



NST Tubing

Modified Chlorinated Polyolefin (Neoprene®)

Data Sheet

Product Description

3M™ NST Tubing provides superior cut-through and abrasion resistance and is unaffected by common fluids and solvents. Resistance to oils is excellent. The tubing maintains flexibility at low temperatures and can be readily marked by hot-stamp and print-wheel methods. When heated in excess of 135°C (275°F) NST Tubing rapidly shrinks to a skintight fit. NST is rated for continuous operation from -70°C (-94°F) to 121°C (250°F).

Typical Applications

NST Tubing is recommended for applications requiring a tough, highly flexible covering. It is particularly useful for fabrication and repair of flexible harnesses and wire bundles and for covering hydraulic couplings. Its superior mechanical properties and broad operating temperature range make it an ideal choice for jacketing cable harnesses and custom-made cables that must operate in severe environmental conditions.

Shrink Ratio

NST Tubing has a 2:1 shrink ratio. When freely recovered, the tubing will shrink to 50% of its as-supplied internal diameter. The recovered wall thickness is proportional to the degree of recovery.

Standard Color

Black.

Standard Packaging

Spools.

Ordering Information

Order NST Tubing by product name, size equivalent to the expanded inside diameter, package type and color. Always order the largest size that will shrink snugly over the component to be covered. When ordering NST Tubing, please indicate the applicable specification required.
Example: NST, 3/16", spools, black.

Standard Sizes and Dimensions

| Ordering Size | Expanded I.D. (Minimum) | | Recovered I.D. (Maximum) | | Recovered Wall Thickness (Nominal) | |
|---------------|-------------------------|---------|--------------------------|---------|------------------------------------|--------|
| | in. | (mm) | in. | (mm) | in. | (mm) |
| 1/8 | .125 | (3,18) | .072 | (1,83) | .030 | (0,76) |
| 3/16 | .187 | (4,75) | .106 | (2,69) | .035 | (0,89) |
| 1/4 | .250 | (6,35) | .125 | (3,18) | .035 | (0,89) |
| 3/8 | .375 | (9,53) | .187 | (4,75) | .040 | (1,02) |
| 1/2 | .500 | (12,70) | .250 | (6,35) | .048 | (1,22) |
| 5/8 | .625 | (15,88) | .312 | (7,92) | .052 | (1,32) |
| 3/4 | .750 | (19,05) | .375 | (6,99) | .057 | (1,45) |
| 7/8 | .875 | (22,23) | .437 | (11,10) | .065 | (1,65) |
| 1 | 1.000 | (25,40) | .500 | (12,70) | .070 | (1,78) |
| 1-1/4 | 1.250 | (31,75) | .625 | (15,54) | .087 | (2,21) |
| 1-1/2 | 1.500 | (38,10) | .750 | (19,05) | .095 | (2,41) |
| 1-3/4 | 1.750 | (44,45) | .875 | (22,23) | .107 | (2,72) |
| 2 | 2.000 | (50,80) | 1.000 | (25,40) | .110 | (2,79) |
| 3 | 3.000 | (75,20) | 1.500 | (38,10) | .125 | (3,18) |

Typical Properties

Applicable Specification

MIL-R-46846, Type I, Class 1; MIL-DTL-23053/1, Class 1, 2; AMS-3623
(SC-X-15112 available on request)

Physical

Tensile Strength 2100 PSI
Ultimate Elongation 500%
Longitudinal Change +1, -10%
Specific Gravity 1.3
Operating Temperature Range -70°C to +121°C
Shrink Temperature (Min.) 135°C (275°F)
Low Temperature Flexibility (4 hrs. @ -70°C) No cracking
Flammability Self-extinguish

Electrical

Dielectric Strength 800 V/mil
Volume Resistivity 10¹² ohm-cm

Chemical

Corrosion Resistance Non-corrosive
Fuel & Oil Resistance Excellent
Solvent Resistance Good
Abrasion Resistance Excellent
Acids & Alkalis Resistance Excellent

Technical information provided consists of typical product data and should not be used for specification purposes. Unless otherwise noted, all tests are performed at room temperature.

Limited Warranty – 3M expressly warrants that for a period of ninety days from the date of purchase, 3M static control products will be free of defects in materials (parts) and workmanship (labor). Defects occurring during the warranty period will be repaired or products will be replaced at 3M's option and expense, if 3M receives notice during the warranty period. Defective products must be returned to 3M with proof of purchase date.

Warranty Exclusions – THE FOREGOING EXPRESS WARRANTY IS MADE IN LIEU OF ALL OTHER PRODUCT WARRANTIES, EXPRESS AND IMPLIED, INCLUDING FITNESS AND MERCHANTABILITY. The express warranty will not apply to defects or damage due to accidents, neglect, misuse, alterations, operator error, or failure to properly maintain, clean, or repair products.

Limit of Liability – In no event will 3M or Seller be responsible or liable for special, incidental, or consequential losses or damages, whether based in tort or contract. Fulfillment of 3M's warranty obligations will be Customer's exclusive remedy and 3M's and Seller's limit of liability for any breach of warranty or otherwise.

For your nearest distributor or to order, call 1-800-328-1368

3M Electrical Specialties Division

6801 River Place Blvd.
Austin, TX 78726-9000

© 3M March 1997