

# TMS-SCE and TMS-SCE-2X

## HEAT SHRINK IDENTIFICATION SYSTEM

### Technical Datasheet

TTDS-023 Revision 9 - May 2021

#### **TMS-SCE Military Grade, Heat Shrink Identification Marker Sleeving, for the identification of wire and cables.**

Made from durable, flame retarded, radiation cross linked heat shrinkable polyolefin. Supplied in 'ladder format', sleeves are presented for ease of printing and kitting.

TMS-SCE is a thin wall, light weight, fast recovery 3:1 shrink ratio sleeve, allowing the customer to cover a wide range of cable diameters.

TMS-SCE-2X is a thicker, rugged wall, 2:1 shrink ratio sleeve, which can aid with handling and installation.

Suitable for a wide variety of applications, including aerospace, military, industrial and energy. Marker sleeves meet the mark permanence requirements of AS5942 and MIL 202 Method 215

TMS-SCE meets the material performance requirements of the AMS SAE DTL 23053/5 specification.

TMS-SCE-2X sleeves are fabricated from AMS SAE DTL 23053/5 class 1 and 3 tubing.

TMS-SCE and TTMS Heat Shrink Identification products are available as part of a complete identification system. The system comprises specific printers, thermal transfer ribbons and WINTOTAL software.

# TMS-SCE MILITARY GRADE

## HEAT SHRINK CABLE IDENTIFICATION SYSTEM

### Features

- Self-extinguishing, non-flame propagating
- Resistant to key Military and Aerospace fluids (defined by RW-2511)
- Military grade performance
- Can be laser marked for superior performance
- Pre-termination Cable Identification
- Sleeve diameters from 2.4mm to 57.15mm (3/32 to 2 1/4)
- TMS-SCE (3:1 Shrink ratio)
- TMS-SCE-2X (2:1 shrink ratio)

### Temperature Rating

- -55°C to 135°C (-67°F to 275°F)

### Application



### Specifications / Approvals

**TE Connectivity Stand-** RW-2511 Specification for TMS-SCE products

|                   |   |
|-------------------|---|
| <b>Rail</b>       | <p>EN45545-2, Railway applications - Fire protection on railway vehicles, Part 2: Requirements for fire behaviour of materials and components<br/>Hazard Level 1 and 2, in accordance with requirement set R24</p> <p>NFPA 130 Standard for Fixed Guideway Transit and Passenger Rail Systems, Fire protection requirements, Interior Fire Propagation Resistance</p> <p>Federal Railroad Administration, DOT, Appendix B to Part 238, Test Methods and Performance Criteria for the Flammability and Smoke Emission Characteristics of Materials used in Passenger Cars and Locomotive Cabs</p> <p>SHAZAINENSHI, Japan Railway Rolling Stock &amp; Machinery Association 2003<br/>Classification 'Flame Retardant' Serial number 2015-163K</p> |
| <b>Military</b>   | <p>SAE-AMS-23053/5 Insulation Sleeving, Electrical, Heat Shrinkable, Polyolefin, Semi-Rigid, Crosslinked.</p> <ul style="list-style-type: none"><li>• TMS-SCE Class 1 Material performance</li><li>• TMS-SCE-2X Class 1 and 3 Material performance</li></ul>  |
| <b>Industrial</b> | <p>CSA Standard C22.2 No 198.1 Class Number 9032-01<br/>INSULATING DEVICES AND MATERIALS-Insulating Tubing and Sleeving,<br/>File reference 31929</p> <p>UL Certification, Tubing, Extruded Insulating Component<br/>File reference YDPU2.E35586</p>  |

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. Further details can be found in TE standard RW-2511.

### Product Environmental Compliance

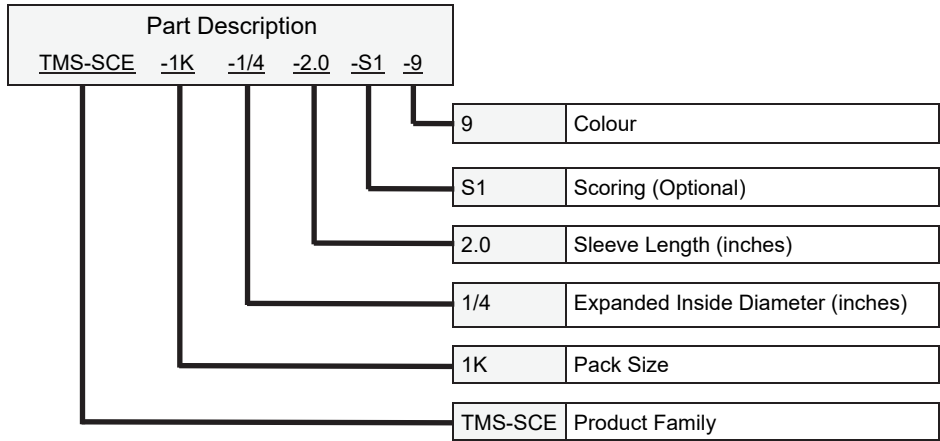
- TMS-SCE fully complies with Directive (EU) 2015/863 (amendment to Annex II to EU RoHS 2 Directive 2011/65/EU), and Regulation (EC) number 1907/2006 (REACH)
- Further information and a downloadable declaration covering RoHS and REACH compliance can be found at the TE Product Compliance Support Centre:

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

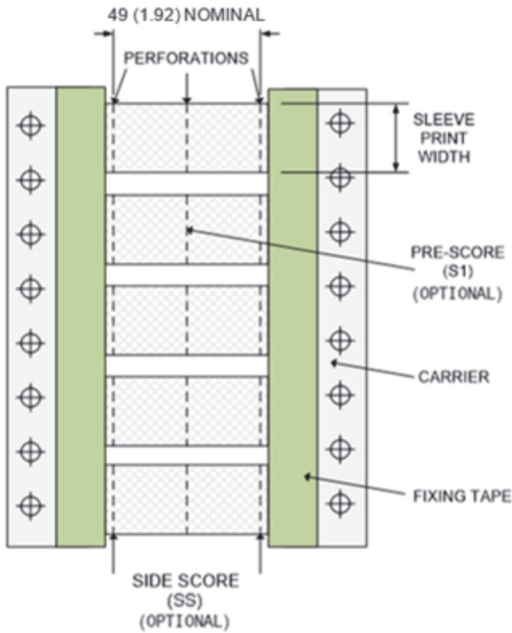
### Shelf Life

- Refer to TE document 408-121006

Cable Identification Shelf Life Document



**Available Options**



Dimensions in mm (inches)

|                             |  |                         |            |        |        |
|-----------------------------|--|-------------------------|------------|--------|--------|
| <b>Pre-scoring</b>          | Perforated score to produce multiple marker sleeves from each sleeve |                         |            |        |        |
|                             | 1 Pre-score  | Code                    | S1         |        |        |
|                             | 2 Pre-scores   | Code                    | S2         |        |        |
|                             | 3 Pre-scores   | Code                    | S3         |        |        |
| <b>Packaging sizes</b>      | <b>TMS-SCE</b>   | <b>TMS-SCE-2X</b>       |            |        |        |
|                             | <blank>  | Available for all sizes | 3/8 to 3/4 |        |        |
|                             | 250 pieces   |                         |            |        |        |
|                             | <b>0.5</b>   | 3/4 and above           | All Sizes  |        |        |
|                             | 500 pieces   |                         |            |        |        |
|                             | <b>1K</b>  | All Sizes               | All Sizes  |        |        |
|                             | 1000 pieces  |                         |            |        |        |
| <b>2.5K</b>                 | 3/32 to 3/8  | Not available           |            |        |        |
| 2500 pieces                 |  |                         |            |        |        |
| <b>5K</b>                   | 3/32 to 3/8  | Not available           |            |        |        |
| 5000 pieces                 |  |                         |            |        |        |
| <b>Colours</b><br>(TMS-SCE) | Black  | Pink                    | Red        | Orange | Yellow |
|                             | 0  | 2L                      | 2          | 3      | 4      |
|                             | Green  | Blue                    | Violet     | Grey   | White  |
|                             | 5  | 6                       | 7          | 8      | 9      |

Specify product name, pack size (leave blank if 250 pieces are required), sleeve size, sleeve length, pre-score (leave blank if not required) and colour

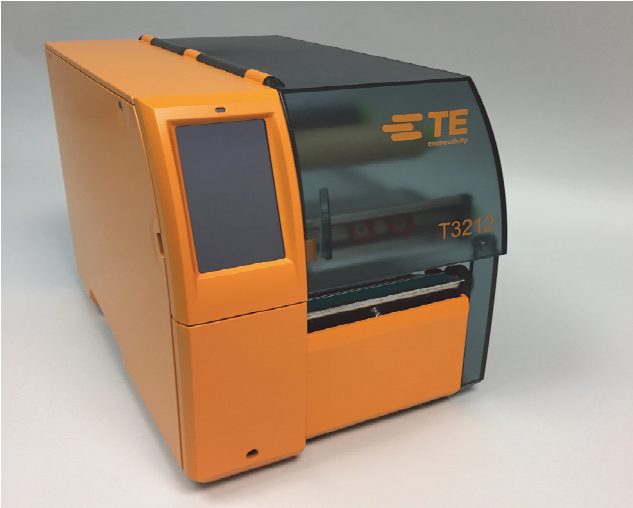
Ordering Example: TMS-SCE-1K-1/4-2.0-S1-9

To maximise print contrast, colours are based on pastel shades. TMS-SCE-2X is available in White only.

**Ordering Information**

| Ordering description                                       | Inside diameter       |        |                          |        | Recovered Wall Thickness (nominal) | Weight (nominal) | Cable Diameter Recommended use range |                |  |  |
|--|-----------------------|--------|--------------------------|--------|------------------------------------|------------------|--------------------------------------|----------------|--|--|
|  | As supplied (minimum) |        | After recovery (maximum) |        |                                    |                  | mm                                   | inches         |  |  |
|  | mm                    | inches | mm                       | inches | mm                                 | inches           |                                      |                |  |  |
| TMS-SCE - <pack size> - 3/32 – 2.0 - <score> - <colour>    | 2.38                  | 0.093  | 0.79                     | 0.031  | 0.58                               | 0.15             | 0.8 to 1.9                           | 0.032 to 0.075 |  |  |
| TMS-SCE - <pack size> - 1/8 – 2.0 - <score> - <colour>     | 3.18                  | 0.125  | 1.07                     | 0.042  | 0.58                               | 0.20             | 1.1 to 2.6                           | 0.044 to 0.105 |  |  |
| TMS-SCE - <pack size> - 3/16 – 2.0 - <score> - <colour>    | 4.76                  | 0.187  | 1.57                     | 0.062  | 0.58                               | 0.27             | 1.7 to 4.0                           | 0.069 to 0.160 |  |  |
| TMS-SCE - <pack size> - 1/4 – 2.0 - <score> - <colour>     | 6.35                  | 0.250  | 2.11                     | 0.083  | 0.58                               | 0.35             | 2.3 to 5.4                           | 0.091 to 0.215 |  |  |
| TMS-SCE - <pack size> - 3/8 – 2.0 - <score> - <colour>     | 9.53                  | 0.375  | 3.18                     | 0.125  | 0.61                               | 0.50             | 3.4 to 8.1                           | 0.137 to 0.320 |  |  |
| TMS-SCE - <pack size> - 1/2 – 2.0 - <score> - <colour>     | 12.70                 | 0.500  | 4.22                     | 0.166  | 0.61                               | 0.68             | 4.6 to 10.7                          | 0.183 to 0.425 |  |  |
| TMS-SCE - <pack size> - 3/4 – 2.0 - <score> - <colour>     | 19.05                 | 0.750  | 6.35                     | 0.250  | 0.64                               | 1.20             | 6.9 to 16.2                          | 0.275 to 0.640 |  |  |
| TMS-SCE - <pack size> - 1 – 2.0 - <score> - <colour>       | 25.40                 | 1.000  | 8.46                     | 0.333  | 0.64                               | 1.54             | 9.2 to 21.5                          | 0.366 to 0.850 |  |  |
| TMS-SCE - <pack size> - 1 1/2 – 2.0 - <score> - <colour>   | 38.10                 | 1.500  | 19.05                    | 0.750  | 0.51                               | 2.75             | 20.9 to 33.0                         | 0.825 to 1.300 |  |  |
| TMS-SCE - <pack size> - 2 – 2.0 - <score> - <colour>       | 50.80                 | 2.000  | 25.40                    | 1.000  | 0.64                               | 4.73             | 27.9 to 44.9                         | 1.100 to 1.770 |  |  |
| TMS-SCE - <pack size> - 2 1/4 – 2.0 - <score> - <colour>   | 57.15                 | 2.250  | 19.05                    | 0.750  | 0.76                               | 4.21             | 22.3 to 50.8                         | 0.879 to 2.000 |  |  |
| TMS-SCE-2X - <pack size> - 3/32 – 2.0 - <score> - <colour> | 2.38                  | 0.093  | 1.17                     | 0.046  | 0.64                               | 0.20             | 1.2 to 1.9                           | 0.050 to 0.075 |  |  |
| TMS-SCE-2X - <pack size> - 1/8 – 2.0 - <score> - <colour>  | 3.18                  | 0.125  | 1.58                     | 0.062  | 0.64                               | 0.28             | 1.2 to 2.6                           | 0.044 to 0.105 |  |  |
| TMS-SCE-2X - <pack size> - 3/16 – 2.0 - <score> - <colour> | 4.76                  | 0.187  | 2.36                     | 0.093  | 0.64                               | 0.36             | 1.7 to 4.0                           | 0.069 to 0.160 |  |  |
| TMS-SCE-2X - <pack size> - 1/4 – 2.0 - <score> - <colour>  | 6.35                  | 0.250  | 3.18                     | 0.125  | 0.64                               | 0.59             | 2.3 to 5.4                           | 0.091 to 0.215 |  |  |
| TMS-SCE-2X - <pack size> - 3/8 – 2.0 - <score> - <colour>  | 9.53                  | 0.375  | 4.75                     | 0.187  | 0.64                               | 0.85             | 3.4 to 8.1                           | 0.137 to 0.320 |  |  |
| TMS-SCE-2X - <pack size> - 1/2 – 2.0 - <score> - <colour>  | 12.70                 | 0.500  | 6.35                     | 0.250  | 0.64                               | 1.15             | 4.6 to 10.7                          | 0.183 to 0.425 |  |  |
| TMS-SCE-2X - <pack size> - 3/4 – 2.0 - <score> - <colour>  | 19.05                 | 0.750  | 9.53                     | 0.375  | 0.76                               | 2.06             | 6.9 to 16.2                          | 0.275 to 0.640 |  |  |



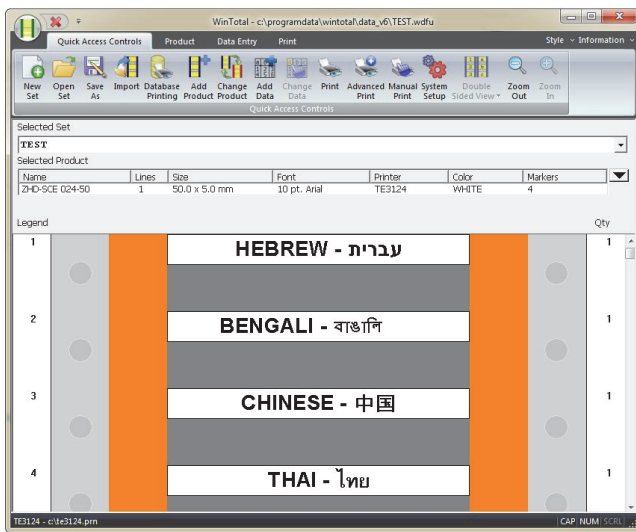


### Printer Information

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

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 on the 'Printers, Software & Accessories' webpage:

<https://www.te.com/usa-en/products/identification-labeling/printers-software-and-accessories/printers.html?tab=pgp-story>



### Software

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

<http://www.te.com/wintotal>

Contact a TE representative for further information



### www.te.com

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