

**Specification RW-2500-3****TE 108-121006****THIN-WALL MARKER SLEEVES  
TW-TMS****Approved Signatories:****This document is electronically reviewed and approved by TE Connectivity.**

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TE CONNECTIVITY, SWINDON, UK

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## 1. REVISION HISTORY

| Revision Number | Description of change | Date                    | Incorporated By |
|-----------------|-----------------------|-------------------------|-----------------|
| 1               | AFC 256               | 14/04/04                | Alan Kean       |
| 2               | AFC 372               | 14/04/04                | Alan Kean       |
| 3               | Refer to PCN          | 16/07/14 issued 08-2015 | Lee Smith       |

## 2. SCOPE

This specification sheet, when used with RW-2500, defines the product characteristics and performance of TE Connectivity Thin-Wall Marker Sleeves.

The printing system developed for this marker sleeve is now obsolete. TE can only guarantee the physio-chemical nature of the product, and not any marking applied using non-recommended printing systems. Where non-standard systems are used, customers are required to carry out their own validation testing.

## 3. REQUIREMENTS

### 3.1. MATERIAL

The sleeving shall be fabricated from irradiated, thermally stabilized, modified polyvinylidene fluoride compound. It shall be homogeneous and essentially free from flaws, defects, pinholes, bubbles, seams, cracks or inclusions.

### 3.2. COLOR

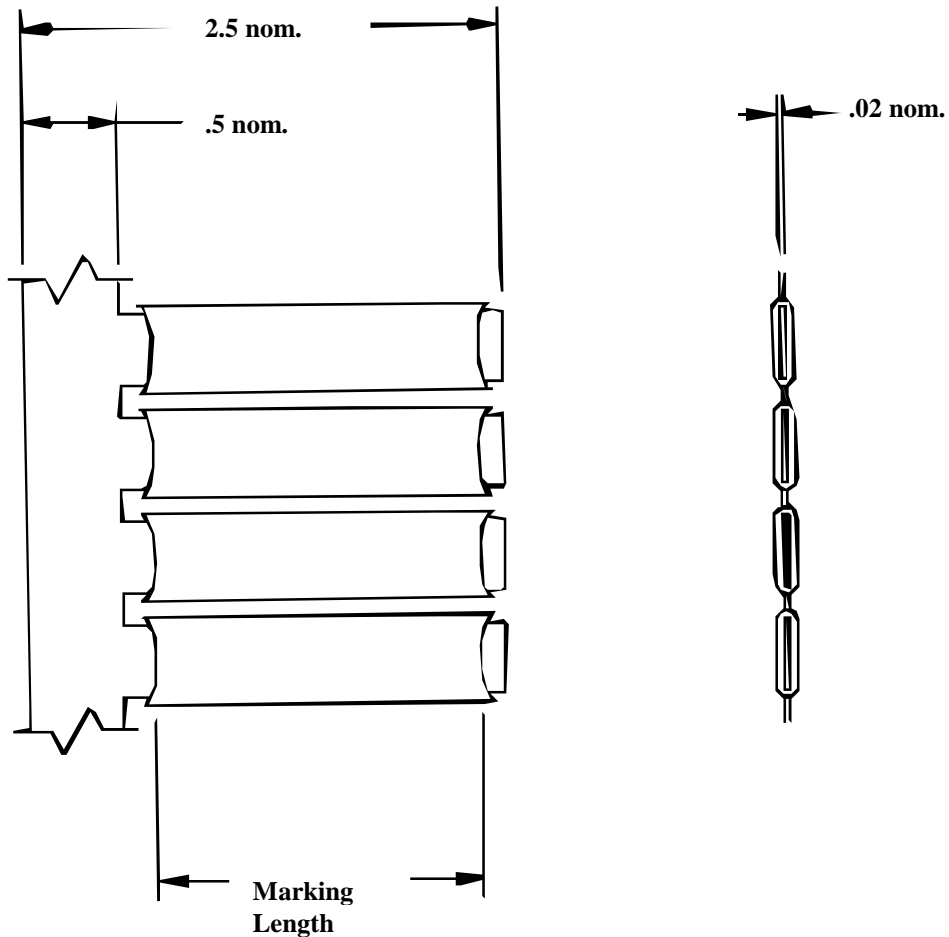
The sleeves shall be supplied in white, unless otherwise specified.

### 3.3. PROPERTIES

The sleeves shall meet the requirements of Table 3.

### 3.4. FORM

The sleeves shall be cut lengths in accordance with Table 1.



See Table 1

Dimensions are in inches

Figure 1

**TABLE 1**  
**Sleeve Dimensions**

| Product Description | As Supplied             |      |                        |       | Recovered               |      |                |             |
|---------------------|-------------------------|------|------------------------|-------|-------------------------|------|----------------|-------------|
|                     | Inside Diameter Minimum |      | Marking Length Minimum |       | Inside Diameter Maximum |      | Wall Thickness |             |
|                     | in.                     | mm.  | in.                    | mm.   | in.                     | mm.  | in.            | mm.         |
| TW-TMS-3/32-1.50    | .093                    | 2.36 | 1.60                   | 39.41 | .030                    | 0.76 | .017 ± .003    | 0.43 ± 0.08 |
| TW-TMS-1/8-1.50     | .125                    | 3.17 | 1.60                   | 39.41 | .050                    | 1.27 | .017 ± .003    | 0.43 ± 0.08 |
| TW-TMS-3/16-1.50    | .187                    | 4.74 | 1.57                   | 38.65 | .093                    | 2.36 | .018 ± .003    | 0.46 ± 0.08 |
| TW-TMS-1/4-1.50     | .250                    | 6.35 | 1.55                   | 38.14 | .125                    | 3.17 | .018 ± .003    | 0.46 ± 0.08 |
| TW-TMS-3/32-1.75    | .093                    | 2.36 | 1.90                   | 47.00 | .030                    | 0.76 | .017 ± .003    | 0.43 ± 0.08 |
| TW-TMS-1/8-1.75     | .125                    | 3.17 | 1.90                   | 47.00 | .050                    | 1.27 | .017 ± .003    | 0.43 ± 0.08 |
| TW-TMS-3/16-1.75    | .187                    | 4.74 | 1.85                   | 45.70 | .093                    | 2.36 | .018 ± .003    | 0.46 ± 0.08 |
| TW-TMS-3/16-OX-1.75 | .187                    | 4.74 | 1.85                   | 45.70 | .062                    | 1.57 | .022 ± .003    | 0.55 ± 0.08 |
| TW-TMS-1/4-1.75     | .250                    | 6.35 | 1.81                   | 44.70 | .125                    | 3.17 | .018 ± .003    | 0.46 ± 0.08 |
| TW-TMS-1/4-OX-1.75  | .250                    | 6.35 | 1.81                   | 44.70 | .093                    | 2.36 | .022 ± .003    | 0.56 ± 0.08 |

**TABLE 2**  
**Mandrel Dimensions for Heat Shock, Heat Aging and Low Temperature Flexibility**

| Tubing Size       | Mandrel Diameter |      |
|-------------------|------------------|------|
|                   | in               | mm   |
| 3/32 through 3/16 | 5/16             | 7.9  |
| 1/4 through 3/4   | 3/4              | 19.0 |

**TABLE 3 Requirements**

| PROPERTY  | UNIT          | REQUIREMENT  | RW-2500 TEST METHOD                        |
|---|---------------|--|--|
| <b>PHYSICAL</b>   |               |  |  |
| Dimensions  | Inches        | In accordance with Table 1   |  |
| Dimensional Recovery<br>3 minutes at 200°C (392°F)      | Inches        | In accordance with Table 1   | RW-2500 Section<br>4.3.1.1<br>ASTM D 2671  |
| Longitudinal Change<br>3 minutes at 200°C (392°F)       | Percent       | 10 maximum   |  |
| Tensile Strength  | MPa (psi)     | 10.3 (1500) minimum  | RW-2500 Section<br>4.3.2.1<br>ASTM D 2671  |
| Ultimate Elongation                                     | Percent       | 200 minimum  | 2 inches/minute                            |
| Specific Gravity  | ---           | 1.38 maximum   | RW-2500 Section<br>4.3.3 ASTM D<br>2671    |
| Low Temperature Flexibility<br>4 hours at -55°C (-67°F) | ---           | No cracking  | RW-2500 Section<br>4.3.5.1                 |
| Heat Shock<br>4 hours at 250°C (482°F)                  | ---           | No dripping, flowing, or<br>cracking   | RW-2500 Section<br>4.3.6.1                 |
| Heat Aging<br>168 hours at 175°C (347°F)                | ---           | No cracking  | RW-2500 Section<br>4.3.7.1                 |
| Copper Contact Corrosion<br>16 hours at 150°C (302°F)   | ---           | No pitting or blackening of<br>copper  | RW-2500 Section<br>4.3.14.1                |
| Pull-Off Force<br>Size: 3/32                            | N (Pounds)    | 26 (6.0) maximum   | RW-2500 Section<br>4.3.8                   |
| Size: 1/8   | N (Pounds)    | 31 (7.0) maximum   |  |
| Size: 3/16  | N (Pounds)    | 35 (8.0) maximum   |  |
| Size: 1/4   | N (Pounds)    | 40 (9.0) maximum   |  |
| <b>ELECTRICAL</b>                                       |               |  |  |
| Dielectric Strength                                     | kV/mm (V/mil) | 19.7 (500) minimum   | RW-2500 Section<br>4.3.11.1<br>ASTM D 2671 |
| Volume Resistivity                                      | ohm-cm        | 10 <sup>14</sup> minimum   | RW-2500 Section<br>4.3.12.1 ASTM D<br>2671 |
| <b>CHEMICAL</b>   |               |  |  |
| Corrosive Effect<br>16 hours at 150°C (302°F)           | ---           | Non Corrosive  | RW-2500 Section<br>4.3.13.1<br>ASTM D 2671 |
| Flammability (FED-STD-228)                              | ---           | Burn time shall not exceed<br>one minute, and not more<br>than 25% of indicator flag<br>shall be burned or charred.<br>No dripping or flowing. | RW-2500 Section<br>4.3.15.3                |
| Fungus Resistance                                       | ---           | Rating of 1 or less  | ASTM G 21                                  |
| Water Absorption 24 hours at 23°C<br>(73°F)             | %             | 0.5 maximum  | ASTM D 570                                 |

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