PANDUIT®

Identification Solutions for Harsh Environments

Minimize downtime, installation time, and waste while reducing Mean Time To Repair (MTTR).

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.

Introduction

Key Selection Criteria

Product Selection Guides

Industry Compliance

Industrial

Oil Rigs

Refineries

Chemical Plants

Natural Gas

Processing Plants

LNG Plants

Water Treatment

Facilities

Wind Farms

Solar

Nuclear

Mining

Ships

Submarines

Cell Towers

Telecommunications

Transportation

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 or through our factory custom marking service

Selection Guides

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, partial cut labels and ease of wire insertion to speed installation time
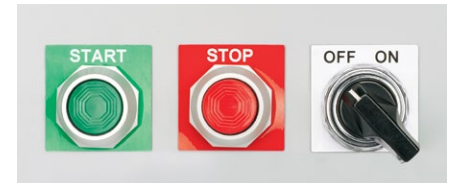
Heat Shrink Labels

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 versatile TDP43ME, TDP43HE, and TDP46HE thermal transfer desktop printers allow printing up to eight inches per second with professional 300 dpi or 600 dpi resolution of labels and tapes up to four inches wide. The compact design provides mobility and is easily deployable, with minimum setup or calibration time and minimum label waste.

Identification Software

Easy-Mark Plus™ 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 CAD 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

Description: 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

Selection Criteria: 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

Rail Car Undercarriage, Industrial

Selection Criteria: Resistance to extreme solvents, oils, and chemicals

Product Recommendations:

• Stainless Steel Marker Plates (embossed)

Shipbuilding, Rail Car Controls

Selection Criteria: 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

Selection Criteria: Flame retardant, extreme temperatures; rated for harsh environments

Product Recommendations:

• Heat Shrink Labels

• High-Temperature, Flame-Retardant Marker Plates

Cable Tray Identification

Description: 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

Selection Criteria: Ultra-aggressive adhesive, resistance to extreme temperatures and tears

Product Recommendations:

• Super-Tack Continuous Tapes

• Raised Panel Labels

Pipe Identification

Description: 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

Selection Criteria: 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

• Rigid Strap on Pipe Markers

Control Panel Identification

Description: 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

Selection Criteria: 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

Selection Criteria: 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

Description: 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:

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

Product Recommendations:

• Polyester Labels and Over-laminates

• Raised Panel Labels

Safety Identification

Description: 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:

Selection Criteria: 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

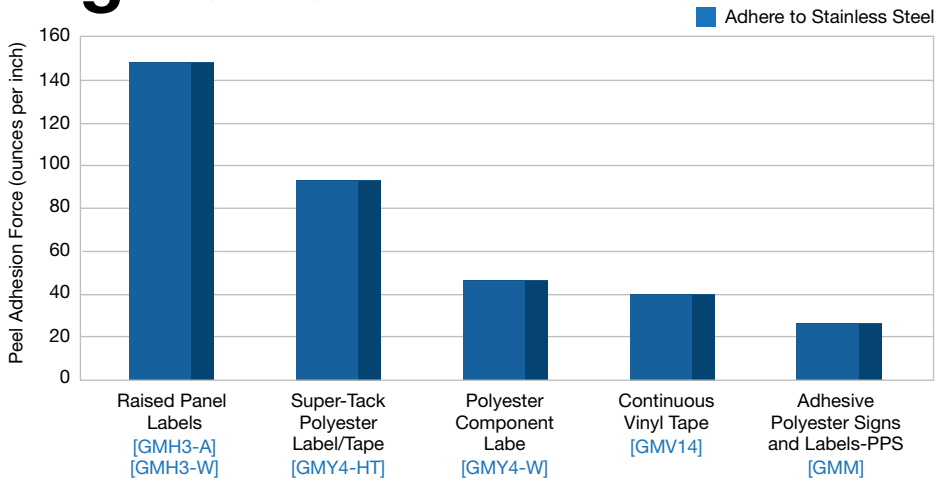• Rigid Polyethylene Signs

• 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.
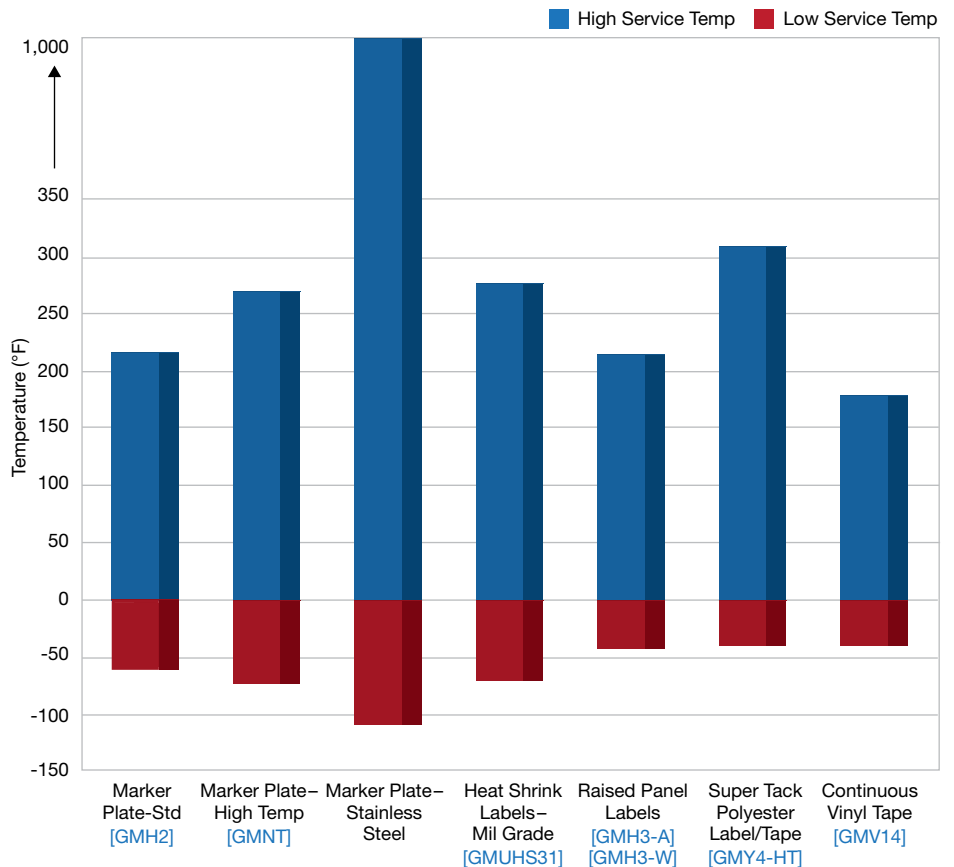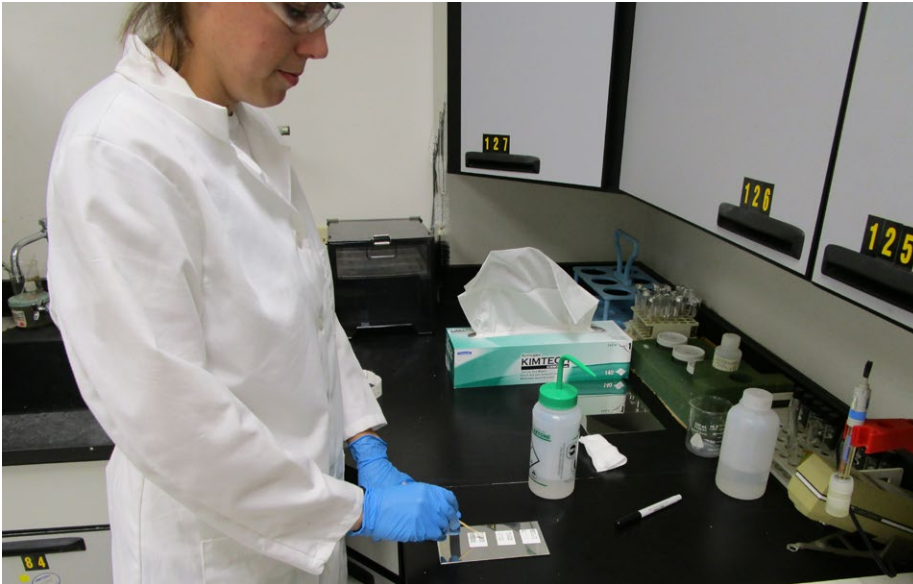
Adhesive Holding Power

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.

Legend: ■ Adhere to Stainless Steel

Chart: Peel Adhesion Force (ounces per inch)

Product	Peel Adhesion Force (oz/inch)
Raised Panel Labels [GMH3-A] [GMH3-W]	~147
Super-Tack Polyester Label/Tape [GMY4-HT]	~93
Polyester Component Labe [GMY4-W]	~46
Continuous Vinyl Tape [GMV14]	~40
Adhesive Polyester Signs and Labels-PPS [GMM]	~26

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.

Legend: ■ High Service Temp ■ Low Service Temp

Chart: Temperature (°F)

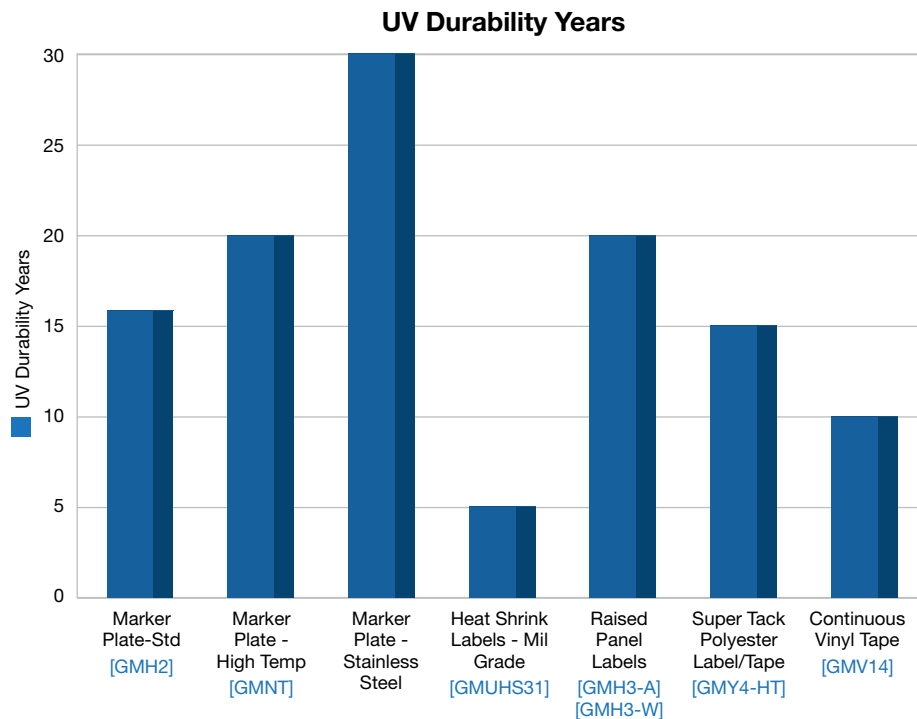| Product	High Service Temp	Low Service Temp
Marker Plate-Std [GMH2]	~216	~-62
Marker Plate–High Temp [GMNT]	~270	~-72
Marker Plate–Stainless Steel	~1,000	~-108
Heat Shrink Labels–Mil Grade [GMUHS31]	~277	~-70
Raised Panel Labels [GMH3-A] [GMH3-W]	~215	~-44
Super Tack Polyester Label/Tape [GMY4-HT]	~308	~-40
Continuous Vinyl Tape [GMV14]	~178	~-40

Chemical Resistance

The harshest environments often expose critical identification labels and markers to chemical, fluids, and oils. Panduit materials, such as fluid-resistant heat shrink, are tested to the highest industry standards against some of the most extreme chemicals. Through this exhaustive research, Panduit products are the preferred solutions to meet AMS-DTL-23053/6 Class 1 and NF F00-608 Class A & H, SAE-AS5942, MIL-STD-883F Method 2015.13, Solutions A and D, and MIL-STD-202G Method 215K, Solutions A, 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 [GMTD1]	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/Degreaser	●		●	●		●	●	●	●	○	●	○		●	
Detergents	●	●	●	●			●	●							●
Fuels	○	●	●	●	○	●	●	●	●	○	●	○	●	○	●
Hydraulic Fluids			●		◐	◐				○	○			○	
Oils		●	●	●	●	●	●	●	●	●	●	●	●	●	●
Organic Solvents		◐	◐	●	○	◐	●	●	●	◐	○	●	●	◐	◐
Salt Solutions		○	○	○	◐	○	○	○	○	○				○	○
Water		○	○	○	○	○	○	○	○	○	○	○	○	○	○

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

Outdoor Durability

A 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.

UV Durability Years

Material	UV Durability Years
Marker Plate-Std [GMH2]	16
Marker Plate - High Temp [GMNT]	20
Marker Plate - Stainless Steel	30
Heat Shrink Labels - Mil Grade [GMUHS31]	5
Raised Panel Labels [GMH3-A] [GMH3-W]	20
Super Tack Polyester Label/Tape [GMY4-HT]	15
Continuous Vinyl Tape [GMV14]	10

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

Military Grade Heat Shrink Labels

Part Number	Width		Height		Min. Cable O.D.		Max. Cable O.D.		Labels Per Roll
	In.	mm	In.	mm	In.	mm	In.	mm	
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

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

Two-Sided Military Grade Heat Shrink Labels

Part Number	Width		Height		Min. Cable O.D.		Max. Cable O.D.		Labels Per Roll
	In.	mm	In.	mm	In.	mm	In.	mm	
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

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

Halogen-Free Two-Sided Heat Shrink Labels

Part Number	Width		Height		Min. Cable O.D.		Max. Cable O.D.		Labels Per Roll
	In.	mm	In.	mm	In.	mm	In.	mm	
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 www.panduit.com.

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

Tedlar™ Self-Laminating Labels

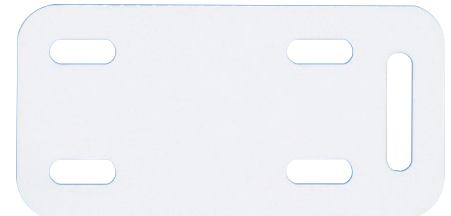| Part Number	Print-On Area Color	Width		Length		Print-On Area Height		Min Cable O.D.		Max Cable O.D.		Wire Range	Labels Per Row	Std. Pkg. Qty.
		In.	mm	In.	mm	In.	mm	In.	mm	In.	mm			
S050X150TAT-A	White	0.50	12.7	1.50	38.1	0.50	12.7	0.16	4.0	0.32	8.1	Cat. 5e UTP/Cat. 6 UTP/ Cat. 6A UTP/ Cat. 5e FTP/10– 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		Length		Area Width		Std. Pkg. Qty. (Roll)
		In.	mm	In.	mm	In.	mm	
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 www.panduit.com.
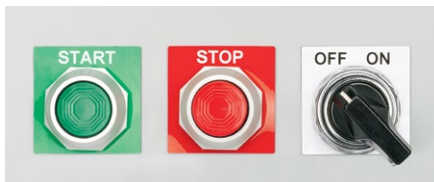
Halogen-Free Marker Plates

| Part Number | Width | | Height | | Print-On Area | | | | Std. Pkg. Qty. (Roll) |
| | | | | | Width | | Height | | |
	In.	mm	In.	mm	In.	mm	In.	mm	
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

| Part Number | Width | | Height | | Print-On Area | | | | Std. Pkg. Qty. (Roll) |
| | | | | | Width | | Height | | |
	In.	mm	In.	mm	In.	mm	In.	mm	
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 | | Height | | Print-On Area Height | | Std. Pkg. Qty. |
	In.	mm	In.	mm	In.	mm	
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		76.2	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 www.panduit.com

Safety Identification

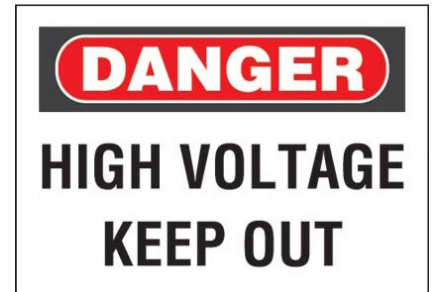| Part Number	Header	Legend	Color	Width In.	Width mm	Height In.	Height mm	Std. Pkg. Qty.
Pre-Printed Adhesive Polyester Labels								
PPS0204W2100A	WARNING	Potential Arc Flash Hazard	1	4.50	114.3	2.25	57.2	5
PPS0507W2100			Black/Orange	7.00	177.8	5.00	127.0	
PPS0305W2200		RISK OF FIRE OR ELECTRIC SHOCK...	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	5.00	127.0	3.50	88.9	
PPS0710C141		AREA IN FRONT OF THIS ELECTRIC 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 ELECTRIC 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	DANGER		Red and White					
C400X600A41		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

Permanent Identification

Part Number	Material	Color	Length In.	Length mm	Width In.	Width mm	Max. 3/16" (4.77mm) Characters per Line	Max. Lines	Recommended Tie Cross Section Standard	Recommended Tie Cross Section 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		
MMP350W38-CQ316	316SS									
MMP172-C	304SS		1.72	44.0	0.75	19.0	8	3	X	
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**	N/A	N/A	5	1		
MT150D-Q	304SS		1.50*	38.0**			5, 6, 5	3		

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

Metal Embossing Tools

Part Number	Description	Std. Pkg. Qty.
Portable Embossing Systems		
PES400	Portable embossing system 3/16" (4.77mm) character, 11.5" (292mm) x 21.0" (534mm) x 19.0" (483mm), 95 lbs. (43 kg), 115 volt, 60 Hz with Easy-Mark™ Software	1
Metal Indenting Machine		
MIM187	Indenting machine with 3/16" (4.77mm) character wheel, 11.25" (286mm) x 16.25" (413mm) x 11.75" (298mm), 41 lbs. (18.6 kg).	1
MIM125	Indenting machine with 1/8" (3.18mm) character wheel, 11.25" (286mm) x 16.25" (413mm) x 11.75" (298mm), 41 lbs. (18.6 kg).	
MIM094	Indenting machine with 3/32" (2.38mm) character wheel, 11.25" (286mm) x 16.25" (413mm) x 11.75" (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 / ( ).	1

Note: See our online custom order form: https://www.panduit.com/en/support/download-center/Custom-Order-Forms.html

Mobile and Desktop Printers

Thermal Transfer Hand-Held Printers

Part Number	Description	Std. Pkg. Qty.
MP300	Offers a wide variety of die-cut and continuous label sizes up to 1.5" 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.	
MP200	Offers continuous labels up to 1.0" wide, print speeds up to 1.2" 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.	1
MP200-KIT	The MP200-KIT printer is a rugged, high performance, economical industrial printer. It features fast print speeds up to 1.2"/sec, a powered cutter, a large LCD backlit screen, custom label modes, barcodes and symbols. The MP200 prints continuous tapes up to 1.0" 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

Part Number	Description	Std. Pkg. Qty.
TDP43ME	300 dpi printer (up to 4.00" per second); includes moderate-use printer, Easy-Mark™ Labeling Software, RMEH4BL black hybrid ribbon, user manual, quick start card, driver disk, USB cable, AC power adapter with U.S. power cord; for use in North America	
TDP43ME-KIT	TDP43ME printer, Easy-Mark™ Labeling Software, RMEH4BL black hybrid ribbon, user manual, quick start card, TDP43ME-CASE carrying case, one roll S100X-150VATY labels, roll stand, driver disk, USB cable, AC power adapter with U.S. power cord; for use in North America	1
TDP43HE	300 dpi printer (up to 8.00" per second); includes high-volume printer, Easy-Mark™ Labeling Software, RMEH4BL black hybrid ribbon, user manual, quick start card, driver disk, USB cable, AC power adapter with U.S. power cord; for use in North America	
TDP46HE	600 dpi printer (up to 4.00" per second); includes high-volume printer, Easy-Mark™ Labeling Software, RMEH4BL black hybrid ribbon, user manual, quick start card, driver disk, USB cable, AC power adapter with U.S. power cord; for use in North America	

Identification Software

Desktop Printers	Description	Std. Pkg. Qty.
EMPLUS-CD	Easy-Mark Plus™ Labeling Software, CD-ROM	
EMPLUS-DL	Easy-Mark Plus™ Labeling Software, online download.	1
EMPLUS-2GO	Easy-Mark Plus™ Portable Application, USB flash drive.	
EMPLUS-SERVER	Easy-Mark Plus™ Labeling Software, networkable server based version.	

PANDUIT™

Easy-Mark Plus™
Labeling Software

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
AMS-DTL-23053/6 (Class 1)	Flame-resistant material. Continuous operating temperature range is -55 °C (-67 °F) to 135 °C (275 °F).	Fluid-Resistant 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, Fluid-Resistant Heat Shrink Label

Spec/Approval	Requirement	Products
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, Fluid-Resistant 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.	Military Grade Heat Shrink Label, Halogen-Free Heat Shrink Label
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.	Military Grade HeatShrink Label, Halogen-Free Heat Shrink Label, Fluid-Resistant Heat Shrink Label

Spec/Approval	Requirement	Products
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, Fluid-Resistant Heat Shrink 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, Fluid-Resistant Heat Shrink Label

Spec/Approval	Requirement	Products
BS6853	1999 Vehicle Category 1A for burning behavior and toxic gas emissions. Smoke Density Class II	Halogen-Free Heat Shrink Label
NF F00-608 Class A and H	Print shall remain legible after 10 rubs after being immersed for 168 hrs. in HCL acid, diesel, NaOH base and 70 hrs. in mineral spirit. Tensile strength shall be equal to or greater than 14MPa and elongation shall be 400% or higher.	Fluid-Resistant 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)

Please refer to the Technical Data Sheet for each product for complete information.

PANDUIT™
infrastructure for a connected world

- Industrial
- Oil Rigs
- Refineries
- Chemical Plants
- Natural Gas Processing Plants
- LNG Plants
- Water Treatment Facilities
- Wind Farms
- Solar
- Nuclear
- Mining
- Ships
- Submarines
- Cell Towers
- Telecommunications
- Transportation
- OEM

WORLDWIDE SUBSIDIARIES
AND SALES OFFICES

Panduit Canada
Markham, Ontario
cs-cdn@panduit.com
Phone: 800.777.3300

Panduit Europe Ltd.
London, UK
cs-emea@panduit.com
Phone: 44.208.601.7200

Panduit Singapore Pte. Ltd.
Republic of Singapore
cs-ap@panduit.com
Phone: 65.6305.7575

Panduit Japan
Tokyo, Japan
cs-japan@panduit.com
Phone: 81.3.3767.7011

Panduit Latin America
Guadalajara, Mexico
cs-la@panduit.com

Phone: 52.33.3777.6000
Panduit Australia Pty. Ltd.
Victoria, Australia
cs-aus@panduit.com
Phone: 61.3.9794.9020

For a copy of
Panduit product warranties,
log on to www.panduit.com/warranty

**For more information
Visit us at www.panduit.com**

**Contact Customer Service by email:
cs@panduit.com
or by phone: 800-777-3300**

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, NF, 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 physical 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.

PANDUIT DIFFERENCE

Panduit is committed to delivering a consistently high level of quality and service the world over. With a presence in more than 100 countries, local Panduit sales representatives and technical specialists offer guidance and support that bring value to your business. Our global supply chain, which includes manufacturing, customer service, logistics, and distribution partners, provides prompt response to your inquiries and streamlines delivery to any worldwide destination.

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.
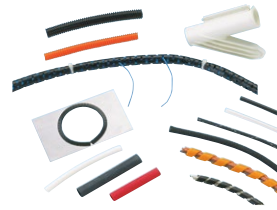

Stainless Steel System

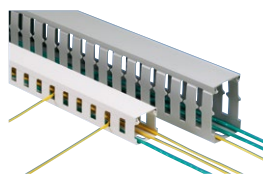**Cable Cleats**

Power and Grounding Connectors

Identification and Safety

Abrasion Protection

Heat Shrink

Wiring Duct

VeriSafe™ Absence of Voltage Testers

Cable Ties