R4300
Fig. 2	B33-154-490	B-490	White	1.250 (31.8)	0.375 (9.5)	_	1	1500	B30-R4300
Fig. 2	B33-155-490	B-490	White	1.625 (41.3)	0.600 (15.2)	-	1	1500	B30-R4300
Fig. 2	B33-156-490	B-490	White	1.900 (48.2)	1.000 (25.4)	-	1	1500	B30-R4300
Fig. 2	B33-157-490	B-490	White	2.200 (55.9)	1.500 (38.1)	-	1	1000	B30-R4300
Fig. 2	B33-158-490	B-490	White	3.750 (95.3)	1.750 (44.4)	-	1	1100	B30-R4300
Polyester (B	-492):								
Fig. 5	B33-143-492	B-492	White	0.375 (9.5) dia.	-	-	4	1500	B30-R6400
Fig. 7	B33-182-492	B-492	White	0.500 (12.7)	1.000 (25.4)	0.44 (11.17) dia	1	1500	B30-R6400
Fig. 2	B33-180-492	B-492	White	0.900 (22.9)	1.000 (25.4)	-	1	1500	B30-R6400
Fig. 25a	B33-152-492	B-492	White	1.000 (25.4)	0.375 (9.5)	-	2	2500	B30-R6400
Fig. 7	B33-163-492	B-492	White	1.000 (25.4)	0.375 (9.5)	0.375 (9.5) dia.	1	1500 sets	B30-R6400
Fig. 7	B33-181-492	B-492	White	1.000 (25.4)	0.500 (12.7)	0.50 (12.7) dia	1	1500 sets	B30-R6400
Fig. 2	B33-59-492	B-492	White	1.000 (25.4)	0.500 (12.7)	-	1	5000	B30-R6400
Fig. 2	B33-179-492	B-492	White	1.000 (25.4)	1.000 (25.4)	-	1	1900	B30-R6400
Fig. 2	B33-156-492	B-492	White	1.900 (48.3)	1.000 (25.4)	-	1	1500	B30-R6400
Polypropyle	1e (B-7425):								
Fig. 2	B33-257-7425	B-7425	White	0.825 (21.0)	0.250 (6.4)	-	1	1500	B30-R4300
Fig. 25a	B33-152-7425	B-7425	White	1.000 (25.4)	0.375 (9.5)	-	2	2000	B30-R4300
Fig. 2	B33-59-7425	B-7425	White	1.000 (25.4)	0.500 (12.7)	-	1	2000	B30-R4300
Fig. 25a	B33-88-7425	B-7425	White	1.000 (25.4)	0.750 (19.1)	-	2	2000	B30-R4300
Fig. 2	B33-256-7425	B-7425	White	1.300 (33.0)	0.600 (15.2)	-	1	1500	B30-R4300
Fig. 25a	B33-37-7425	B-7425	White	1.500 (38.1)	0.500 (12.7)	-	2	1500	B30-R4300



Centrifuge and PCR Tube Labels (B-499 and B-7425)

Designed with ultra-thin material that prevents vials from jamming in centrifuges or racks, these labels withstand harsh temperatures and chemicals without falling off, fading or smearing.

- **B-499 Nylon Cloth:** Thick white nylon cloth for easy handling and conformability
- **B-7425 Polypropylene:** Moderate chemical resistance, ideal for labeling dry, room temperature specimen containers that withstand temperature

ranges from -196°C to 121°C (-320°F to 248°F). Chemical resistance to ethanol, DMSO, IPS, short-term xylene, 10% formalin, 50% acetic acid and toluene



в



Diagram	Catalog #	B#	Color	Label Width A Inch (mm)	Label Height B Inch (mm)	Vial Top Dia. C Inch (mm)	Labels Per Row	Labels Per Roll	Rec. Ribbon
Nylon Clot	h (B-499):								
Fig. 5	B33-143-499	B-499	White	0.375 (9.5)	-	-	4	1500	B30-R6000
Fig. 5	B33-144-499	B-499	White	0.500 (12.7)	-	-	3	1500	B30-R6000
Polypropy	lene (B-7425):								
Fig. 2	B33-257-7425	B-7425	White	0.825 (21.0)	0.250 (6.4)	-	1	1500	B30-R4300
Fig. 2	B33-152-7425	B-7425	White	1.000 (25.4)	0.375 (9.5)	-	2	2000	B30-R4300
Fig. 24	B33-249-7425	B-7425	White	1.000 (25.4)	0.375 (9.5)	0.375 (9.5) dia.	1	1500	B30-R4300
Fig. 2	B33-59-7425	B-7425	White	1.000 (25.4)	0.500 (12.7)	-	1	2000	B30-R4300
Fig. 24	B33-251-7425	B-7425	White	1.000 (25.4)	0.500 (12.7)	0.440 (11.1) dia.	1	1500	B30-R4300
Fig. 2	B33-179-7425	B-7425	White	1.000 (25.4)	1.000 (25.4)	-	1	1500	B30-R4300
Fig. 2	B33-256-7425	B-7425	White	1.300 (33.0)	0.600 (15.2)	-	1	1500	B30-R4300
Fig. 2	B33-37-7425	B-7425	White	1.500 (38.1)	0.500 (12.7)	-	2	1500	B30-R4300
Fig. 2	B33-136-7425	B-7425	White	1.500 (38.1)	0.750 (19.1)	-	1	1500	B30-R4300
Fig. 2	B33-258-7425	B-7425	White	1.500 (38.1)	1.750 (44.5)	-	1	900	B30-R4300
Fig. 2	B33-137-7425	B-7425	White	2.000 (50.8)	1.000 (25.4)	-	1	1500	B30-R4300

Microscope Slide Labels (B-481)

- Designed specifically to identify slides and to resist exposure to harsh chemicals during the slide-staining process
- Performs well in stains such as hematoxylin and eosin
- Extreme chemical resistance withstands the rigors of typical deparaffinization, including ethanol, xylene and H&E staining processes



Diagram	Catalog #	B#	Color	Label Width A Inch (mm)	Label Height B Inch (mm)	Labels Per Row	Labels Per Roll	Rec. Ribbon
Fig. 2	B33-194-481	B-481	White	0.900 (22.9)	0.750 (19.1)	1	2000	B30-R6400
Fig. 25	B33-141-481	B-481	White	0.900 (22.9)	0.900 (22.9)	2	1500	B30-R6400

Dissolvable Paper Labels (B-403)

- Designed for temporary applications where easy removal, re-identification or waste reduction are valued
- Ideal for labeling vials, tubes or general glassware, temporary asset tracking, animal housing identification, and general use
- Completely dissolves in warm water within 30 seconds, leaving no adhesive residue





Diagram	Catalog #	B#	Color	Label Width A Inch (mm)	Roll Length B Inch (mm)	Labels Per Roll	Rec. Ribbon
Fig. 3	B30C-1125-403-WT	B-403	White	1.125 (28.575)	100 (30.5)	1 (cont.)	B30-R4300
Fig. 3	B30C-2250-403-WT	B-403	White	2.250 (57.15)	100 (30.5)	1 (cont.)	B30-R4300
Fig. 3	B30C-3000-403-WT	B-403	White	3.000 (76.2)	100 (30.5)	1 (cont.)	B30-R4300
Fig. 3	B30C-4000-403-WT	B-403	White	4.000 (101.6)	100 (30.5)	1 (cont.)	B30-R4300

Sterilization Indicating Labels (B-7425-AC)

- Specially designed with a pre-printed "sterilized" header that indicates steam sterilization with a color-changing pre-printed header when autoclaved at 121.5° C (250.7° F) for 10 minutes
- Withstands temperature ranges from -196° C to 121° C (-320° F to 248° F)
- For use in LN2, freezers, autoclave and hot water baths
- Chemical resistance to ethanol, DMSO, IPS, short-term xylene, 10% formalin, 50% acetic acid and toluene

Note: Label dimensions include the "Sterilized" indicating area.



Diagram	Catalog #	B#	Color	Label Width A Inch (mm)	Label Height B Inch (mm)	Labels Per Row	Labels Per Roll	Rec. Ribbon
Fig. 29a	B33-235-7425-AC	B-7425-AC	White	1.500 (38.1)	1.000 (25.4) *	1	1250	B30-R4300
Fig. 29a	B33-137-7425-AC	B-7425-AC	White	2.000 (50.8)	1.000 (25.4) *	1	1500	B30-R4300

STERVLIZED

TEXT 1

TEXT 2

Figure 29a

Tissue Cassette Labels (B-482)

 White polyester label with superior resistance to tissue processing chemicals and embedding procedures. Use with the BSP[™]31 Label Attachment system for pre-process tissue cassette ID








General Identification for Laboratory Storage, Equipment and Safety Labels (B-499, B-595, B-7569)

- Super strong adhesives and colors ideal for marking laboratory equipment, containers, hoses and lab storage cabinets, shelves and drawers
- GHS labels available for marking chemicals in the lab and shipment boxes when collaborating with other labs
- Pre-printed sign header labels make your safety and housekeeping reminders stand out and stay put!
- **B-499:** Service temp: -40°F to 193°F **B-595:** Service temp: -40°F to 180°F

B-7569: Service temp: -4°F to 167°F

Figure 1

Agency approvals:
Compared By Rolls (Compared By Rolls)











Diagram	Catalog #	B#	Color /	Label Width A	Label Height B	Horiz. Repeat C	Vert. Repeat D	Web Width E	Roll Length	Labels Per	Labels Per Boll	Rec. Ribbon
			Leyenu	Inch (mm)	Inch (mm)	Inch (mm)	lnch (mm)	Inch (mm)	B Feet (III)	Row		
Nylon Cloth - F	Permanent adhesive (B-4	499):										
Fig. 1	B33-68-499	B-499	White	0.500 (12.7)	0.750 (19.1)	0.600 (15.2)	0.875 (22.2)	2.500 (63.5)	-	4	1500	B30-R6000
Fig. 1	B33-165-499	B-499	White	0.800 (20.3)	1.437 (36.5)	0.900 (22.9)	1.562 (39.7)	3.700 (94.0)	-	4	2500	B30-R6000
Fig. 2	B33-125-499	B-499	White	0.900 (22.9)	0.500 (12.7)	-	-	-	-	1	1500	B30-R6000
Fig. 1	B33-126-499	B-499	White	0.900 (22.9)	0.500 (12.7)	-	-	-	-	2	1500	B30-R6000
Fig. 2	B33-163-499	B-499	White	1.000 (25.4)	0.375 (9.5)	-	-	-	-	1	1500	B30-R6000
Fig. 1	B33-152-499	B-499	White	1.000 (25.4)	0.375 (9.5)	-	-	-	-	2	1500	B30-R6000
Fig. 2	B33-136-499	B-499	White	1.500 (38.1)	0.750 (19.1)	-	0.875 (22.2)	1.770 (45.0)	-	1	1500	B30-R6000
Fig. 2	B33-137-499	B-499	White	2.000 (50.8)	1.000 (25.4)	-	1.125 (28.6)	2.200 (55.9)	-	1	1100	B30-R6000
Fig. 2	B33-125-499	B-499	White	2.000 (50.8)	0.250 (6.4)	-	-	-	-	1	1500	B30-R6000
Indoor/Outdoor	r Vinyl (B-595):											
Fig. 3	B30C-500-595-WT	B-595	White	0.500 (12.7)	-	-	-	-	100 (30.5)		1 roll (cont.)	B30-R10000
Fig. 3	B30C-1125-595-WT	B-595	White	1.125 (28.6)	-	-	-	-	100 (30.5)		1 roll (cont.)	B30-R10000
Fig. 3	B30C-500-595-YL	B-595	Yellow	0.500 (12.7)	-	-	-	-	100 (30.5)		1 roll (cont.)	B30-R10000
Fig. 3	B30C-1125-595-YL	B-595	Yellow	1.125 (28.6)	-	-	-	-	100 (30.5)		1 roll (cont.)	B30-R10000
Fig. 3	B30C-500-595-RD	B-595	Red	0.500 (12.7)	-	-	-	-	100 (30.5)		1 roll (cont.)	B30-R10000-WT
Fig. 3	B30C-1125-595-RD	B-595	Red	1.125 (28.6)	-	-	-	-	100 (30.5)		1 roll (cont.)	B30-R10000-WT
Fig. 3	B30C-500-595-BL	B-595	Blue	0.500 (12.7)	-	-	-	-	100 (30.5)		1 roll (cont.)	B30-R10000-WT
Fig. 3	B30C-1125-595-BL	B-595	Blue	1.125 (28.6)	-	-	-	-	100 (30.5)		1 roll (cont.)	B30-R10000-WT
Fig. 3	B30C-500-595-GN	B-595	Green	0.500 (12.7)	-	-	-	-	100 (30.5)		1 roll (cont.)	B30-R10000-WT
Fig. 3	B30C-1125-595-GN	B-595	Green	1.125 (28.6)	-	-	-	_	100 (30.5)		1 roll (cont.)	B30-R10000-WT
Pre-Printed Pr	e-Cut Blank Sign Heade	rs (B-595)):									
Fig. 70	B30-241-595-ANSIDA	B-595	A DANGER	2.250 (57.5)	3.000 (76.2)	-	-	-	-	1	300	B30-R10000
Fig. 70	B30-25-595-ANSIDA	B-595		4.000 (101.6)	6.000 (152.4)	-	-	-	-	1	175	B30-R10000
Fig. 70	B30-241-595-ANSINO	B-595	NOTICE	2.250 (57.5)	3.000 (76.2)	-	-	-	-	1	300	B30-R10000
Fig. 70	B30-25-595-ANSINO	B-595		4.000 (101.6)	6.000 (152.4)	-	-	-	-	1	175	B30-R10000
Pre-Printed GH	IS/CLP Chemical (B-756	i9):										
LAB Diamond	B30-260-7569-CLP4B	B-7569	\square	2.170 (55.0)	3.350 (85.0)	-	_	_	-	1	340	B30-R10000
+ Text	B30-261-7569-CLP4B	B-7569		2.950 (75.0)	4.330 (110.0)	-	-	-	-	1	270	B30-R10000
L4C Diamond + Text	B30-18-7569-CLP4C	B-7569	$\langle \rangle \rangle$	1.000 (25.4)	3.000 (76.2)	-	-	-	-	1	1000	B30-R10000

(B-595) U.S. Patent Nos. 5,823,689; 6,570,602. Additional Patents Pending, more parts on page 24. For more sign headers see pages 23 and 26. And for more GHS labels see page 29.

All part numbers above are compatible with BradyPrinter i3300 and BBP®33. Parts may also be compatible with BradyPrinter S3000, BradyPrinter S3100, BBP®30, BBP®31, BBP®35 and BBP®37 printers. Visit BradyID.com to confirm compatibility.

Print ribbons

"Drop and Click" print ribbons for 5-second ribbon supply changes

- Tough, smear-proof ribbons that produce long-lasting printed text and can withstand years in industrial areas and outdoor conditions
- Self-contained cartridges drop straight into printer with a "click"
- No calibrating, no threading, no wasted feeding, no hassles and the ink will always be facing the right direction!
- Printer notifies user if installed ribbon is not recommended for installed labels

Catalog #	Color	Size Inch (mm)	Length Feet (m)
B30-R10000	Black	4.330 (109.9)	200 (60.9)
B30-R6000	Black	4.330 (109.9)	200 (60.9)
B30-R6200	Black	4.330 (109.9)	200 (60.9)
B30-R6400	Black	4.330 (109.9)	200 (60.9)
B30-R6600	Black	4.330 (109.9)	200 (60.9)
B30-R4300	Black	4.330 (109.9)	200 (60.9)
B30-R10000-WT	White	4.330 (109.9)	200 (60.9)
B30-R4400-WT	White	4.330 (109.9)	200 (60.9)
B30-R6700-WT	White*	4.330 (109.9)	200 (60.9)
B30-R4500-SV	Silver*	4.330 (109.9)	200 (60.9)
B30-R10000-RD	Red	4.330 (109.9)	200 (60.9)
B30-R10000-GN	Green	4.330 (109.9)	200 (60.9)
B30-R10000-BL	Blue	4.330 (109.9)	200 (60.9)
B30-R10000-YL	Yellow**	4.330 (109.9)	200 (60.9)
B30-R10000-YL2	Yellow**	4.330 (109.9)	200 (60.9)
B30-R10000-OR	Orange	4.330 (109.9)	200 (60.9)
B30-R10000-MA	Magenta	4.330 (109.9)	200 (60.9)
B30-R10000-PRCCY	Process Cyan***	4.330 (109.9)	200 (60.9)
B30-R10000-PRCYEL	Process Yellow***	4.330 (109.9)	200 (60.9)
B30-R10000-PRCMAG	Process Magenta***	4.330 (109.9)	200 (60.9)

Single Color Print Ribbons

- * B30-R4500-SV ribbon for use with B-342 black sleeves only; B30-R6700-WT ribbon for use with B-345 black sleeves only.
- ** B30-R10000-YL for printing yellow onto white. B30-R10000-YL2 for printing yellow onto other colors of B-595.
- *** Process ribbons print a much lighter shade. They are designed to be used together with other process ribbons and black ribbon to lay down a dot pattern for printing "blended" colors and process color objects with the BBP35 or BBP37 printers.



Installs in 5 seconds...just snap into place!





Print ribbon / label material compatibility

B-# Material



		/	/	/	/	/	/	/	/	/	(((
B-342	Polyolefin		-	-	-	-	-	•*	-	-	-	-	-	-
B-344	Polyolefin	-	-	-	-		-	-	-	•*	-	-	-	-
B-345	Polyolefin	-	٠	-	-	-	-	-	•	-	-	-	-	-
B-403	Paper	٠	-	-	-	-	-	-	-	-	-	-	-	-
B-422	Polyester	-	٠	-	-	-	-	-	٠	-	-	-	-	-
B-423	Glossy White Polyester	-	٠	•	-	-	-	-	-	-	-	-	-	-
B-424	Matte White Paper		-	-	-	-	-	-	-	-	-	-	-	-
B-425	Polypropylene	•	-	-	•	-	-	-	-	-	-	-	-	-
B-427	Vinvl	•	_	-	_	_	_	-	_	_	_	_	_	_
B-428	Metallized Polvester	•	-	-	-	-	-	-	-	-	_	-	-	_
B-430	Polvester	-		-	-	_	-	-	-	-	_	-	-	_
B-432	Glossy Clear Polyester	-	•	-	-	-	-	-	•	-	-	-	-	-
B-434	Glossy Metallized Polyester	_		_		_	_	_	_		_	_	_	
B-437	Polyvipylfluoride	•	_	_		_	_	_	_	_	_	_	_	
5 407	Tamper Evident Metallized	-												
B-438	Polyester	•	-	-	-	-	-	-	-	-	-	-	-	-
B-461	Polyester		-	-	-	-	-	-	-	-	-	-	-	-
B-472	Polyimide	•	-	-	-	-	-	-	-	-	-	-	-	-
B-481	Polyester	-	-	-		-	-	-	-	-	-	-	-	-
B-482	Polyester	-	-	-		-	-	-	-	-	-	-	-	-
B-483	Glossy White Polyester	-	۲	-	-	-	-	-	-	-	-	-	-	-
B-483	ToughStripe [®] Printable Floor Marking Tape	-	•	-	-	-	-	-	•	-	-	-	-	-
B-484A	Glossy White Polyester	-	•	-	-	-	-	-	-	-	_	-	-	-
B-486	Matte Metallized Polvester		_	-	_	-	_	-	_	-	_	_	-	_
B-489	Matte White Polvester	•	-	_	_	-	_	-	-	-	_	-	-	-
B-190	Polyester		_	_		_		_	_	_			_	
B-192	Polyester		_	_		_	_	_	_	_	_	_	_	
B-498	Cloth	_	_		_	_	_	_	_	_		_	_	
B 499	Nylon													
B-499	Printable Magnetic	-	-				-	_		_				**
D-509	Photoluminococot Dolycotor	_	_		_	_		_	_	_			_	**
D-520	Cold Tomporature Polyester	_	_	_	_	_		_	_	_	_	_	_	**
D-049	Nen Adhesiva Ter	_	-	-	-	-		-	-	-	•	-	-	• **
B-551	Non-Adnesive Tag	-	-	-	-	-	•	-	-	-	-	-	-	•
B-505	Metallized Polyester	-	-	-	-	-	•	-	-	-	-	-	-	-
B-569	Low-Halide Polyester	-	-	-	-	-	•	-	-	-	•	-	-	•
B-581	Repositionable vinyi	-	-	-	-	-	•	-	-	-	•	-	-	• **
B-584	Retro Reflective	-	-	-	-	-	•	-	-	-	-	-	-	• **
B-593	Raised Panel	-	•	-	-	-	-	-		-	-	-	-	-
B-595	Outdoor Vinyl	-	-	-	-	-	•	-	-	-	•	• ***	• ***	• **
B-/1/	Polyimide	-	٠	-	-	-	-	-	-	-	-	-	-	-
B-718	Polyimide	-	•	-	-	-	-	-	-	-	-	-	-	-
B-719	Polyimide	-	•	-	-	-	-	-	-	-	-	-	-	-
B-724	Matte Amber Polyimide	•	-	-	-	-	-	-	-	-	-	-	-	-
B-727	Glossy White Polyimide	-		-	-	-	-	-	-	-	-	-	-	-
B-854	ToughWash® Metal Detectable	_	•	_	-	_	-	-	-	_	-	-	_	-
B-855	ToughWash	-	٠	-	-	-	-	-	-	-	-	-	-	-
B-7425	Polypropylene	-	-	-		-	-	-	-	-		-	-	-
B-7425-AC	Polypropylene	-	-	-		-	-	-	-	-	-	-	-	-
B-7569	Vinyl Film	_	_	-	-	-		_	_	_	_	_	-	_
B-7641	Polyolefin	٠	٠	-	-	٠	-	-	-	-	-	-	-	-
B-7642	Polyolefin	٠	-	-	•	-	_	-	-	-	_	-	-	-
B-7643	Polyurethane	-	٠	-	-	-	-	-	٠	-	-	-	-	-

Refer to the corresponding B-number Tech Data Sheet for complete material information at **BradyID.com/techdata**. * B30-R4500-SV ribbon for use with B-342 black sleeves only: B30-R6700-WT ribbon for use with B-345 black sleeves only. **Colored ribbons optimized for use on white material. Test use on other material colors for suitability to your application. ***Use B30-R10000-YL for printing yellow onto white. Use B30-R10000-YL2 for printing yellow onto other colors of B-595.

Software for easier label creation

Innovation is at the core of our business. And software is no exception. Our intuitive software options make label creation even easier and more efficient. When you pair the BradyPrinter i3300 Industrial Label Printer with these software options, you get automatic label setup and guidance through the label creation process to minimize errors and make label creation a snap.



Brady Workstation Label Creation Software

Brady Workstation revolutionizes label and sign creation and printing by offering a variety of suites and apps that are easy and efficient to use. Choose and customize the tools you use to complete tasks exactly as you want without having to use print drivers. Try these software options:



Product and Wire Identification Suite – When you need to create product labels, wire and cable markers, and panel labels this suite is your go-to solution. It allows you to create basic text labels or labels with graphics and custom formatting and serialize and import data.



Scan and Print Suite – This suite allows you to consume data from a barcode scanner, keyboard or custom script to quickly populate your own custom label templates as part of a labeling workflow. Whether you need to replicate labels for lab specimens, re-label supplied parts for product assembly or label products based off work orders, this software suite can solve your workflow needs.



Laboratory Identification Suite – Ensure labels for all your lab samples and equipment are crisp, clear and contain all necessary information. Easily design and create labels for your cryovials, centrifuge tubes and bottles, conicals, slides and other samples in your laboratory.



Safety and Facility Identification Suite – Keep your facility safe and compliant with the Safety and Facility Identification Suite. This group of apps makes it easy to create custom signs, labels, pipemarkers, Lean / 5S labels and outdoor-grade facility labels. Choose this suite to add visual safety guidance to your facility.



GHS Labels App – Creating GHS labels is now surprisingly simple. We've streamlined the process so you can easily enter the data once from your SDS sheets, then create and print any size GHS label at any time. You can also auto-populate your GHS label using the built-in chemical database. Need labels with multiple languages? Those are also supported in the app.

Other apps and suites are available:



1. Go to Workstation.BradyID.com.



Fill the workstation with the apps and suites you want and leave out the ones you don't.

For more information on Brady Workstation apps and suites, go to Workstation.BradyID.com.



Printer specifications

Model(s):	2200 Industrial Label Printer
Media alignment	Center justified
liser Interface:	
Display type	Touchscreen color LCD
Display size (diagonal)	3.5 in (88.90 mm)
Display resolution (h x w)	240 x 320 pixels
Display languages	Bulgarian, Chinese (simplified), Chinese (traditional), Croatian, Czech, Danish, Dutch, English, Estonian, Finnish, French (Canadian), French, German, Hungarian, Italian, Korean, Norwegian, Polish, Portuguese (Brazilian), Portuguese (Iberian), Romanian, Russian, Slovakian, Slovenian, Spanish (Iberian), Spanish (Latin America), Swedish, Thai, Turkish
Display status bar	Ribbon and label part number installed, amount of supplies remaining, Wi-Fi connection, Ethernet connection, receiving data icon, ready state/error state,
Print Head / Printing Characteristics:	
Print resolution	300 dpi
Print method	Thermal transfer
Print color capability	Single print color
Print speed	Up to 4 in./sec. (101.60 mm/sec.)
Print width (max, cross-web)	4.015 in. (101.98 mm)
Print length (max, down-web)	5.0 ft. (1.52 m)
Media cut-off	Auto cutter built in (all models)
Intelligent printing capability	Yes - reads datachip on supplies for no waste printing and auto label setup in software
Media loading/handling	Labels: In cartridge, drops into place, 15 sec. changeover Bibbon: In cartridge, snaps into place, 5 sec. changeover
Media width (cross-web incl liner)	0.71 to 4.25 in. (18.03 to 107.95 mm)
Label width (cross-web)	0.25 in. to 4.25 in. (6.35 mm to 107.95 mm) continuous liner-less media 0.25 in. to 4.015 in. (6.35 mm to 101.98 mm) other media
Label length (down-web)	0.25 in. (6.35 mm) min. die cut media 0.50 in. (12.7 mm) min. continuous media
Media thickness**	0.0024 in. to 0.031 in. max (0.061 mm to 0.787 mm) label media 0.070 in. max (1.778 mm) B-593 push button media 0.043 in. max (1.092 mm) heat shrink sleeves
Media roll o.d. (max)	4.30 in. (109.22 mm) when specifying a custom part
Media roll core i.d.	n/a (media integrated in cartridge roll)
Media roll winding	n/a (media integrated in cartridge roll)
Media styles	All media are on an integrated cartridge roll with part data on smart cell. Die cut media, continuous media, tagstock liner-mounted, tagstock linerless, perforated materials, adhesive labels, heat-shrink sleeves size 094 and larger (single and double-sided with 2-pass print), self-laminating cable labels, zip-tie cable tags, raised panel push button labels, rapido-style cable tags, Permashield style labels, pre-printed GHS labels, safety and facility identification outdoor grade labels
Media material types	PE (polyethylene), PET (polyester), PET Metallized, PU (polyurethane), PVC (vinyl), PVF (polyvinyl fluoride), PVDF (polyvinylidene fluoride), PP (polypropylene), PI (polyimide), Polyamide, Polyether Polyurethane (Heatex [™]), Raised Panel Push Button material, Paper, Destructible materials, Tamper-Evident and Tamper-Resistant materials, 8-10 year Outdoor Vinyl, 10-hour Glow-in-the-Dark material, Retroreflective labels, Printable Floor Marking Tape, Nylon and Vinyl cloth, Wash-Down materials, Extreme Temperature Laboratory materials, labels for lab staining (slides), other materials not listed
Media parts offering	800+ stock parts and custom (made-to-spec) parts
Ribbon Characteristics:	000 # (00 00 m)
Ribbon length (max)	200 IT. (60.96 M)
Ribbon roll core i d	n/a (nuppon integrated in cartridge)
Ribbon width (cross-web)***	4.33 in (109.98 mm)
Ink side	n/a (ribbon integrated in cartridgeguaranteed correct

Processor 32 bit 800 MHz clock rate Memory (RAM) 512 MB Data storage (IFFS) 195 MB SD card slot (SDHC, SDXC) n/a Internal batery For internal date and time (RTC) Data storage when power off Yes Physical / Operational Characteristics: 9.5 in. x 9.0 in. x 12.0 in. (241.30 mm x 304.80 mm) Weight (empty) 11.5 lbs Power supply 101 to 240V AC, 50/60 Hz Power consumption <10W standby/70W operating / 480W max Operating environment 50 to 104° F (10 to 40° C) / 10 - 85% RH non condensing Storage environment CCE, FCC class A, CUL. Contact Brady for up-to-date list of environmental compliance information and agency approvals and/or marks covering over 75 countries (awarded or applied for) Font types (resident) Artal, Courier New, Times New Roman, Trebuchet MS, Verdana, Tahoma Font types (resident) Artal, Courier New, Times New Roman, Trebuchet MS, Verdana, Tahoma Font types (resident) Artal, Courier New, Times New Roman, Trebuchet MS, Verdana, Tahoma Font types (resident) Artal, Courier New, Times New Roman, Trebuchet MS, Verdana, Tahoma Font types (resident) Artal, Courier New, Times New Roman, Trebuchet MS, Verdana, Tahoma	Electronics:	
Memory (RAM) 512 MB Data storage (IFFS) 196 MB SD card slot (SDHC, SDXC) rvla Internal battery For internal date and time (RTC) Data storage when power off Yes Physical / Operational Characteristics: 9.5 in x 9.0 in x 12.0 in. Dimensions (closed) (h x w x d) (241.30 mm x 228.60 mm x 304.80 mm) Weight (empty) 11.5 lbs Power supply 101 to 2400 AC, 50/60 Hz Power consumption < 10W standby / 70W operating / 480W max	Processor	32 bit 800 MHz clock rate
Data storage (IFFS) 195 MB SD card slot (SDHC, SDXC) n/a Internal battery For internal date and time (RTC) Data storage when power off Yes Physical/Operational Characteristics 9.5 in, x 9.0 in, x 12.0 in, (241.30 mm x 228.60 mm x 304.80 mm) Weight (empty) 11.5 lbs Power consumption <10W standby/70W operating / 480W max	Memory (RAM)	512 MB
SD card slot (SDHC, SDXC) n/a Internal batery For internal date and time (RTC) Data storage when power off Yes Physical / Operational Characteristics: 9.5 in. x 9.0 in. x 12.0 in. Dimensions (closed) (h x w x d) 9.5 in. x 9.0 in. x 12.0 in. Weight (empty) 10.1 to 240V AC, 50/60 Hz Power consumption <100 to 104° F(10 to 40° C) / 10.85% RH non	Data storage (IFFS)	195 MB
Internal battery For internal date and time (RTC) Data storage when power off Yes Physical / Operational Characteristics: Dimensions (closed) (h x w x d) 9.5 in x 9.0 in x 12.0 in. (241.30 mm x 228.60 mm x 304.80 mm) Weight (empty) 11.5 lbs Power supply 10 to 240V AC, 50/60 Hz Power consumption < 10W standby / 70W operating / 480W max Operating environment	SD card slot (SDHC, SDXC)	n/a
Data storage when power off Yes Physical / Operational Characteristics: 9.5 in, x 9.0 in, x 12.0 in, (241.30 mm x 228.60 mm x 304.80 mm) Weight (empty) 11.5 lbs Power supply 101 to 240V AC, 50/60 Hz Power supply 101 to 240V AC, 50/60 Hz Power consumption <10W standby / 70W operating / 480W max	Internal battery	For internal date and time (RTC)
Prinsions (closed) (h x w x d) 9.5 in. x 9.0 in. x 12.0 in. (241.30 mm x 228.60 mm x 304.80 mm) Weight (empty) 11.5 lbs Power consumption <101 to 240V AC, 50/60 Hz	Data storage when power off	Yes
Dimensions (closed) (h x w x d) (241.30 mm x 228.60 mm x 304.80 mm) Weight (empty) 11.5 lbs Power supply 101 to 240V AC, 50/60 Hz Power consumption <10W standby / 70W operating / 480W max	Physical / Operational Characteristics:	
Weight (empty) 11.5 lbs Power consumption <10W standby / 70W operating / 480W max	Dimensions (closed) (h x w x d)	(241.30 mm x 228.60 mm x 304.80 mm)
Power supply 101 to 240V AC, 50/60 Hz Power consumption <10W standby / 70W operating / 480W max	Weight (empty)	11.5 lbs
Power consumption <10W standby/70W operating / 480W max	Power supply	101 to 240V AC, 50/60 Hz
Operating environment SUI to 104° F (10 to 40° C) / 10 - 85% RH non condensing Storage environment -4 to 122° F (-20 to 50° C) / 15 - 90% RH non condensing Transport environment -4 to 122° F (-20 to 50° C) / 15 - 90% RH non condensing Agency approvals EF (-20 to 50° C) / 15 - 90% RH non condensing Agency approvals CE, FCC class A, cUL. Contact Brady for up-to-date list of environmental compliance information and agency approvals and/or marks covering over 75 countries (awarded or applied for) Font stand Graphics: Arial, Courier New, Times New Roman, Trebuchet MS, Verdana, Tahoma Font types (resident) Arial, Courier New, Times New Roman, Trebuchet MS, Verdana, Tahoma Font types (storable to printer) True Type fonts storable to printer via jump drive Font types (storable to printer) True Type fonts storable to printer via jump drive Font types (storable to printer) True Type fonts storable to printer via jump drive Font types (storable to printer) True Type fonts storable to printer via jump drive Font types (storable to printer) True Type fonts storable to printer via jump drive Font types (storable to printer) True Type fonts storable to printer via jump drive Barcode symbologies - linear Arrow, line, rectangle, square, circle, ellipse, diamond, dot, star, triagle, seal, and cross	Power consumption	<10W standby / 70W operating / 480W max
Storage environment -4 to 122° F (-20 to 50° C) / 15 - 90% RH non condensing Transport environment -4 to 122° F (-20 to 50° C) / 15 - 90% RH non condensing Agency approvals CE, FCC class A, cUL. Contact Brady for up-to-date list of environmental compliance information and agency approvals and/or marks covering over 75 countries (awarded or applied for) Font sand Graphics: Arial, Courier New, Times New Roman, Trebuchet MS, Verdana, Tahoma Font types (resident) Arial, Courier New, Times New Roman, Trebuchet MS, Verdana, Tahoma Font types (storable to printer) TrueType fonts storable to printer via jump drive Font attributes Bold, italic, underlined Character sets ASCII Character set Graphic elements Arrow, line, rectangle, square, circle, ellipse, diamond, dot, star, triagle, seal, and cross Graphic formats BMP, GIF, JPEG, PNG Barcode symbologies - linear Code 39, Code 93, Code 128 A, B, C, EAN-8, EAN-13, EAN-131, HIBC, Interleaved 2 of 5 w check digit, UPC A, Aztec, QR Code, datamatrix Barcode symbologies - 2D Aztec, QR Code, pdf 417 Sizing: variable in height and ratio Rotation: 0°, 90°, 180°, 20° human-readable location density Interfaces and Connectivity: USB 2.0 hi-speed device port USB 2.0 hi-speed device port For PC connect 2 x USB host (back panel)	Operating environment	50 to 104° F (10 to 40° C) / 10 - 85% RH non condensing
Transport environment -4 to 122° F (-20 to 50° C) / 15 - 90% RH non condensing Agency approvals CE, FCC class A, cUL. Contact Brady for up-to-date list of environmental compliance information and agency approvals and/or marks covering over 75 countries (awarded or applied for) Font sand Graphics: Arial, Courier New, Times New Roman, Trebuchet MS, Verdana, Tahoma Font types (resident) Arial, Courier New, Times New Roman, Trebuchet MS, Verdana, Tahoma Font types (storable to printer) TrueType fonts storable to printer via jump drive Font attributes Bold, italic, underlined Character sets ASCII character set Graphic elements Arrow, line, rectangle, square, circle, ellipse, diamond, dot, star, triagle, seal, and cross Graphic formats BMP, GIF, JPEG, PNG Barcodes: Code 39, Code 93, Code 128 A, B, C, EAN-8, EAN-13, EAN/JAN 13, JAN-8, JAN-13, HIBC, Interleaved 2 of 5, Interleaved 2 of 9, Ocde, gat 417 Barcode symbologies - linear Sizing: variable in height and ratio Barcode attributes For PC connect Vuran-readable and human-readable location density Numan-readable and human-readable location density Interfaces and Connectivity: USB host (back panel) For scanner, keyboard, USB	Storage environment	-4 to 122° F (-20 to 50° C) / 15 - 90% RH non condensing
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Character sets ASCII character set Graphic elements Arrow, line, rectangle, square, circle, ellipse, diamond, dot, star, triagle, seal, and cross Graphic formats BMP, GIF, JPEG, PNG Barcodes: Code 39, Code 93, Code 128 A, B, C, EAN-8, EAN-13, EANUJAN 13, JAN-8, JAN-13, HIBC, Interleaved 2 of 5, Aztec, QR Code, pdf 417 Barcode symbologies - 2D Aztec, QR Code, pdf 417 Sizing: variable in height and ratio Rotation: 0°, 90°, 180°, 270° human-readable and human-readable location density Interfaces and Connectivity: USB 2.0 hi-speed device port USB 2.0 hi-speed device port For PC connect 2 x USB host (back panel) For scanner, keyboard, USB memory stick 1 x Ethernet 100 BASE-T For networking Wireless Brady Workstation (v4.4 or newer) & Workstation apps WHQL certified Windows® drivers**** Windows 7, 8, 8.1, 10, Server 2008, 2008 R2, 2012, 2012 R2, 2017 Printer command language BPL - scripting commands for sending scripts to the printer Options / Accessories: Replacement print heads Factory replaceable via Brady tech repair Replacement print rollers**** 4.53 in, (115 mm) width, factory replaceable via Brady tech repair 4.53 in duit-in a	Font attributes	Bold, italic, underlined
Graphic elements Arrow, line, rectangle, square, circle, ellipse, diamond, dot, star, triagle, seal, and cross Graphic formats BMP, GIF, JPEG, PNG Barcodes: Code 39, Code 93, Code 128 A, B, C, EAN-8, EAN-13, EAN, JAN-13, JAN-43, JAN-43, JAN-43, JAN-43, JAN-43, HIBC, Interleaved 2 of 5, Interleaved 2 of 5 w check digit, UPC A, Aztec, QR Code, datamatrix Barcode symbologies - 2D Aztec, QR Code, pdf 417 Sizing: variable in height and ratio Rotation: 0°, 90°, 180°, 270° human-readable in height and ratio Barcode attributes For PC connect USB 2.0 hi-speed device port For PC connect 2 x USB host (back panel) For scanner, keyboard, USB memory stick 1 x Ethernet 100 BASE-T For networking Wireless Factory installed Wi-Fi 802.11b/g/n (wireless printer model only) Stiftware and Firmware: Label creation software Label creation software Brady Workstation (v4.4 or newer) & Workstation apps WHQL certified Windows® drivers**** Windows 7, 8, 8.1, 10, Server 2008, 2008 R2, 2012, 2012 R2, 2017 Printer command language BPL - scripting commands for sending scripts to the printer Options / Accessories: Replacement print heads Replacement print rollers**** Factory replaceable via Brady tech repair 4.53 in, (115 mm) width, factory repl	Character sets	ASCII character set
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Barcodes: Code 39, Code 93, Code 128 A, B, C, EAN-8, EAN-13, EANUJAN 13, JAN-8, JAN-13, HIBC, Interleaved 2 of 5, Interleaved 2 of 5 w check digit, UPC A, Aztec, QR Code, datamatrix Barcode symbologies - 2D Aztec, QR Code, pdf 417 Sizing: variable in height and ratio Rotation: 0°, 90°, 180°, 270° human-readable and human-readable location density Interfaces and Connectivity: USB 2.0 hi-speed device port For PC connect 2 x USB host (back panel) For scanner, keyboard, USB memory stick 1 x Ethernet 100 BASE-T Factory installed Wi-Fi 802.11b/g/n (wireless printer model only) Software and Firmware: Label creation software Brady Workstation (v4.4 or newer) & Workstation apps WHQL certified Windows® drivers**** Windows 7, 8, 8.1, 10, Server 2008, 2008 R2, 2012, 2012 R2, 2017 Printer command language PPL - scripting commands for sending scripts to the printer Options / Accessories: Replacement print heads Factory replaceable via Brady tech repair A.53 in, (115 mm) width, factory replaceable via Brady tech repair if worn Auto cutter Built-in auto cutter (on all models)	Graphic formats	BMP, GIF, JPEG, PNG
Code 39, Code 93, Code 128 A, B, C, EAN-8, JAN-13, HIBC, Interleaved 2 of 5, Interleaved 2 of 7, Interleaved 2, Interlea	Barcodes:	
Barcode symbologies - 2D Aztec, QR Code, pdf 417 Sizing: variable in height and ratio Rotation: 0°, 90°, 180°, 270° Barcode attributes Rotation: 0°, 90°, 180°, 270° Interfaces and Connectivity: USB 2.0 hi-speed device port USB 2.0 hi-speed device port For PC connect 2 x USB host (back panel) For scanner, keyboard, USB memory stick 1 x Ethernet 100 BASE-T For networking Wireless Factory installed Wi-Fi 802.11b/g/n (wireless printer model only) Software and Firmware: Label creation software Label creation software Brady Workstation (v4.4 or newer) & Workstation apps WHQL certified Windows® drivers**** 2012 R2, 2017 Printer command language BPL - scripting commands for sending scripts to the printer Options / Accessories: Replacement print heads Replacement print rollers**** Factory replaceable via Brady tech repair Acto cutter Built-in auto cutter (on all models)	Barcode symbologies - linear	Code 39, Code 93, Code 92, Code 128 A, B, C, EAN-8, EAN-13, EAN/JAN 13, JAN-8, JAN-13, HIBC, Interleaved 2 of 5, Interleaved 2 of 5 w check digit, UPC A, Aztec, QR Code, datamatrix
Barcode attributes Sizing: variable in height and ratio Rotation: 0°, 90°, 180°, 270° hurman-readable and hurman-readable location density Interfaces and Connectivity: USB 2.0 hi-speed device port USB 2.0 hi-speed device port For PC connect 2 x USB host (back panel) For scanner, keyboard, USB memory stick 1 x Ethernet 100 BASE-T For networking Wireless Factory installed Wi-Fi 802.11b/g/n (wireless printer model only) Software and Firmware: Label creation software Label creation software Brady Workstation (v4.4 or newer) & Workstation apps WHQL certified Windows® drivers**** Windows 7, 8, 8.1, 10, Server 2008, 2008 R2, 2012, 2012 R2, 2017 Printer command language BPL - scripting commands for sending scripts to the printer Options / Accessories: Replacement print heads Replacement print rollers**** 4.53 in. (115 mm) width, factory replaceable via Brady tech repair if worn Auto cutter Built-in auto cutter (on all models)	Barcode symbologies - 2D	Aztec, QR Code, pdf 417
Barcode attributes Rotation: 0°, 90°, 180°, 270° human-readable and human-readable location density Interfaces and Connectivity: USB 2.0 hi-speed device port 2 x USB host (back panel) For PC connect 2 x USB host (back panel) For networking 1 x Ethernet 100 BASE-T For networking Wireless Brady Workstation (v4.4 or newer) & Workstation apps WHQL certified Windows® drivers**** Windows 7, 8, 8.1, 10, Server 2008, 2008 R2, 2012, 2012 R2, 2017 Printer command language Printer Options / Accessories: Replacement print heads Factory replaceable via Brady tech repair 4.53 in. (115 mm) width, factory replaceable via Brady tech repair fworn Auto cutter Built-in auto cutter (on all models)		Sizing: variable in height and ratio
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Contention Interfaces and Connectivity: USB 2.0 hi-speed device port For PC connect 2 x USB host (back panel) 1 x Ethernet 100 BASE-T For networking Wireless Factory installed Wi-Fi 802.11b/g/n (wireless printer model only) Software and Firmware: Label creation software Brady Workstation (v4.4 or newer) & Workstation apps WHQL certified Windows® drivers**** Windows 7, 8, 8.1, 10, Server 2008, 2008 R2, 2012, 2012 R2, 2017 Printer command language BPL - scripting commands for sending scripts to the printer Options / Accessories: Replacement print heads Replacement print rollers**** Factory replaceable via Brady tech repair Auto cutter Built-in auto cutter (on all models)		density
USB 2.0 hi-speed device port For PC connect 2 x USB host (back panel) For scanner, keyboard, USB memory stick 1 x Ethernet 100 BASE-T For networking Wireless Factory installed Wi-Fi 802.11b/g/n (wireless printer model only) Software and Firmware: Brady Workstation (v4.4 or newer) & Workstation apps WHQL certified Windows® drivers**** Windows 7, 8, 8.1, 10, Server 2008, 2008 R2, 2012, 2012 R2, 2017 Printer command language BPL - scripting commands for sending scripts to the printer Options / Accessories: Replacement print heads Replacement print rollers**** Factory replaceable via Brady tech repair 4.53 in, (115 mm) width, factory replaceable via Brady tech repair if worn Auto cutter	Interfaces and Connectivity:	denoty
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1 x Ethernet 100 BASE-T For networking Wireless Factory installed Wi-Fi 802.11b/g/n (wireless printer model only) Software and Firmware: Label creation software Label creation software Brady Workstation (v4.4 or newer) & Workstation apps WHQL certified Windows® drivers**** Windows 7, 8, 8.1, 10, Server 2008, 2008 R2, 2012, 2012 R2, 2017 Printer command language BPL - scripting commands for sending scripts to the printer Options / Accessories: Replacement print heads Replacement print rollers**** 4.53 in. (115 mm) width, factory replaceable via Brady tech repair fworn Auto cutter Built-in auto cutter (on all models)	2 x USB host (back panel)	For scanner, keyboard, USB memory stick
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Options / Accessories: Replacement print heads Factory replaceable via Brady tech repair Replacement print rollers*** 4.53 in. (115 mm) width, factory replaceable via Brady tech repair if worn Auto cutter Built-in auto cutter (on all models)	Printer command language	BPL - scripting commands for sending scripts to the printer
Replacement print heads Factory replaceable via Brady tech repair Replacement print rollers*** 4.53 in. (115 mm) width, factory replaceable via Brady tech repair if worn Auto cutter Built-in auto cutter (on all models)	Options / Accessories:	
Replacement print rollers*** 4.53 in. (115 mm) width, factory replaceable via Brady tech repair if worn Auto cutter Built-in auto cutter (on all models)	Replacement print heads	Factory replaceable via Brady tech repair
Auto cutter Built-in auto cutter (on all models)	Replacement print rollers***	4.53 in. (115 mm) width, factory replaceable via Brady
	Auto cutter	Built-in auto cutter (on all models)

User should test the media with the application. Print performance on small labels or a part that is below the minimum label dimension spec. is dependent on multiple factors, including print speed, quantity in print run, heat setting and the size/layout of the printed elements.
 Use narrow print roller with narrow media, but to avoid head damage, ALWAYS be sure roller is wider than total media width, and ribbon is wider than the roller width.
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Source Industrial Services Inc. 253 Summerlea Rd., Units 6-7 Brampton, ON L6T 5A8 Source Industrial Services Inc. 253 Summerlea Road, Units 6 & 7 Brampton, ON L6T 5A8

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416-948-9082

Manual Hoists Inspection Form

Timmins Water Treatment Plant 110 Feldman Rd Timmins, ON



Manual Hoists Completed by: Ricky Guay on 07/05/2024		Туре:	Chainfall		
		Brand:	CM		
Location:	Timmins	Model Number:	CM CYCLONE		
Identifier:	CM 2	Serial Number:	M2010		
		Hoist Capacity:	2		

Priorities Found: **11 - Good**

In	spe	ction Data	
	1.	Proper Operation	(P) Pass
	2.	Hoist Brake	(P) Pass
	3.	Hook, Hook Latch, Hook Retaining Hardware	(P) Pass
	4.	Load Chain & Proper Reeving	(P) Pass
	5.	Evidence of Loose Bolts Nuts or Rivets	(P) Pass
	6.	Evidence of Damaged, Worn, Corroded, Cracked or Distorted Parts	(P) Pass
۲	7.	Evidence of Damage or Excessive Wear to Load Sprockets, Idler Sprockets, or Hand Chain Wheel	(P) Pass
	8.	Evidence of Worn, Glased, or Oil-Contaminated Friction Discs, Worn Pauls, Cams or Ratchet, Corroded, Stretched ro Broken Paul Springs in Brake Mechanisum	(P) Pass
	9.	Evidence of Damage of Supporting Structure or Trolley if Used	(P) Pass
	10.	Label / Markings	(P) Pass
	11.	End Connection of Load Chain	(P) Pass
	12.	Date of Inspection	07/05/2024
	13.	Inspecting Technician Signature	Ricky



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416-948-9082

Manual Hoists Inspection Form

Timmins Water Treatment Plant 110 Feldman Rd Timmins, ON



Manual Hoist	5	Туре:	Chainfall	
Completed by:	Ricky Guay on 07/05/2024	Brand:	СМ	
Location:	Timmins	Model Number:	648	
Identifier:	PUMP ROOM	Serial Number:	STHA002FN	
		Hoist Capacity:	2	

Priorities Found: **12 - Good**

In	spe	ction Data	
	1.	Proper Operation	(P) Pass
	2.	Hoist Brake	(P) Pass
	3.	Hook, Hook Latch, Hook Retaining Hardware	(P) Pass
	4.	Load Chain & Proper Reeving	(P) Pass
	5.	Evidence of Loose Bolts Nuts or Rivets	(P) Pass
	6.	Evidence of Damaged, Worn, Corroded, Cracked or Distorted Parts	(P) Pass
	7.	Evidence of Damage or Excessive Wear to Load Sprockets, Idler Sprockets, or Hand Chain Wheel	(P) Pass
	8.	Evidence of Worn, Glased, or Oil-Contaminated Friction Discs, Worn Pauls, Cams or Ratchet, Corroded, Stretched ro Broken Paul Springs in Brake Mechanisum	(P) Pass
	9.	Evidence of Damage of Supporting Structure or Trolley if Used	(P) Pass
	10.	Label / Markings	(P) Pass
	11.	End Connection of Load Chain	(P) Pass
	12.	Other	(P) Pass
	13.	Date of Inspection	07/05/2024
	14.	Inspecting Technician Signature	Ricky





Subject:	City of Timmins – HLP 6, 7 and New BW Pump DeltaV Scope
Date:	07/November/2024
To:	City of Timmins
Attn:	Mark Johnston
From:	Manuprasad P.M., Manuprasad.pm@lakesidecontrols.com

Thank you for your interest in DeltaV Solutions and Lakeside services. In response to your request, please review the following information.

If you have any questions, comments, or would like to issue a purchase order, please feel free to contact Lakeside Process Controls. We look forward to helping you in all your automation needs.

Revision Log

Rev 0	Initial revision
Rev 1	Included BW Pump scope
Rev 2	Updated the IO table based on the comment from CIMA+

Proposal Basis

System design and sizing was established based on the following design input and clarification documents supplied by CIMA+

- Lakeside Scope email on 23/October/2024 •
- Feedback on Rev 01 from CIMA+
- P&ID document shared on 07/November/2024

Scope of Supply

The following items are included in the proposal: DeltaV System ID: 0001-0001-7378

- Project Management and ISO9001-2015 quality assurance
- Control Narrative Development for HLP#6, 7 and Backwash Pump Sequence. (Assuming one revision consisting of initial meeting, Lakeside writes narrative, CIMA/Timmins comments, comment incorporated in final version)
- Meetings with CIMA+ and City to develop, review and finalize the Control Narrative for all the 3 pumps mentioned above. (Assuming 3 meetings 1-2 hours in length)
- DeltaV software design and configuration (programming) the scope is listed below and based on the control narrative developed with CIMA and the City of Timmins
 - Configuration includes Control Modules for I/O listed using Lakeside's standard configuration \cap library
 - DeltaV Software Configuration for HLP#6, 7
 - Graphics changes for HLP#6 & 7
 - DeltaV Software Configuration (Sequence Logic) for new Backwash Pump.





- Graphics changes to include new Backwash Pump to existing BW graphics page.
- New BW pump sequence logic based on the existing BW pump with some changes.
- modification of 4 existing graphics
- Software Factory Acceptance Test at Lakeside Mississauga facility (up to 1 x 8 Hour Day)
 - Low fidelity (simple tiebacks) will be used to simulate the process. The purpose of these tiebacks is to demonstrate the functioning of the control system logic and not to simulate the process.
- Site services
 - Lakeside personnel working 10, 8-hour days on-site (Monday to Friday) with two trips to site.
 - Travel to site on Sunday and return on Saturday
 - \circ $\;$ Two weeks on-site is estimated to be sufficient to cover these activities.
 - SAT
 - Coordination with general contractor
 - Support during commissioning
 - The scheduling and timing of these activities is outside of Lakeside's control. If the time required exceeds the estimated days, services will be provided on a time and expense basis. Please refer to section for site rates

Work Not Included

The proposal does not include any items not listed above, as well as the following:

- Design input information such as P&IDs, logic diagrams, loop drawings, control narratives (beyond those stated in the scope of work), user requirement specification (URS), functional design specification (FDS), I/O list, etc
- Any equipment not outlined in the bill of materials
- Programming of the 3rd party supplied equipment, such as PLCs, MCCs, VFDs, etc.
- All signal, power and network cabling external to cabinets are supplied, installed, and terminated by others including the wiring of field cables into the DeltaV Cabinets.
- Installation of equipment at vendor's facility or end user site
- Front End Engineering Design and onsite audit/study
- DeltaV hardware
- Drawing updates
- DeltaV software and licenses
- Hardware design and drawings.
- Hardware Factory Acceptance Test
- Functional Design Specification and Software Design Specification
- Training
- Troubleshooting for one year warranty period from date of substantial performance of the construction project





Notes and Assumptions

- Please be advised that Lakeside requires a purchase order to allow us to accommodate this work and meet your schedule. This would give us enough time to assign the right resources, procure the materials, and plan for travel and accommodation at site.
- Any change in scope, scheduling, or assumptions may result in change in the final billing. Lakeside reserves the right to requote an overall system price if changes are requested as this is not a component-based offering.
- Any additional services beyond the estimated services will be charged on actual time and expenses spent based on the rates provided.
- DeltaV Books Online will be provided for Operation and Maintenance Manuals.
- Guardian Support must be active during the scheduled upgrade / PM.
- Lakeside standard QA documents will be used for this project.
- All Project documentation and control system configuration will be in English.
- All required design input data will be provided by the purchaser in native electronic format such as process control narratives, P&IDs, I/O lists showing I/O tag name, descriptions, I/O type, ranges, Instrument Index, motor/VFDs lists, Alarm lists, interlock and permissive lists, interface specifications, data map for any 3rd party interfaces, Cause and Effect matrix, etc.
- Hardware
 - Following table shows the number of IOs to be added for each pump system which are all hardwired to DeltaV IO cards by customer/others.

SN	Pumps	AO	AI	DO	DI	Total
1	HLP#6	1	1	1	4	7
2	HLP#7	1	1	1	4	7
3	BW Pump	0	0	1	4	5
4	MOV-14	1	1	0	2	4
5	MOV-15	0	0	2	4	6
6	PIT-14	0	1	0	0	1
7	FIT-14	0	1	0	0	1
	Total/Signal Type	3	5	5	18	31

- It is assumed that all the 3 pumps mentioned above are communicating through hardwired signals. As on 07/November/2024, there are enough spare IOs in the IO slots under CP-B (for BW pump and HLP#7) and CP-A to terminate the signals in the table above.
- It is assumed that there is enough spare DST license and Historian in the system to accommodate the newly added signals. This proposal does not include any scale up license.
- This proposal does not include addition of any IO system hardware for communicating to the VFD for HLP# 6 & 7 via Serial/Bus communication method.
- All the cabling external to the cabinet and cable termination at the DeltaV system for the HLP#6,
 7 and new backwash pump will be in the scope of customer/others.
- All hardware design, assembly, and testing will be completed by others. Lakeside has a team of hardware design engineers and a full panel shop to fabricate DeltaV panels and a quote for this service can be provided upon request.





- Software
 - It is assumed new Backwash pump will have its own sequence logic for software configuration which will be similar to the existing Backwash pump 500-P-26 but with some changes. City of Timmins, CIMA+ will provide the list of changes to be done on the new backwash pump sequence to Lakeside.
 - The proposal includes the software configuration & graphics modification services to integrate the HLP#6, 7 and new backwash pump to the existing DeltaV system.
 - This proposal also includes the time estimated for the following services.
 - Development of Process Control Narrative for HLP 6 and 7 (draft and final) 1 Revision consisting of initial meeting, Lakeside writes narrative, CIMA/Timmins comments, comment incorporated in final version
 - Development of Process Control Narrative for backwash pump system (draft and final) 1 Revision consisting of initial meeting, Lakeside writes narrative, CIMA/Timmins comments, comment incorporated in final version
 - Correspondence with CIMA+ and City to obtain information to develop the PCNs Assuming 3 meetings 1-2 hours in length
 - All software design, configuration, and testing will be completed by Lakeside.
 - The proposed software configuration is based on the Lakeside standard library for software control modules and operator graphics. Any deviations may result in additional costs.
 - Graphics/documentation will be provided in English only.
 - Soft I/O from 3rd party PLCs are consolidated in the respective PLC program and organized in datasets in contiguous order.
- Site Time
 - The proposal includes an estimated on-site support service for duration of 10 x 8 Hour days for 1 x Lakeside personnel at site.
 - On site commissioning is assumed to be completed on Monday to Friday. The estimate does not include working on weekends.
 - It is assumed that all work will be performed continuously during the period of resource commitment. Standby time/idle time will be chargeable as per the applicable rates.
 - PLC vendors will be present during start up and commissioning for all 3rd party package support.
- Lakeside Terms and Conditions Governing Rates and Travel apply to any required site work.

Pricing Summary – Base Bid

ITEM	DESCRIPTION	CAN\$
1	Services Supply: Project Management, Control Narrative Development of HLP and BW Pump, DeltaV Configuration & Graphics changes, Documentation, FAT, ISO 9001 QA	
	Commissioning Services : 1x Lakeside Personnel working 10 x 8 Hour days of on-site DeltaV commissioning assistance - all expenses included, any additional services will be charged on a per diem basis.	
	Total Base Supply Proposal, Ex Works Mississauga	\$55,860.00

Lakeside Process Controls Ltd Head Office Mississauga (905) 412-0500
https://www.lakesidecontrols.com/ - info@lakesidecontrols.com





Pricing Summary - Terms

- Prices are firm for 15 days in Canadian Funds with all taxes extra.
 - Lakeside Process Controls Standard Terms and Conditions of Sale apply o https://www.lakesidecontrols.com/terms-conditions-of-sale/.
- Customer is deemed to have reviewed and accepted these terms and conditions unless Lakeside is notified in writing to the contrary.
- NOTE: The CAN\$/US\$ exchange rate at the time of proposal. Should the exchange rate change by more than 2% from time of proposal to time of purchase order, the purchase price will be adjusted to reflect this. The Bank of Canada website, http://www.bank-banque-canada.ca/en/rates/exchform.html will be used as the reference.

Delivery

• Ex Works: Lakeside – Mississauga

Payment Terms

- Net 30 Days
- Progress payments based on the following deliverables:

% of PO	Milestone Description
30%	Upon acceptance of Purchase Order
20%	Upon issue of Control Narrative for Approval
30%	Upon order for readiness for remote FAT.
20%	Upon commissioning of the HLP#6/7 and new BW Pump
	Logic.

• All estimated services will be billed based on actual time and expense. Payment for the estimated services is due as services are completed and will be invoiced monthly.

Change Orders

- Change orders received after purchase order acceptance by Lakeside Process Controls are subject to change order fees.
- Fees will be determined based on the nature of the requested changes.
- Process changes after receipt of order resulting in additional engineering or construction changes are subject to additional costs.

Equipment Warranty

• Warranty to be 12 months from installation or 18 months from shipping from the factory whichever expires first.





Scheduled Support Service Rates and Terms

Lakeside Process Controls Ltd. recognizes that support services can vary widely from project to project and from customer to customer. Different levels of services will often be required to support the design, configuration, documentation, installation and start-up of a project as well as ongoing management and maintenance of a process automation solution at existing sites. Lakeside Process Controls Ltd. maintains a staff of experienced systems professionals who can provide the scope of support services required for our customers process automation solutions.

Service Offering Category	Hourly Rate
Process Automation Engineering and Service (Software Configuration Services only)	\$189

*Lakeside can provide rates for other services based on request.





Terms and Conditions Governing Rates and Travel

- 1. Overtime (Ontario and Manitoba)
 - Monday Friday: after 8 hours @ 1.5x hourly rate, after 12 hours @ 2.0x hourly rate
 - Saturday: first 8 hours @ 1.5x hourly rate, after 8 hours @ 2.0x hourly rate
 - Sunday: @ 2.0x hourly rate
 - Holidays: @ 2.0x hourly rate
 - Where the customer has requested a departure time earlier than 6:30 a.m. overtime charges of 1.5x the hourly rate will apply, up to 6:30 a.m.
- 2. Please contact Lakeside Process Controls Services for rates for other works such as site inspection walkthrough, equipment maintenance requests, training and project commissioning so that this can be quoted separately and to determine if special block utilization rates apply.
- 3. Travel time is charged at applicable category hourly rate and is subject to overtime charges.
- 4. Travel by company or personal automobile will be billed at \$0.95/kilometer where applicable.
- 5. Lodging will be charged at cost +10%
- 6. Meals will be charged as follows: Breakfast @ \$15 / Lunch @ \$25 / Supper @ \$35
 - On multi-day trips, all meals will be charged, including final day where the technician has checked out of the hotel but is still required on site
 - On day trips, where the customer has requested a site arrive time that requires a departure time earlier than 6 a.m., breakfast will be charged. Lunch will be charged on all trips.
 - On day trips, where the home arrival time from site is 7 p.m. or later, supper will be charged.
 - Lunch will be charged on all day trips of four hours or more including travel.
- 7. Rate charge includes all calibration equipment required to service the equipment and systems Lakeside Process Controls sells (i.e.: laptop computer, GPS, multi-function calibrators, HART Communicator and standard hand tools). Additional equipment not required with servicing Lakeside Process Controls product would be charged at cost plus 10%, and would include items such as:
 - Calibration equipment/Software required for competitive equipment
 - Generators, heaters and all other non-standard items
- 8. If necessary, extra charges will be billed for costs of additional materials, consumables, 3rd party inspectors such as CSA, TSSA, and time in generating inspection documentation.
- 9. Any customer mandated requirement such as safety orientation, tests, meetings will be billed extra.
- **10.** Waiting or standby time on site beyond 0.5hrs and beyond Lakeside control will be billed accordingly- this includes but not limited to waiting for customer inspection, escorted access, waiting on other contractors or others, and testing mode such as LOTO, process or quality inspections.
- 11. HST is NOT included.
- **12.** Prices are subject to change without notice.
- **13.** Purchase Order required prior to technician dispatch or service initiation. Lakeside reserves the right to final acknowledgment of PO and reservation of personnel.
- 14. Delivery: Dependent on Lakeside Process Controls services resource availability.
- **15.** Any customer required site entry such as prequalification of documents (i.e. WSIB/WSB, insurance) and invoicing info to be made known in advance and in cases where customer to provide escorted access to plant
- **16.** Per Section 43 (3) of the Occupational Health and Safety Act our service personnel have the legal right to refuse unsafe work if it's believed that any equipment, workplace condition or contravention of the OHS is likely to endanger them or another person's health and safety.
- **17.** In certain situations and for safety purposes it may be required to dispatch two technicians to perform a job safely even though only one is requested. Field service rates will apply for both technicians.
- **18.** Lead time for service is 5 working days. Same day / next day service is available but a 30% expedite fee may apply.
- **19.** 20% surcharge shall be applicable for Material/Consumables at site if any.