



CSL and LSR Self-Laminating Laser Printable Polyester Labels on Sheet

Technical Datasheet

TTDS-208 Revision 2 - February 2019

CSL and LSR are clear polyester labels with a white or yellow laser printable area. On application, the clear film over-laminates and protects the printed area.

CSL and LSR are supplied with a permanent acrylic adhesive on a white Kraft liner. The self-laminating feature protects the printed area from frequent handling and exposure to oil, solvents, salt, water and mechanical abrasion, with good conformability to round surfaces. They are ideal for cable marking including flat ribbon cables and can be flagged or wrapped around a wire as shown in TE Connectivity repeatable self-laminated labelling guide 411-121050.

CSL is manufactured with a white or yellow printable area in European A4 format (210 x 297 mm)

LSR is supplied in a US letter format (8.5 x 11.0 inches) with a white printable area.

CSL AND LSR SELF-LAMINATING POLYESTER LABELS

Features

- Laser printable
- Over-lamination protects the printed area and enables a higher level of print durability
- Designed to withstand exposure to oil, solvents, salts, alkalis and water

Temperature Rating

- Service Temperature
-40°C to +120°C (-40°F to +248°F)
- Min. Application Temperature: 10°C (50°F)

Applications

- Ideal for wire and cable marking including flat ribbon cable
- Good conformability to round, irregular or flexible surfaces including flat ribbon cables
- Industrial and Electrical applications

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 not be stored outside of the designed storage temperature, which is 20 to 25 °C (68°F to 77°F), 40 to 50 % RH.



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Technical Performance

| | Requirement | Results |
|---|--|---------|
| Print Permanence | | |
| Marking of Electrical Insulating Materials, SAE AS 5942 | Legible after 50 rubs, 1kg weight with an eraser | Pass |
| Resistance to Solvents, MIL STD 202G Method 215K | Legible after 30 wipes | Pass |

| Fluid Exposure | | Adhesive | Printed legend |
|---------------------------|---|----------|----------------|
| • IPA Isopropyl Alcohol | Labels to remain on wire and legible / SAE AS 5942 (TE doc 109-121012) | Pass* | Pass |
| • IRM 902 | | Pass | Pass |
| • MIL PRF 23699 | Wrap and flagged installed samples, 24 hours immersion at 23°C followed by 20 rubs with cloth, minimum print contrast 3*, legible *Print contrast as defined in TE doc. 411-121002 | Pass | Pass |
| • MIL-H-83282 | | Pass | Pass |
| • Diesel Fuel | | Pass | Pass |
| • Kilfrost DF plus | | Pass | Pass |
| • Tap water | | Pass | Pass |
| • 5% Na Cl solution | | Pass | Pass |
| • Detergent (1% solution) | | Pass | Pass |

*8 h immersion

| Adhesion to FTM1 (180°) | Test surface: | FTM1 (180°) | Typical Peel force (N/25mm (oz/in.)) | |
|----------------------------------|---------------|-------------|--------------------------------------|------------|
| | | | 20min Dwell | 72hr Dwell |
| • Stainless steel | | | 9 (32) | 14 (53) |
| • Glass | | | 10 (35) | 14 (53) |
| • Aluminium | | | 11 (39) | 16 (57) |
| • Polypropylene | | | 6 (23) | 7 (26) |
| • Tufnol | | | 10 (38) | 14 (53) |
| • Adhesive to Adhesive (flag) | | | 5 (18) | 10 (38) |
| • Adhesion to own surface (wrap) | | | 5 (18) | 8 (30) |

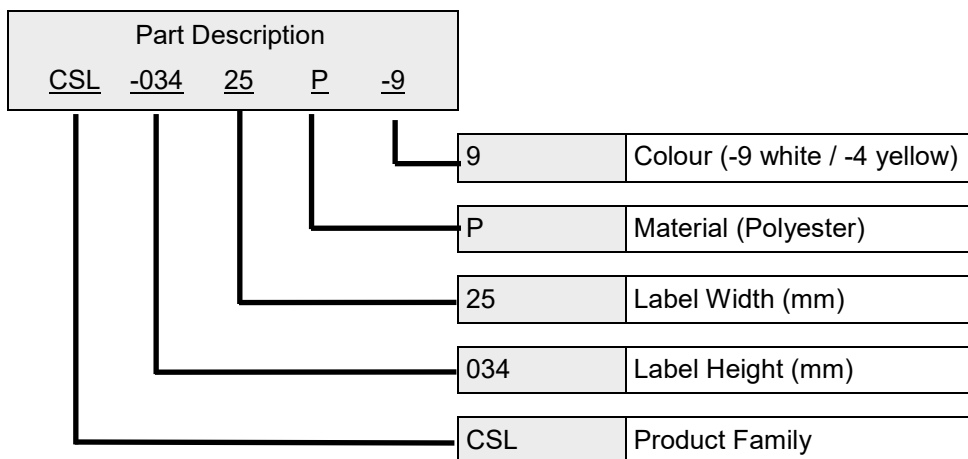
Typical Label Thickness

- Label (including adhesive): 0.045 mm / 0.0018 inch
- Liner: 0.155 mm / 0.0061 inch

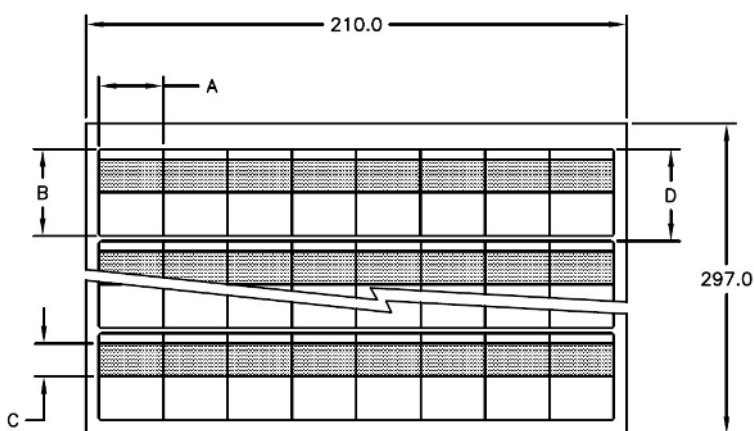
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Where possible, TE have tested product as a finished item, including the print. Operational tests are followed by an assessment of mark adherence to validate fit, form and function.

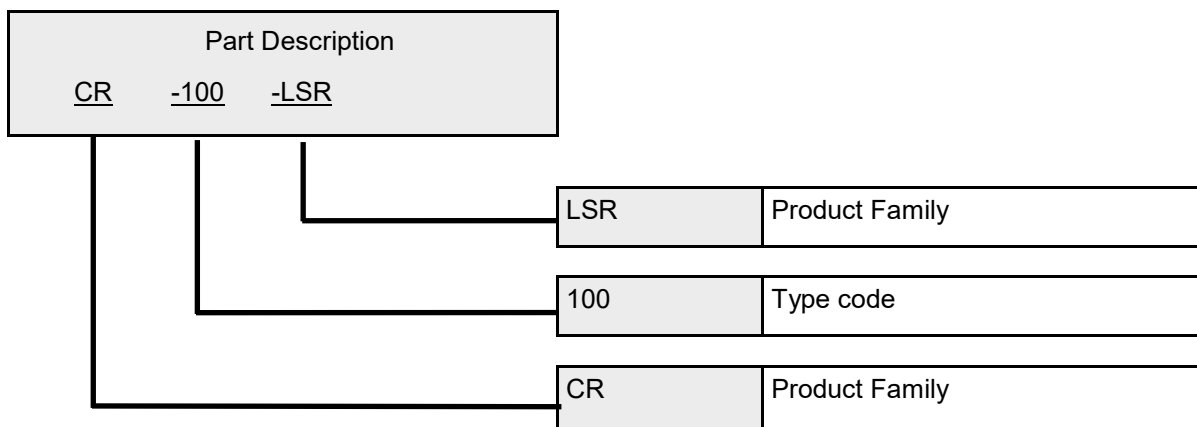




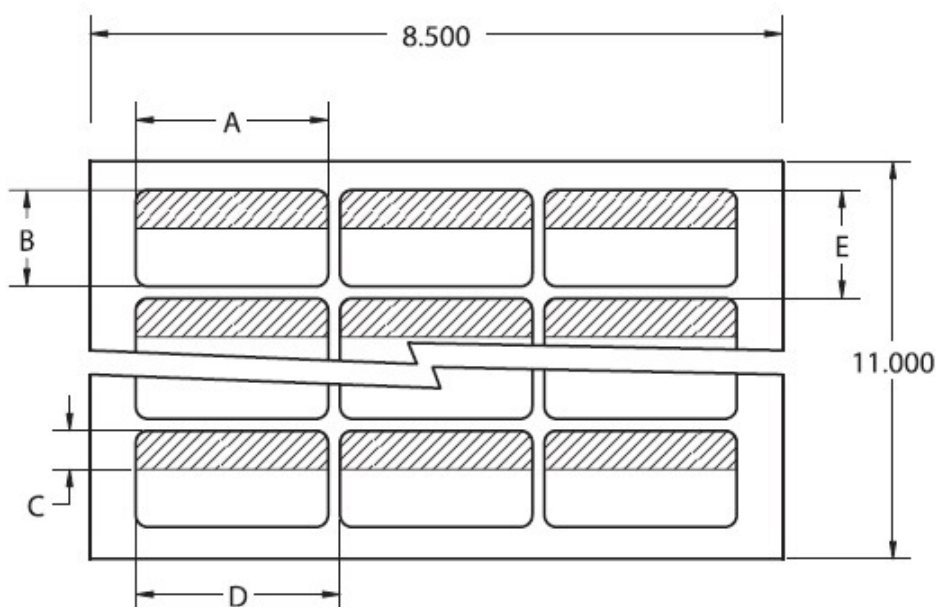
Ordering Information CSL - European A4 format: 210 x 297 mm



| Product Description | Labels per sheet/ Labels per pack | Max. Cable Diameter (mm) (inches) | Label Width A (mm) (inches) | Label Height B (mm) (inches) | Printable Height C (mm) (inches) | Vertical Repeat D (mm) (inches) |
|---------------------|--------------------------------------|-----------------------------------|-----------------------------|------------------------------|----------------------------------|---------------------------------|
| CSL-02713P-9 | 160 | 6.6 0.260 | 12.5 0.490 | 26.7 1.050 | 6.0 0.240 | 28.7 1.130 |
| CSL-03418P-4 | 88 | 8.1 0.318 | 18.2 0.720 | 33.9 1.330 | 8.5 0.330 | 35.9 1.413 |
| CSL-03418P-9 | 88 | 8.1 0.318 | 18.2 0.720 | 33.9 1.330 | 8.5 0.330 | 35.9 1.413 |
| CSL-03425P-4 | 64 | 6.8 0.266 | 25.0 0.980 | 33.9 1.330 | 12.7 0.500 | 35.9 1.413 |
| CSL-03425P-9 | 64 | 6.8 0.266 | 25.0 0.980 | 33.9 1.330 | 12.7 0.500 | 35.9 1.413 |
| CSL-05525P-4 | 40 | 13.5 0.530 | 25.0 0.980 | 55.0 2.170 | 12.7 0.500 | 57.5 2.264 |
| CSL-05525P-9 | 40 | 13.5 0.530 | 25.0 0.980 | 55.0 2.170 | 12.7 0.500 | 57.5 2.264 |
| CSL-06925P-4 | 32 | 16.6 0.652 | 25.0 0.980 | 69.0 2.720 | 17.0 0.670 | 72.0 2.835 |
| CSL-06925P-9 | 32 | 16.6 0.652 | 25.0 0.980 | 69.0 2.720 | 17.0 0.670 | 72.0 2.835 |
| CSL-06933P-4 | 24 | 15.0 0.589 | 33.3 1.310 | 69.0 2.720 | 22.0 0.870 | 72.0 2.835 |
| CSL-06933P-9 | 24 | 15.0 0.589 | 33.3 1.310 | 69.0 2.720 | 22.0 0.870 | 72.0 2.835 |
| CSL-09333P-4 | 18 | 21.5 0.848 | 33.3 1.310 | 93.0 3.660 | 25.4 1.000 | 96.00 3.780 |
| CSL-09333P-9 | 18 | 21.5 0.848 | 33.3 1.310 | 93.0 3.660 | 25.4 1.000 | 96.00 3.780 |
| CSL-14033P-4 | 12 | 36.5 1.437 | 33.3 1.310 | 140.0 5.510 | 25.4 1.000 | 145.00 5.709 |
| CSL-14033P-9 | 12 | 36.5 1.437 | 33.3 1.310 | 140.0 5.510 | 25.4 1.000 | 145.00 5.709 |



Ordering Information LSR - US sheet format: 8.5 x 11.0 inches
 Colour of the printable area: white



| Ordering Description | Package Quantity | Labels per | Max. Cable Outside Diameter | Label Width A (mm) (inches) | Label Height B (mm) (inches) | Printable Height C (mm) (inches) | Horizontal Repeat D | Vertical Repeat E |
|----------------------|------------------|------------|-----------------------------|-----------------------------|------------------------------|----------------------------------|---------------------|-------------------|
| CR-100-LSR | 4,992 | 156 | 3.09 0.122 | 12.70 0.500 | 19.10 0.750 | 9.40 0.370 | 15.20 0.600 | 20.60 0.810 |
| CR-101-LSR | 4,992 | 78 | 8.08 0.318 | 12.70 0.500 | 38.10 1.500 | 12.70 0.500 | 15.20 0.600 | 40.60 1.600 |
| CR-105-LSR | 5,040 | 84 | 3.34 0.132 | 25.40 1.000 | 19.10 0.750 | 8.60 0.340 | 27.90 1.100 | 20.60 0.810 |
| CR-106-LSR | 2,520 | 63 | 5.35 0.211 | 25.40 1.000 | 25.40 1.000 | 8.60 0.340 | 27.90 1.100 | 27.90 1.100 |
| CR-107-LSR | 2,499 | 49 | 6.72 0.265 | 25.40 1.000 | 33.80 1.330 | 12.70 0.500 | 27.90 1.000 | 36.60 1.440 |
| CR-108-LSR | 1,008 | 21 | 17.79 0.700 | 25.40 1.000 | 80.50 3.170 | 24.60 0.970 | 27.90 1.100 | 84.10 3.310 |
| CR-110-LSR | 1,008 | 12 | 17.79 0.700 | 47.80 1.880 | 80.50 3.170 | 24.60 0.970 | 50.80 2.000 | 83.30 3.280 |

Printer Information

Printers: Monochrome and colour Laser Jet printers were used for technical performance testing.

Monochrome: Samsung SL-M2026W A4 Mono Wireless Laser Printer.

Colour Laser jet printer: HP M452nw LaserJet Pro Colour Printer.



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