Identification Solutions for Harsh Environments

PANDUIT®

Application Guide



Properly identifying products, premises, and infrastructure can significantly reduce the time to troubleshoot and repair. Without identifying components, wires/cables, etc., troubleshooting becomes a lengthy process of tracing and identifying the specific source of a problem. Conversely, by having components and wires/cables clearly identified, technicians can quickly go to the source of the problem. In certain cases, a properly identified infrastructure can save hours of troubleshooting time – which can translate into millions of dollars for critical applications. This guide provides an overview of Panduit identification solutions and how these products enhance performance and productivity in harsh environments.



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- **OEM**

Using this Guide

Applications

This section includes product recommendations for typical applications; always verify product suitability based on specific requirements and key selection criteria.

Key Selection Criteria

Utilize material and attribute charts to help select the Panduit products required to deliver superior performance in specific applications. Select the appropriate printers and tools to reduce time required and to take advantage of our lowest installed cost solutions. Consider Panduit permanent identification solutions to help provide legibility in harsh environments; the complete solution includes marker plates, tags, and ties and is available for use with on-site custom marking tools.

Product Information

Organized by part number, use each chart to assist with your product selection



Identification Systems

Reliable material/adhesive systems: Appropriate for specific applications and environments at lowest installed cost

Less waste: Panduit printers are designed to lower label material waste by as much as 65%



Ease of use to minimize printing time: With Panduit identification solutions, the time required for labeling can be reduced by up to 75%

Minimized installation time: Delivers pre-cut labels, continuous labels that can be cut to length, and ease of wire insertion to speed installation time



Heat Shrink Labels

Panduit heat shrink labels, available in multiple colors, grades, and sizes, for single or double-sided printing, offer a durable wire and cable identification solution for harsh environments with patented, time-saving features.



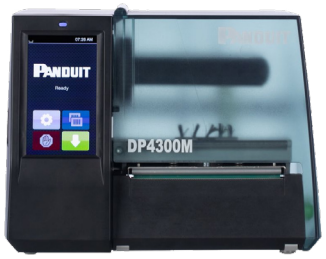
Raised Panel Labels

Panduit raised panel labels are designed for 20 years of outdoor exposure, tested for use in solar applications, and compliant with print-performance requirements of UL969 and MIL-STD-202G. The labels are compliant with IP69K for washdown applications and provide a rugged and professional appearance similar to engraved plates without the lengthy lead times or expensive engraving equipment.



Safety Identification

Panduit safety identification products are available in a wide selection of printing methods and materials. They are also available in a broad selection of colors, sizes, and legends to effectively communicate safety messages.



Permanent Identification

Panduit offers one of the widest ranges of permanent identification solutions in the industry. This solution includes stainless steel cable ties, marker plates, tags, and onsite marking tools for quick and easy identification in the field.



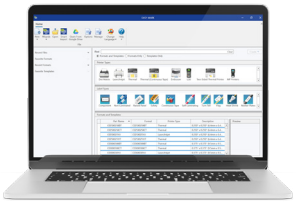
Mobile and Desktop Printers

The MP300 and MP200 mobile printers for remote and mobile labeling in harsh environments are ideal for printing labels on a job site. The compact design of the mobile printers provides mobility and is easily deployable. The versatile DP4300M, DP4300H, DP4600H, and DP4300HD thermal transfer desktop printers allow printing up to 11.8 inches per second with professional 300 dpi or 600 dpi resolution of labels and tapes up to four inches wide.



Identification Software

Easy-Mark™ Labeling Software helps create industry-compliant labels for harsh environments and saves up to 75% of the time required to generate labels for the energy infrastructure. Labeling Software saves up to 75% of the time required to generate labels for the industrial applications by utilizing identifiers previously created in Excel files to eliminate manual entry of data into labeling software.



Applications

Panduit offers a wide variety of identification systems to meet your specific application requirements. Common applications include:

Wire and Cable Labeling

Products encounter some of the harshest environments such as high temperature, frigid cold, salt water, sand, radiation, and chemical corrosion. Selection of the right material of construction is a key design criterion.

Oil & Gas, Power Generation, Industrial

Low-smoke emissions; resistance to chemical corrosion, high temperatures, ultra-violet light, flame, and high radiation





Product Recommendations:

- Marker Plates
- Tedlar Self-Laminating Labels
- Heat Shrink Labels
- Marker Plates

Industrial Electrical Equipment

Resistance to extreme solvents, oils, and chemicals



Product Recommendations:

- Stainless Steel Marker Plates (embossed)

Shipbuilding, Rail Transportation

Excellent fire safety properties, minimal smoke emissions



Product Recommendations:

- Halogen-Free Heat Shrink Labels
- Halogen-Free Marker Plates
- 316 Stainless Steel Marker Plates (embossed)

Harsh Environments

Flame retardant, extreme temperatures rated for harsh environments



Product Recommendations:

- Heat Shrink Labels
- High-Temperature, Flame-Retardant Marker Plates

Cable Tray Identification

The design requirements for this application are very similar to cable and wire identification applications. In addition, the products are often in remote locations.

Oil Rigs, Shipbuilding, Industrial

Ultra-aggressive adhesive, resistance to extreme temperatures and tears



Product Recommendations:

- Super-Tack Continuous Tapes
- Raised Panel Labels

Pipe Identification

This application is critical for ensuring personnel and equipment safety. During emergencies or plant turn-arounds, it becomes necessary to isolate sections of pipelines to prevent hazardous or explosive materials from becoming exposed.



Refineries, Chemical Plants, Waste Water Treatment

Flexible material; wide variety of color-coding options; resistance to chemical corrosion, ultra-violet light.

Product Recommendations:

- Continuous Tapes (Vinyl)
- Stainless Steel Marker Plates and Tags

Control Panel Identification

Control systems are critical to almost all industrial segments, and control panels are an essential component of these systems. Increasingly, control panels are network-enabled and play a lead role in maximizing network uptime. In order to reduce MTTR, the design of the panel should enable quick fault finding.

Indoor – Terminal Blocks, Ratings Plates, Relays, PLCs

Extreme temperatures, tear resistance, ultra-aggressive adhesive



Product Recommendations:

- Super-Tack Continuous Tapes
- Super-Tack Component Labels
- Raised Panel Labels
- Heat Shrink Labels

Control Panel Identification (continued)

Outdoor – Natural Gas Hydraulic Fracturing, Pumping Stations



Extreme UV resistance; strong holding power for rough, textured, and powder-coated surfaces.

Product Recommendations:

- Raised Panel Labels
- Stainless Steel Marker Plates and Tags

Solar Photovoltaic System Labeling



This labeling system is designed to meet required safety standards for PV installation labeling. All labels are designed to have extreme UV resistance for outdoor application and strong holding power for rough, textured, and powder-coated surfaces.

Enclosures, Disconnects, Junction Boxes

Extreme UV resistance; strong holding power for rough, textured, and powder-coated surfaces.

Product Recommendations:

- Polyester Labels
- Raised Panel Labels

Safety Identification

Panduit safety identification solutions are reliable for the protection of personnel from potential hazards. This includes creating a visual workplace to ensure that hazards are properly recognized and identified. It is also important to identify energy in a workplace (electrical, chemical, pneumatic, mechanical, hydraulic, kinetic, and others) with Lockout/Tagout devices, as well as facility signage and equipment labeling.

Offshore Platforms, Refineries, Petrochemical, Wind & Solar Farms



Labels and signs suitable for industrial environments with OSHA and ANSI compliant layouts and colors to communicate safety messages.

Product Recommendations:

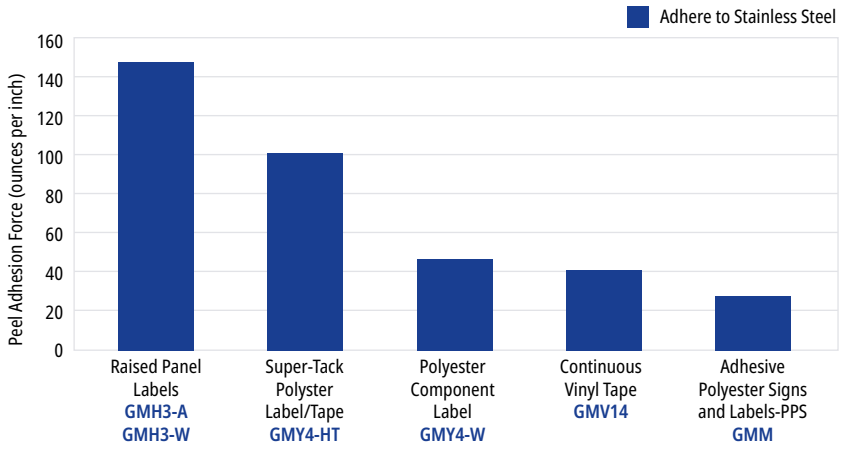
- Adhesive Polyester Signs and Labels
- 316 Stainless Steel Marker Plates

Legibility

Identification is permanent immediately after printing and remains legible even when exposed to weather, chemicals, and abrasion. Contrasting text and background colors enhance the readability of legends in all lighting conditions.

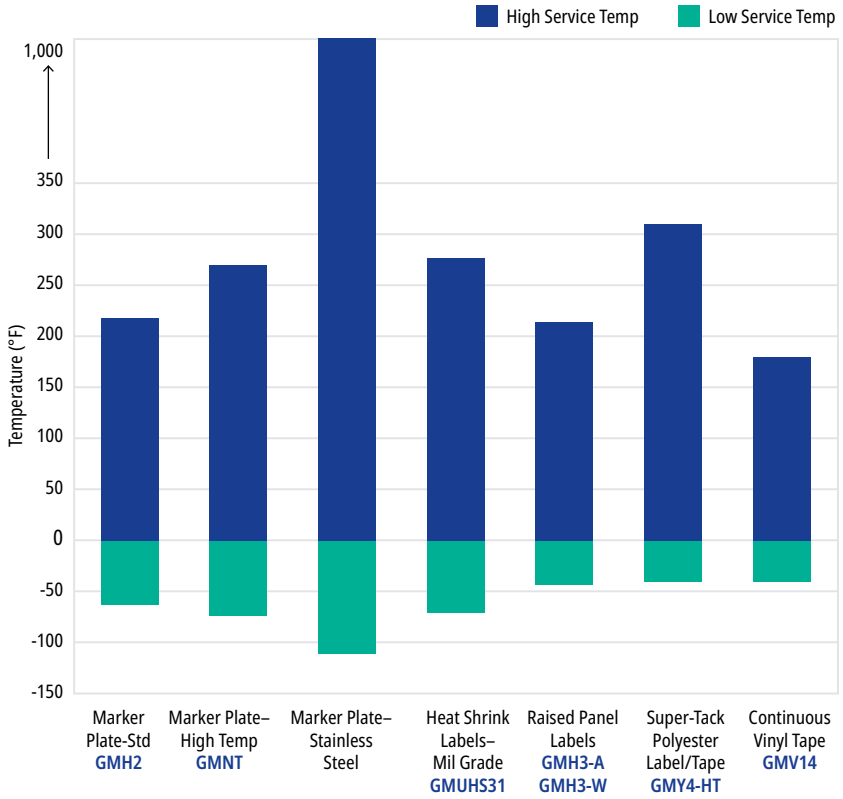
Adhesive Holding Power

Strong, permanent adhesives ensure that vital identification stays affixed to industrial surfaces. Special adhesive formulations provide strong grip and long-lasting performance in harsh applications.



Temperature Resistance

Identification products are engineered to perform in a wide range of temperature extremes. Materials and adhesives meet demanding conditions from freezing Arctic temperatures to intense desert heat.

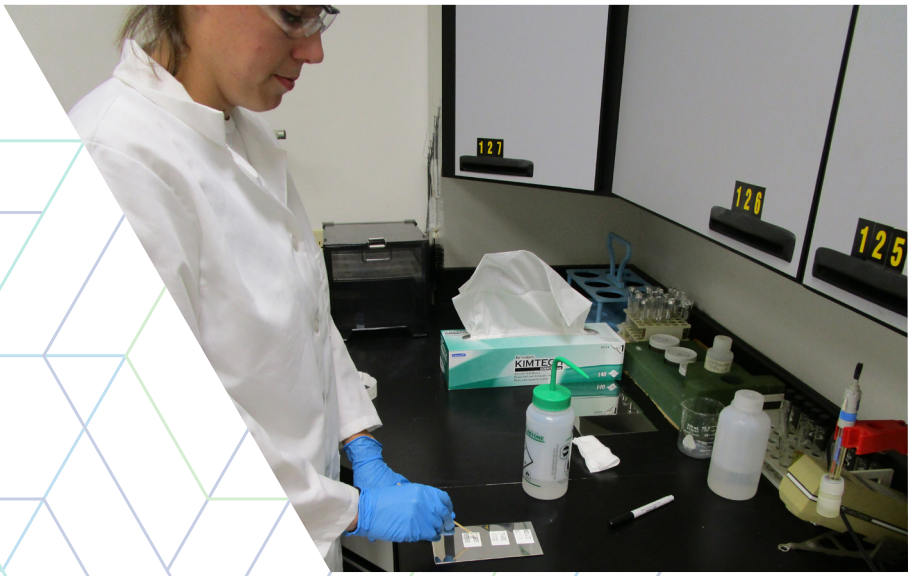


Chemical Resistance

The harshest environments often expose critical identification labels and markers to chemicals, fluids, and oils. Panduit materials are tested to the highest industry standards against some of the most extreme chemicals. Through this exhaustive research, Panduit products are preferred to meet solutions to meet SAE-AS5942, MIL-STD-883F Method 2015.13, Solutions A, B, and D, and MIL-STD-202G Method 215K, Solutions A, C, and D. These standards are particularly important for certain industries such as rail transit, aerospace, and industrial construction.

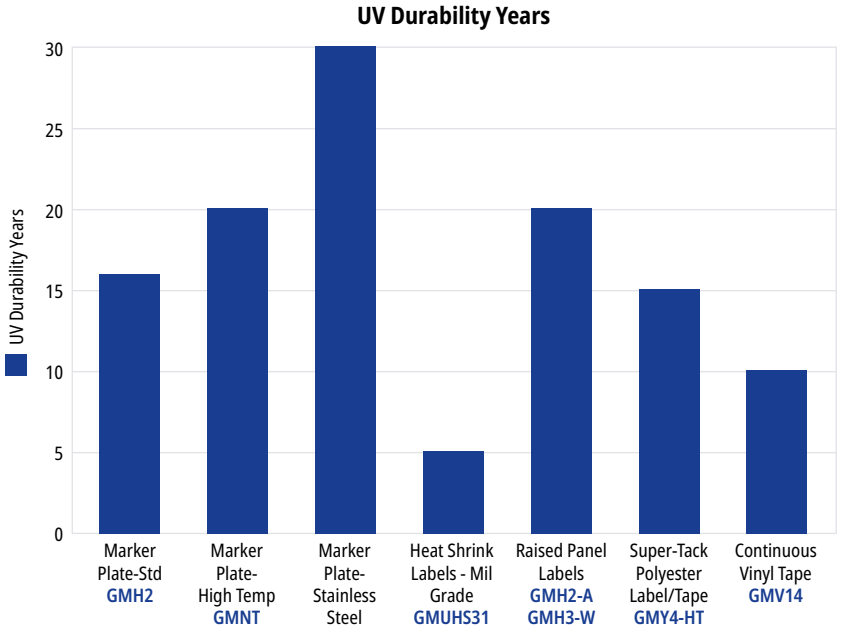
GROUP	Marker Plate-Std GMH2	Marker Plate-High-Temp GMNT	Heat Shrink Labels - Mil Grade GMUHS31	Heat Shrink Labels - Hal-Free GMHSHF	Heat Shrink Labels - Fluid Resist GMUFR31	Raised Panel Labels GMH3	Self-Lam - Vinyl GMV16	Self-Lam - Vinyl GMV17	Self-Lam - PVDF GMV17	Super-Tack Polyester Label/Tape GMY4-HT	Polyester Component Label GMY4-W	Continuous Vinyl Tape GMV14	Rigid Polyethylene Signs - PRS GMPE1	Flag Labels - AJT GMY4-F	Custom Engraved Marker Plates GMH7
Acids	○	●	○	○	○	○	○	○	○						○
Alcohols	○	◒	●	●	●	○	●	●	●	●	●	○		●	●
Bases	●	◒	○	○	○	○	○	○	○					●	●
Cleaner/Desgreaser	●		●	●		●	●	●	●	○	○	○		●	
Detergents	●	●	●	●			●	●	●						●
Fuels	○	●	●	●	○	●	●	●	●	○	●	○	●	○	●
Hydraulic Fluids			●		◒	◒				○	○	○		○	
Oils		●	●	●	●	●	●	●	●	●	●	●	●	●	●
Oganic Solvents		◒	◒	●	○	○	●	●	●	◒	○	◒	●	◒	◒
Salt Solutions		○	○	○	◒	○	○	○	○	○	○	○		○	○
Water		○	○	○	○	○	○	○	○	○	○	○	○	○	○

● = Lowest recommendation ◒ = Acceptable with some chemicals ○ = Highest recommendation



Outdoor Durability

TA reliable labeling solution for outdoor use is vital to customers in industries such as solar energy and utilities. Standard label materials are not designed to withstand the extreme exposure to UV light, moisture, and temperature fluctuations of an outdoor application. Panduit has many years of experience in designing, testing, and manufacturing labels and markers with special properties specifically for outdoor use. For example, Panduit raised panel labels are designed to last through 20 years of outdoor exposure and are verified and tested for weather resistance and for use in demanding solar applications. Panduit also provides over-laminate materials to extend the life of printed labels outdoors.



Fire Safety Properties

In some applications, fire safety is a critical concern. For these environments, identification labels and markers with low-smoke emissions and no halogens are required. Panduit Halogen-Free, Heat Shrink Labels meet the strict requirements of BS6853; 1999 Vehicle Category 1A for burning behavior and toxic gas emissions. Additionally, Panduit flame-retardant, halogen-free marker plates meet UL Standard 224 with a VW-1 rating for flammability and AMS-DTL-23053/5C (Class 1 and Class 3). These properties are particularly important to industries such as rail transit, shipbuilding, and industrial construction.

Heat Shrink Labels

Part Number	Width In. (mm)	Height In. (mm)	Min. Cable O.D. In. (mm)	Max. Cable O.D. In. (mm)	Labels per Roll
MILITARY GRADE HEAT SHRINK LABELS					
H100X025H1T	1.00 (25.4)	0.25 (6.4)	0.04 (1.0)	0.13 (3.3)	1000
H200X025H1T	2.00 (50.8)				500
H100X034H1T	1.00 (25.4)	0.34 (8.6)	0.06 (1.5)	0.19 (4.8)	1000
H200X034H1T	2.00 (50.8)				500
H100X044H1T	1.00 (25.4)	0.44 (11.2)	0.08 (2.0)	0.25 (6.4)	1000
H200X044H1T	2.00 (50.8)				500
H100X064H1T	1.00 (25.4)	0.64 (16.3)	0.13 (3.3)	0.38 (9.7)	1000
H200X064H1T	2.00 (50.8)				500
H100X084H1T	1.00 (25.4)	0.84 (21.3)	0.17 (4.3)	0.50 (12.7)	1000
H200X084H1T	2.00 (50.8)				500
H100X165H1T	1.00 (25.4)	1.65 (41.9)	0.33 (8.4)	1.00 (25.4)	500
H200X165H1T	2.00 (50.8)				250
TWO-SIDED MILITARY GRADE HEAT SHRINK LABELS					
H100X025H1T-2	1.00 (25.4)	0.25 (6.4)	0.04 (1.0)	0.13 (3.3)	1000
H200X025H1T-2	2.00 (50.8)				500
H100X034H1T-2	1.00 (25.4)	0.34 (8.6)	0.06 (1.5)	0.19 (4.8)	1000
H200X034H1T-2	2.00 (50.8)				500
H100X044H1T-2	1.00 (25.4)	0.44 (11.2)	0.08 (2.0)	0.25 (6.4)	1000
H200X044H1T-2	2.00 (50.8)				500
H100X064H1T-2	1.00 (25.4)	0.64 (16.3)	0.13 (3.3)	0.38 (9.7)	1000
H200X064H1T-2	2.00 (50.8)				500
H100X084H1T-2	1.00 (25.4)	0.84 (21.3)	0.17 (4.3)	0.50 (12.7)	1000
H200X084H1T-2	2.00 (50.8)				500
H100X122H1T-2	1.00 (25.4)	1.22 (31.0)	0.25 (6.3)	0.75 (19.0)	500
H200X122H1T-2	2.00 (50.8)				250
H100X165H1T-2	1.00 (25.4)	1.65 (41.9)	0.33 (8.4)	1.00 (25.4)	500
H200X165H1T-2	2.00 (50.8)				250
HALOGEN-FREE TWO-SIDED HEAT SHRINK LABELS					
H200X025HFT-2	2.00 (50.8)	0.25 (6.4)	0.06 (1.5)	0.13 (3.3)	500
H200X034HFT-2		0.34 (8.6)	0.09 (2.3)	0.19 (4.8)	
H200X044HFT-2		0.44 (11.1)	0.13 (3.3)	0.25 (6.4)	
H200X064HFT-2		0.64 (16.2)	0.19 (4.8)	0.38 (9.7)	
H200X084HFT-2		0.84 (21.3)	0.25 (6.4)	0.50 (12.7)	
H200X165HFT-2		1.65 (41.9)	0.50 (12.7)	1.00 (25.4)	250





Additional sizes and colors available on **panduit.com**

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Tedlar™ Self-Laminating Labels

- Self-extinguishing material
- Sized specifically for wire and cable applications
- Temperature range: -65°F to 275°F (-54°C to 135°C)
- UL969 recognized File # MH14979; cUL recognized C22.2 No. 0.15.01, File # MH14979



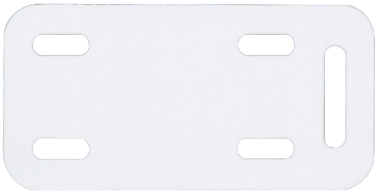
Part Number	Print-On Area Color	Width In. (mm)	Length In. (mm)	Print-On Area Height In. (mm)	Min. Cable O.D. In. (mm)	Max. Cable O.D. In. (mm)	Wire Range	Labels per Row	Std. Pkg. Qty.
S050X150TAT-A	White	0.50 (12.7)	1.50 (38.1)	0.50 (12.7)	0.16 (4.0	0.32 (8.1)	Cat. 5e UTP/Cat. 6 UTP/ Cat. 6A UTP/ Cat. 5e FTP/10– 6 AWG	8	5000
S075X125TAT-A		0.75 (19.1)	1.25 (31.8)	0.38 (9.7)	0.12 (3.1)	0.28 (7.0)	Cat. 3 UTP/ 12 – 10 AWG	5	
S100X075TAT-A		1.00 (25.4)	0.75 (19.1)	0.25 (6.4)	0.08 (2.0)	0.16 (4.0)	Cat. 6 28 AWG/ 18 – 14 AWG	4	2500
S100X150TAT-A			1.50 (38.1)	0.50 (12.7)	0.16 (4.0)	0.32 (8.1)	Cat. 5e UTP/Cat. 6 UTP/ Cat. 6A UTP/Cat. 5e FTP/10 - 6 AWG		
S100X225TAT-A			2.25 (57.2)	0.75 (19.1)	0.24 (6.1)	0.48 (12.1)	Cat. 6 FTP/Cat. 6A UTP/ Cat. 6A FTP/8 – 4 AWG		1500
S100X400TAT-A			4.00 (101.6)	1.00 (25.4)	0.32 (8.1)	0.95 (24.1)	2 – 1 AWG		2500
S200X400TAT-A		2.0 (50.8)						2	500

Tedlar is a registered trademark of E.I. du Pont de Nemours and Company.
Order number of labels required in multiples of Standard Package Quantity.
*Labels are roll mounted on 3.00" cores; when using the TDP43ME printer and 3.00" cores, the roll stand (TDP43ME-RS) is required.

Marker Plates

Standard Marker Plates

Part Number	Color	Width In. (mm)	Length In. (mm)	Area Width In. (mm)	Std. Pkg. Qty. (Roll)
M200X050Y7T	White	2.00 (50.8)	0.50 (12.7)	1.07 (27.3)	1
M200X100Y7T			1.00 (25.4)	0.80 (20.3)	
M300X050Y7T		3.00 (76.2)	0.50 (12.7)	2.07 (52.6)	
M300X100Y7T			1.00 (25.4)	1.80 (45.7)	



Additional colors at **panduit.com**

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Marker Plates (continued)

Part Number	Width In. (mm)	Length In. (mm)	Print-On Area Width In. (mm)	Print-On Area Length In. (mm)	Std. Pkg. Qty. (Roll)
HALOGEN-FREE MARKER PLATES					
M200X042UPT	2.00 (50.8)	0.42 (10.7)	0.42 (10.7)	1.30 (33.0)	1
M200X042UPT-B					
M200X080UPT		0.80 (20.3)	0.80 (20.3)		
M200X080UPT-B					
HIGH-TEMP MARKER PLATES					
M200X042FQT	2.00 (50.8)	0.42 (10.7)	0.42 (10.7)	1.22 (31.0)	1
M200X042FQT-B					
M200X080FQT		0.80 (20.3)	0.80 (20.3)		
M200X080FQT-B					



Raised Panel Labels

Panduit raised panel labels, which are designed for 20 years of outdoor exposure, tested for use in solar applications, and compliant with print-performance requirements of UL969 and MIL-STD-202G, provide a rugged and professional appearance similar to engraved plates, but without the lengthy lead times or expensive engraving equipment.

Part Number	Width In. (mm)	Length In. (mm)	Print-On Area In. (mm)	Std. Pkg. Qty.
RAISED PANEL PUSH BUTTON LABELS				
C120X150APT-22	1.20 (30.5)	1.50 (38.1)	0.45 (11.4)	500
C120X190APT-22		1.90 (48.3)	0.85 (21.6)	
C180X180APT-30	1.80 (45.7)	1.80 (45.7)	0.36 (9.1)	
C240X240APT-30	2.40 (60.9)	2.40 (60.9)	0.90 (22.9)	
RAISED PANEL COMPONENT LABELS				
C100X050APT	1.00 (25.4)	0.50 (12.7)	0.50 (12.7)	500
C125X030APT	1.25 (31.8)	0.30 (7.6)	0.30 (7.6)	
C200X100APT	2.00 (50.8)	1.00 (25.4)	1.00 (25.4)	
C252X030APT	2.52 (64.0)	0.30 (7.6)	0.30 (7.6)	
C300X100APT	3.00 (76.2)	1.00 (25.4)	1.00 (25.4)	
C300X250APT		2.50 (63.5)	2.50 (63.5)	
C350X300APT	3.50 (88.9)	3.00 (76.2)	3.00 (76.2)	
C379X030APT	3.79 (96.3)	0.30 (7.6)	0.30 (7.6)	
C400X100APT	4.00 (101.6)	1.00 (25.4)	1.00 (25.4)	

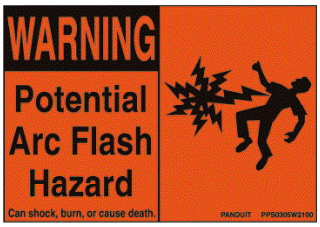


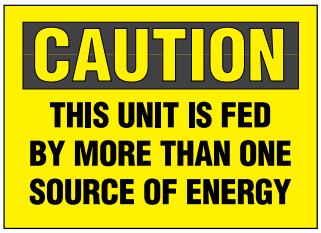
Additional sizes and colors available on **panduit.com**

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Safety Identification

Part Number	Header	Legend	Color	Width In. (mm)	Length In. (mm)	Std. Pkg. Qty.
PRE-PRINTED ADHESIVE POLYESTER LABELS						
PPS0204W2100A	Warning	Potential arc flash hazard		4.50 (114.3)	2.25 (57.2)	5
PPS0507W2100			Black/orange	7.00 (177.8)	5.00 (127.0)	
PPS0305W2200		Risk of fire or electrical shock	Black and orange/white	5.00 (127.0)	3.50 (88.9)	
PPS0305C174A	Caution	This unit is fed by more than one source of energy	Black/yellow			
PPS0710C141		Area in front of this electrical panel		10.00 (254.0)	7.00 (177.8)	1
PPS0305D79	Danger	High voltage keep away	Red and black/white	5.00 (127.0)	3.50 (88.9)	5
PPS0710D66		Area in front of this electrical panel		10.00 (254.0)	7.00 (177.8)	1
PPS0710D72		High voltage				
PPS0710D75		High voltage unauthorized personnel keep out				
PRE-PRINTED RIGID POLYETHYLENE						
PRS1014D73	Danger	High voltage keep out	Red and black/white	14.00 (355.6)	10.00 (254.0)	1
PRINT ON-DEMAND LABELS						
C200X400A51	Warning	Blank (no legend)	Black and orange/white	4.00 (101.6)	2.00 (50.8)	1
C200X400YZ1	Danger		Red and white			
C400X400A51	Warning		Black and orange/white		4.00 (101.6)	
C400X400YZ1			Red and white			
C400X600A41	Danger	High voltage	Red and black/white	10.00 (254.0)	7.00 (177.8)	
C400X600A51		High voltage keep out		14.00 (355.6)	10.00 (254.0)	
C400X600AX1		High voltage keep away				
C400X600AZ1		High voltage unauthorized personnel keep out		20.00 (508.0)	14.00 (355.6)	
C400X600Y81		High voltage		24.00 (609.6)	18.00 (457.2)	
C400X600YX1	N/A	Blank (no legend)	Orange and white	6.00 (152.4)	4.00 (101.6)	
C400X600YZ1	Danger		Red and white			









Permanent Identification

Part Number	Material	Color	Length In. (mm)	Width In. (mm)	Max. 3/16 in. (4.77mm) characters per line	Max. lines	Recommended Tie Cross Section	
							Standard	Heavy
METAL MARKER PLATES – DUAL CABLE TIE INSTALLATION								
STAINLESS STEEL MARKER PLATES								
MMP350-C	304SS	Natural	3.50 (89.0)	0.75 (19.0)	23	3	X	–
MMP350-C316	316SS							
MMP350H-C	304SS				20		–	X
MMP350H-C316	316SS							
MMP350W38-CQ	304SS			0.38 (10.0)		1	X	–
MMP350W38-CQ316	316SS							
MMP172-C	304SS		1.72 (44.0)	0.75 (19.0)	8	3		
MMP172-C316	316SS							
MMP172W38-C	304SS			0.38 (10.0)		1		
MMP172W38-C316	316SS							
METAL TAGS – SINGLE CABLE TIE INSTALLATION								
STAINLESS STEEL TAGS								
MT350-C	304SS	Natural	3.50 (89.0)	0.75 (19.0)	26	3	X	–
MT350-C316	316SS							
MT172-C	304SS		1.72 (44.0)		10			
MT172-C316	316SS							
MT1D-Q	304SS		1.00*	25.0**	5	1		
MT150D-Q	304SS		1.50*	38.0**	5, 6, 5	3		







*Diameter (In.) **Diameter (mm).
Representative offering only, consult **panduit.com** for complete listing of product.

= Best Seller = Featured

Permanent Identification (continued)

Metal Embossing Tools

Part Number	Description	Std. Pkg. Qty.
PORTABLE EMBOSSING SYSTEMS		
PES400	The PES400 Embossing System delivers a permanent identification solution on-site and on-demand. The system creates raised characters on stainless steel and aluminum marker plates to deliver maximum visibility for medium to high volume applications that are exposed to dirt and paint. Features fast embossing speed of up to 300 plates/hour. Includes 3 and 5 mm characters and Easy-Mark™ Software. Color White/Blue. 1 per package.	1
METAL INDENTING MACHINE		
MIM187	Indenting machine with 3/16 in. (4.77mm) character wheel, 11.25 in. (286mm) x 16.25 in. (413mm) x 11.75 in. (298mm), 41 lbs. (18.6 kg)	1
MIM125	Indenting machine with 1/8 in. (3.18mm) character wheel, 11.25 in. (286mm) x 16.25 in. (413mm) x 11.75 in. (298mm), 41 lbs. (18.6 kg)	
MIM094	Indenting machine with 3/32 in. (2.38mm) character wheel, 11.25 in. (286mm) x 16.25 in. (413mm) x 11.75 in. (298mm), 41 lbs. (18.6 kg)	
METAL EMBOSSING HAND TOOL KIT		
MEHT187	Includes tool, additional marking wheel, carrying case, one roll each META (aluminum) and METS (stainless steel) tape. Characters included: A B C D E F G H I J K L M N O P Q R S T U V W X Y Z 1 2 3 4 5 6 7 8 9 / ( )	
METAL EMBOSSING TAPE		
META-X	The META-X Aluminum Tape is perfect for indoor or outdoor use. Designed for use with MEHT187 Metal Embossing Hand Tool. Allows for 1 line of text. 0.5' x 192 in. (12.7 mm x 4877 mm). Color Silver	10
METS3-X	The METS3-X Stainless Steel Tape is perfect for indoor or outdoor use. Designed for use with MEHT187 Metal Embossing Hand Tool. Allows for 1 line of text. 316 grade stainless steel. 0.5' x 252 in. (12.7 mm x 6401 mm). Color Silver. 10 rolls per package	
METS4-X	The METS4-X Stainless Steel Tape is perfect for indoor or outdoor use. Designed for use with MEHT187 Metal Embossing Hand Tool. Allows for 1 line of text. 304 grade stainless steel. 0.5' x 252 in. (12.7 mm x 6401 mm). Color Silver	

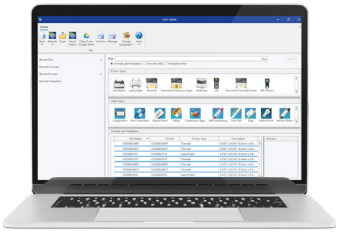


Mobile and Desktop Printers

Part Number	Description	Std. Pkg. Qty.
PXE™ MOBILE PRINTERS		
MP300	Offers a wide variety of die-cut and continuous label sizes up to 1.5 in. wide, an automatic cutter for full and half cuts, 360 dpi resolution and fast printing speed. Includes label cassette, hard carrying case, rechargeable battery pack, magnetic attachments, USB cable, and power adapter. Available only in North America.	1
MP200	Offers continuous labels up to 1.0 in. wide, print speeds up to 1.2 in. per second, a powered cutter for both full and half cuts, a large LCD back-lit screen, custom label modes, bar-codes and symbols. Includes continuous label cassette and a quick reference card. For use globally.	
MP200-KIT	The MP200-KIT printer is a rugged, high performance, economical industrial printer. It features fast print speeds up to 1.2 in./sec, a powered cutter, a large LCD backlit screen, custom label modes, barcodes and symbols. The MP200 prints continuous tapes up to 1.0 in. wide for network, electrical, and other industrial applications. It comes with the printer, a continuous label cassette, hard carrying case, rechargeable battery pack, magnetic feet, USB cable, and power adapter. For use in North America.	
THERMAL TRANSFER DESKTOP PRINTERS		
DP4300M	Medium volume, 300 dpi printer; includes printer, Easy-Mark™ Labeling Software, RMEH4BL black hybrid ribbon, USB cable, quick start guide, and U.S. power cord; for use in North America.	1
DP4300M-KIT	DP4300M printer kit. Includes: printer, Easy-Mark Labeling Software, RMEH4BL black hybrid ribbon, USB cable, quick start guide, U.S. power cord; TDP43ME-RS Roll Stand, DP4300M-CASE, and one roll of S100X150VATY labels; for use in North America.	
DP4300H	High volume, 300 dpi printer; includes printer, Easy-Mark Labeling Software, RHEH4BL black hybrid ribbon, USB cable, quick start guide, and U.S. power cord; for use in North America.	
DP4600H	High volume, 600 dpi printer; includes printer, Easy-Mark Labeling Software, RHEH4BL black hybrid ribbon, USB cable, quick start guide, and U.S. power cord; for use in North America.	
DP4300HD	Two-sided, 300 dpi printer; includes printer, Easy-Mark Labeling Software, 2 rolls of RHEH4BL black hybrid ribbon, USB cable, quick start guide, and U.S. power cord; for use in North America.	
IDENTIFICATION SOFTWARE		
EM-DL*	Easy-Mark Desktop Labeling Software - Downloadable Version	1
EM-2GO	Easy-Mark Desktop Labeling Software - USB Flash Drive Version	
EM-SERVER-DL*	Easy-Mark Desktop Labeling Software - Server Version - Downloadable	
EM-SERVER-USB	Easy-Mark Desktop Labeling Software - Server Version - USB Flash Drive	







*Customer will receive a DVD case with information and serial number for the downloadable version

Industry Compliance

Spec/Approval	Requirement	Products
UL -224 with VW-1 flame rating	Flame-resistant material. The tubing must not continue to burn longer than 1 minute.	Military Grade Heat Shrink Label
UL 969	Material must not lose legibility, defacement and adhesion properties when exposed to 48 hrs. water immersion, 10 days oven exposure at maximum temperature and 7 hrs. at minimum temperature, and 750 hrs. UV radiation exposure.	Raised Panel Label, Self-Laminating Tedlar Super-Tack Polyester Label/ Tape, Continuous Vinyl Tape
C22.2 No. 0.15-01	Material must not lose legibility, defacement, and adhesion properties when exposed to same conditions as UL969. In addition, the material is also exposed to heat and cold humidity cycling, solvent immersion, abrasion and solvent abrasion.	Raised Panel Label, Self-Laminating Tedlar Super-Tack Polyester Label/ Tape, Continuous Vinyl Tape
AMS-DTL-23053/5 (Class 1 and 3)	Flame-resistant material. Continuous operating temperature range is -55 °C (-67 °F) to 135 °C (275 °F).	Military Grade Heat Shrink Label
SAE-AS81531 (Rub Test)	Print shall remain legible after 20 rubs with hard hand pressure.	High-Temperature Marker Plate
SAE-AS5942 (Rub Test)		Military Grade Heat Shrink Label, Halogen-Free Heat Shrink Label
MIL-STD-883F (Test Standard) - Chemical Information below	The markings on the component parts shall remain legible when subjected to the following solvents; these solvents will not cause deleterious, mechanical or electrical damage, or deterioration of the material.	See below product for each chemical test
Chemical Used - Method 2015.13 Solution A	At 20C-30C a mixture consisting of the following: (1) one part by volume of isopropyl alcohol; and (2) three parts by volume of mineral spirits.	Military Grade Heat Shrink Label, Halogen-Free Heat Shrink Label
Chemical Used - Method 2015.13 Solution B	A semi-aqueous or non-aqueous based organic solvent like a terpene or heterocyclic compound.	
Chemical Used - Method 2015.13 Solution D	At 63C-70C, a mixture consisting of the following: (1) 42 parts by volume of deionized water; (2) 1 part by volume of propylene glycol monomethyl ether; and (3) 1 part by volume of monoethanolamine.	
MIL-STD202G (Test Standard) - Chemical Information below	The markings on the component parts shall remain legible when subjected to the following solvent; these solvents will not cause deleterious, mechanical or electrical damage, or deterioration of the material.	See below product for each chemical test
Chemical Used - Method 215K Solutions A	A mixture consisting of the following: (1) one part by volume of isopropyl alcohol; and (2) three parts by volume of mineral spirits.	Marker Plate Halogen-Free Heat Shrink Label, Raised Panel Label
Chemical Used - Method 215K Solutions C	A terpene defluxer consisting of a minimum of 90% d-limonene and 10% surfactant.	Marker Plate Halogen-Free Heat Shrink Label, Raised Panel Label
Chemical Used - Method 215K Solutions D	A mixture consisting of the following: (1) 42 parts by volume water; (2) 1 part by volume of propylene glycol monomethyl ether; and (3) 1 part by volume of monoethanolamine.	Marker Plate Halogen-Free Heat Shrink Label, Raised Panel Label
BS6853	1999 Vehicle Category 1A for burning behavior and toxic gas emissions. Smoke Density Class II	Halogen-Free Heat Shrink Label
LOCA/MSLB (IEEE 323-2003)	The qualification requirements in this standard, when met, demonstrate and document the ability of equipment to perform safety function(s) under applicable service conditions, including design basis events, reducing the risk of common-cause equipment failure.	High-Temperature Marker Plate, Military Grade Heat Shrink Label (AMS-DTL-23053/5 [Class 1 and 3] only)

Panduit difference

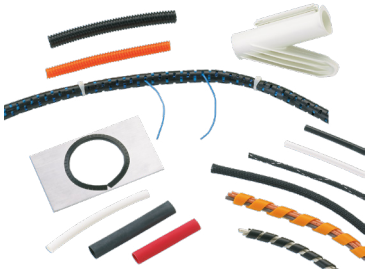
Panduit is a leading global manufacturer of high-quality electrical and network infrastructure and connectivity solutions. Operating from our headquarters in Tinley Park, Ill., USA, and across 112 worldwide locations, we drive innovation through strategic R&D investments and breakthrough product development while providing seamless global support and service. Since 1955, our commitment to our customers and partners has remained constant. And together, with them, we create exceptional solutions that support their businesses in a way that's good for them and good for the world. Panduit is making the connections that matter. For more information, visit **panduit.com**.

Complete solutions from Panduit

Panduit harsh environment solutions include the Pan-Steel™ System, power and grounding connectors, identification and safety, abrasion protection, heat shrink, wiring duct, industrial ethernet, and cable tie solutions. These solutions feature Panduit world-class quality, rigorously tested to deliver the highest performance, and lowest total cost of ownership.



Stainless Steel System



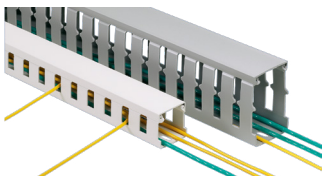
Abrasion Protection



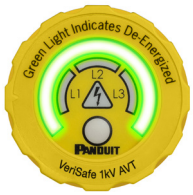
Power and Grounding Connectors



Identification and Safety



Wiring Duct



VeriSafe™ Absence of Voltage Tester



Cable Cleats



Cable Ties



Heat Shrink

Compliance with industry standards

Panduit identification solutions are engineered to meet the highest standards. Our products meet or exceed the most stringent industry standards including RoHS, UL, CSA, MIL, ASTM, and many others. They also assist in compliance with OSHA, NEC, NFPA, TIA, and other requirements.

Panduit offers one of the widest ranges of permanent identification solutions in the industry to enable reliable, comprehensive, identification throughout the electrical or network infrastructure. Ideal in harsh and industrial environments, the Panduit permanent identification system delivers long-term durability and legibility for optimum identification of pipes, conduit, cables and equipment. Safe, quick, and easy to install, the system includes stainless steel, and aluminum marker plates, tags, marking tools and ties engineered for maximum reliability, improved productivity and workplace safety to mitigate risk.

We have the knowledge and experience to help you make the most of your infrastructure investment.

panduit.com

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infrastructure for a connected world

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