



# PL

## Panel Labels

### Technical Datasheet

TTDS-245 Revision 2 - October 2018

**PL is a thermal transfer printable polyester label available as gloss white or satin metalized. It has been designed for general purpose applications that require a high durability.**

**Typical applications include: industrial control panels, data racks, switchgear and general equipment labelling.**

PL utilizes a compressible polyethylene foam adhesive which enables good bonding onto rough, textured and powder coated surfaces.

PL is UL recognised to PGJ12 and PGJ18 for indoor and outdoor applications.

The PL Panel Label solution comprises a complete Identification system with compatible printers, software and ribbons.

PL print performance and durability can only be guaranteed when printed using TE Connectivity printers and ribbons as defined in TE document 411-121005.

## Features

- Thermal Transfer Printable
- Range of sizes in gloss white or metalized silver finish
- Designed to withstand exposure to industrial fluids and solvents, and abrasion with frequent handling
- Excellent bonding properties on textured and painted surfaces
- Good shock absorbance & impact resistance

## Temperature Rating

- Operating Temperature Range:  
-40 to 80°C (-40°F to 176°F)
- Withstand 100°C (212°F) for 1 000 hours
- Minimum Application Temperature 10°C (50°F)

## Specifications / Approvals

**Industry** UL recognized PGJ12 and PGJ18 - file MH17292 - “**PL-9**” for Gloss White  
“**PL-8A**” for Satin Metalized

## Applications

- Ideal for vertical application with exceptional shear strength
- Electrical applications: cabinets, data racks, control panels, switchgear and general equipment labelling.
- Industrial
- Rail

## Design for Environment

- Does not contain any declarable or prohibited substances from the UNIFE Railway Industry Substances List
- Further information and a downloadable declaration covering RoHS and REACH compliance can be found at the TE Product Compliance Support Centre:

<http://www.te.com/usa-en/utilities/product-compliance.html>

## Shelf Life

2 years when following good commercial storage practice detailed below.

## Storage

Product should be stored in the original packaging, with any plastic covers which were included during shipping. Store out of direct sunlight in a clean, dry, dust free, environment.

Product should be stored at approximately 22°C and 50% relative humidity.



## Technical Performance

Requirement		Results	
Print Permanence			
Marking of Electrical Insulating Materials, SAE AS 5942	Legible after 50 rubs with an eraser of 1kg weight	Pass	
Resistance to Solvents, MIL STD 202 Method 215	Legible after 30 brush strokes	Pass	
Abrasion, TE method 109-121020	Legible after 175 cycles - 0.5 kg weight with Taber wheel CS10	Pass	
Fluid Exposure			
Immersion, TE method 109-121012		Adhesive	Printed legend
• Isopropyl alcohol	24 hours immersion At 23°C followed by 20 wipes 1kg weight	Pass	Pass
• IRM 902		Pass	Pass
• MIL PRF 23699		Pass	Pass
• MIL-H-83282		Pass	Pass
• Diesel Fuel		Pass	Pass
• Kilfrost DF plus	Labels to remain on aluminum and legible	Pass	Pass
• Tap water		Pass	Pass
• 5% Salt solution		Pass	Pass
• Detergent (1% solution)		Pass	Pass
• Skydrol LD4		Pass	Pass
Adhesion			
		Typical Peel force in N/25mm (oz/in.)	
Peel, Finat FTM1:		20min Dwell	72hr Dwell
• Stainless steel	180° angle	50 (285)	50 (285)
• Glass	Dwell time	60 (342)	70 (400)
• Aluminium	23°C	45 (256)	70 (400)
• Polypropylene	50% RH	15 (85)	15 (85)
• Tufnol		50 (285)	55 (313)
• Epoxy painted surface		60 (342)	60 (342)
Probe Tack, ASTM D2979	1 sec dwell - 1cm per sec separation	Typical in N (oz) on 5mm diameter contact	
• Stainless steel	10 times at 23°C / 50% RH	10 (36)	
Static Shear, PSTC-107	20mn dwell time - 23°C / 50% RH	Typical in Hours on 25mm square contact	
• Mirror finished steel	1 Kg load	174hr adh. failure / clean peel	
Artificial weathering UV-A and UV-B			
		Adhesive	Printed legend
Fluorescent UV testing, ASTM G154	Remain on Aluminium and legible after 1000hr exposure, with no crazing / cracking or powder residue	Pass	Pass, little fading
Xenon Arc Exposure, ASTM G155		Pass	Pass, slight color change
Thermal performances			
	Remain on Aluminium and legible	Adhesive	Printed legend
Heat Aging	1440hr at 90°C	Pass	Pass, little fading
Heat Shock	4hr at 140°C	Pass	Pass
Low Temperature storage	168hr at -50°C	Pass	Pass
Thermal Cycling	10 cycles of 1hr at -50°C then 1hr at 90°C	Pass	Pass

Where possible, TE have tested product as a finished item, including the print. Operational tests are followed by an assessment of mark adherence to validate fit, form and function.

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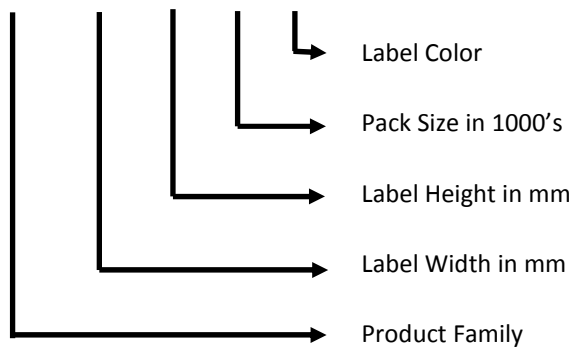
### Typical Label Thickness

- Label (including adhesive): 0.760 mm / 0.03 inch
- Liner: 0.100 mm / 0.004 inch

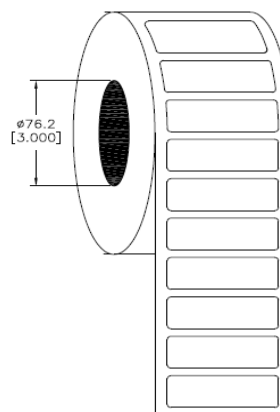
### Ordering Information

#### Part Description

PL - 060 030 - 2.5 - 8A



#### Roll presentation

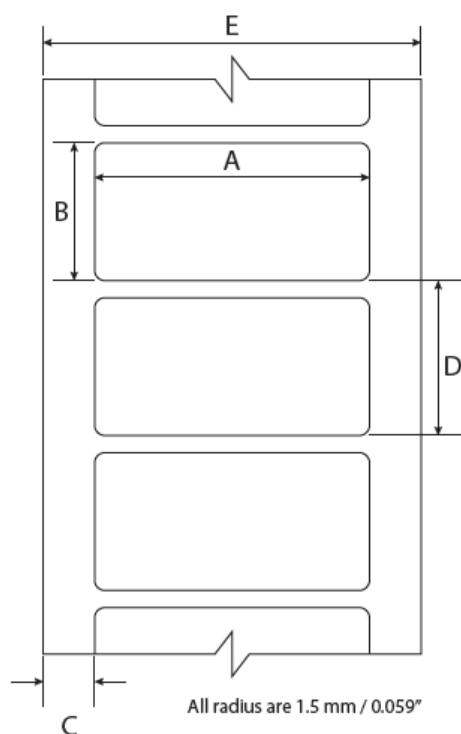


Outside wound on  
76.2mm / 3" core diameter

#### Color Code

8A Satin Metalized      9 Gloss White

#### Liner Design



## Available Standard Descriptions

Product Description	Color	Pack Qty	Labels across	(A) Label Width		(B) Label Height		(C) Left Margin		(D) Vertical Repeat		(E) Web Width	
		Pieces	Piece	mm	inch	mm	inch	mm	inch	mm	inch	mm	Inch
PL-027008-2.5-8A	Satin Metalized	2,500	1	27.0	1.063	8.0	0.315	5.0	0.197	11.43	0.450	37.0	1.457
PL-027008-2.5-9	Gloss White	2,500	1	27.0	1.063	8.0	0.315	5.0	0.197	11.43	0.450	37.0	1.457
PL-027013-1.5-8A	Satin Metalized	1,500	1	27.0	1.063	13.0	0.512	5.0	0.197	16.33	0.643	37.0	1.457
PL-027013-1.5-9	Gloss White	1,500	1	27.0	1.063	13.0	0.512	5.0	0.197	16.33	0.643	37.0	1.457
PL-027018-1.25-8A	Satin Metalized	1,250	1	27.0	1.063	18.0	0.709	5.0	0.197	21.17	0.833	37.0	1.457
PL-027018-1.25-9	Gloss White	1,250	1	27.0	1.063	18.0	0.709	5.0	0.197	21.17	0.833	37.0	1.457
PL-027027-1-8A	Satin Metalized	1,000	1	27.0	1.063	27.0	1.063	5.0	0.197	30.16	1.188	37.0	1.457
PL-027027-1-9	Gloss White	1,000	1	27.0	1.063	27.0	1.063	5.0	0.197	30.16	1.188	37.0	1.457
PL-035018-1.25-8A	Satin Metalized	1,250	1	35.0	1.378	18.0	0.709	5.0	0.197	21.17	0.833	45.0	1.722
PL-035018-1.25-9	Gloss White	1,250	1	35.0	1.378	18.0	0.709	5.0	0.197	21.17	0.833	45.0	1.722
PL-036028.5-0.75-8A	Satin Metalized	750	1	36.0	1.417	28.5	1.122	5.0	0.197	31.75	1.250	46.0	1.811
PL-036028.5-0.75-9	Gloss White	750	1	36.0	1.417	28.5	1.122	5.0	0.197	31.75	1.250	46.0	1.811
PL-045015-1.5-8A	Satin Metalized	1,500	1	45.0	1.772	15.0	0.591	5.0	0.197	18.56	0.731	55.0	2.165
PL-045015-1.5-9	Gloss White	1,500	1	45.0	1.772	15.0	0.591	5.0	0.197	18.56	0.731	55.0	2.165
PL-050025-1-8A	Satin Metalized	1,000	1	50.0	1.969	25.0	0.984	5.0	0.197	28.22	1.111	60.0	2.362
PL-050025-1-9	Gloss White	1,000	1	50.0	1.969	25.0	0.984	5.0	0.197	28.22	1.111	60.0	2.362
PL-060030-0.75-8A	Satin Metalized	750	1	60.0	2.362	30.0	1.181	5.0	0.197	33.34	1.313	70.0	2.756
PL-060030-0.75-9	Gloss White	750	1	60.0	2.362	30.0	1.181	5.0	0.197	33.34	1.313	70.0	2.756
PL-090045-0.5-8A	Satin Metalized	500	1	90.0	3.543	45	1.772	5.0	0.197	48.26	1.900	100.0	3.937
PL-090045-0.5-9	Gloss White	500	1	90.0	3.543	45	1.772	5.0	0.197	48.26	1.900	100.0	3.937
PL-100050-0.5-8A	Satin Metalized	500	1	100.0	3.937	50	1.969	3.0	0.118	53.34	2.100	106.0	4.173
PL-100050-0.5-9	Gloss White	500	1	100.0	3.937	50	1.969	3.0	0.118	53.34	2.100	106.0	4.173

Other sizes upon request

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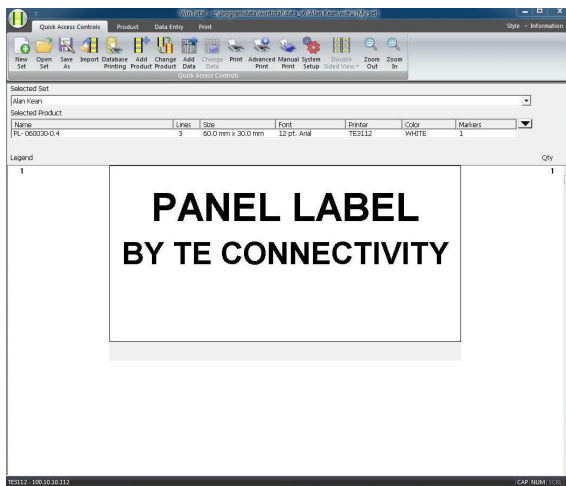
### Printer Information

Print quality and print performance can only be guaranteed when specific TE printer and ribbons are used.

For T200 printer, to hold reels of PL labels, use recommended TE Connectivity PRINTER-UNIVERSAL-REEL-HOLDER, Part Number EC9926-000, reference TTDS-259

The current list of printers and ribbons can be found in TE document 411-121005 'Identification Printer Product Ribbon Matrix'. This document can be found in 'Access Our Tools':

<http://www.te.com/usa-en/utilities/access-product-tools-and-resources.html>



### Software

WINTOTAL software, available to download for a 14 day evaluation period from the Identification Printer Software page:

<http://www.te.com/usa-en/products/identification-labeling/printers-software/printing-software.html?tab=pdp-story>

Print Easy software also available.

Contact a TE representative for further information.



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