

**INSULTHERM®**  
**RESIN COATED FIBERGLASS · PROTECTS UP TO 650°C**  
**IT WILL NOT BURN, MELT OR BECOME BRITTLE**

INSULTHERM® (FGN) is an extremely high temperature resistant sleeve commonly used as thermal protection for wires, cables and hoses that are subjected to continuous and extreme high temperature environments, such as engine manifolds and exhaust systems. Insultherm® is braided from fiberglass yarns and coated with high temperature resins. Insultherm® is tough and durable, maintaining its tight structure under extreme vibration, abrasion, mechanical stress and temperature variations. Insultherm® installs easily over a variety of applications to either deflect or retain heat in environments up to 650°C.

**SIZING CHART**

| Nominal Size | Part #  | Maximum Diameter | Wall Thickness | *Put-Ups |       | Available Colors | Kgs/100m |
|--------------|---------|------------------|----------------|----------|-------|------------------|----------|
|              |         |                  |                | M        | L     |                  |          |
| 6,4mm        | FGN0.25 | 9,5mm            | 0,8mm          | 15,2m    | 61,0m | 2                | 2,98     |
| 9,5mm        | FGN0.38 | 15,9mm           | 1,1mm          | 15,2m    | 61,0m | 2                | 4,91     |
| 12,7mm       | FGN0.50 | 19,1mm           | 1,2mm          | 15,2m    | 61,0m | 2                | 7,14     |
| 15,9mm       | FGN0.63 | 22,2mm           | 1,2mm          | 15,2m    | 61,0m | 2                | 7,89     |
| 19,1mm       | FGN0.75 | 28,6mm           | 1,2mm          | 15,2m    | 61,0m | 2                | 9,52     |
| 22,2mm       | FGN0.88 | 31,8mm           | 1,2mm          | 15,2m    | 61,0m | 2                | 12,95    |
| 25,4mm       | FGN1.00 | 41,3mm           | 1,4mm          | 7,6m     | 30,5m | 2                | 15,63    |
| 38,1mm       | FGN1.50 | 66,7mm           | 1,5mm          | 7,6m     | 30,5m | 2                | 23,81    |
| 63,5mm       | FGN2.50 | 104,8mm          | 1,8mm          | 7,6m     | 30,5m | 2                | 29,32    |

\*Put-Ups: "M" = Shop Spool and "L" = Bulk Spool

**FEATURES**

|                |                         |
|----------------|-------------------------|
| Material       | Resin Coated Fiberglass |
| Grade          | FGN                     |
| Wall Thickness | Refer To Chart          |
| Drawing Number | TF001FGN-WD             |
| Cutting        | Scissors                |

**COLORS**



Silver (SV), Black (BK), \*Red (RD)

\*Red is available for special order

**CERTIFICATIONS**



## ABRASION

|  |                   |
|--|-------------------|
| Abrasion Resistance                        | <b>HIGH</b>       |
| Abrasion Test Machine                      | Taber 5150        |
| Abrasion Test Wheel                        | Calibrase H-18    |
| Abrasion Test Load                         | 500g              |
| Room Temperature                           | 73°F / 23°C       |
| Humidity                                   | 55%               |
| Visible Minor Scuffing                     | 200 Test Cycles   |
| Scuffing & Wear Continues                  | 500 Test Cycles   |
| Several Broken Strands                     | 1 300 Test Cycles |
| Material Destroyed                         | 1 650 Test Cycles |
| Pre-Test Weight                            | 1 ,411,6mg        |
| Post-Test Weight                           | 17 154,5mg        |
| Test End Loss Of Mass Point Of Destruction | 2 257,1mg         |

## PHYSICAL PROPERTIES

|  |               |
|--|---------------|
| Monofilament Diameter (ASTM D-204)         | NA            |
| Flammability Rating                        | VW-1          |
| Recommended Cutting                        | Scissors      |
| Colors                                     | 3             |
| Wall Thickness                             | 0,8mm - 1,8mm |
| Tensile Strength (Yarn) (ASTM D-2256 Lbs)  | NA            |
| Specific Gravity (ASTM D-792)              | 1,0 - 1,8     |
| Moisture Absorption % (ASTM D-570)         | 0,01%         |
| Hard Vacuum Data (ASTM E-595 at 10-5 torr) | NA            |
| TML  | 0,02          |
| CVCM                                       | 0,01          |
| WVR  | 0,00          |
| Smoke D-Max (ASTM E-662)                   | NA            |
| Outgassing                                 | Low           |
| Oxygen Index (ASTM D-2863)                 | NA            |

## FLAMMABILITY

|        |      |
|--------|------|
| Rating | VW-1 |
|--------|------|

## OPERATING TEMPERATURES

|                                  |                   |
|----------------------------------|-------------------|
| Melt Point (ASTM D-2117)         | 2,048°F / 1,120°C |
| Maximum Continuous (Mil-I-23053) | 1,202°F / 650°C   |
| Minimum Continuous (Mil-I-23053) | -94°F / -70°C     |

## CHEMICAL RESISTANCE

1=No Effect 2=Little Effect 3=Affected 4=More Affected 5=Severely Affected

|                              |      |
|------------------------------|------|
| Aromatic Solvents            | 1    |
| Aliphatic Solvents           | 1    |
| Chlorinated Solvents         | 1    |
| Weak Bases                   | 1    |
| Salts                        | 1    |
| Strong Bases                 | 1    |
| Salt Water (O-S-1926)        | 1    |
| Hydraulic Fluid (MIL-H-5606) | 1    |
| Lube Oil (MIL-L-7808)        | 1    |
| De-Icing Fluid (MIL-A-8243)  | 1    |
| Strong Acids                 | 2    |
| Strong Oxidants              | 2    |
| Esters/Ketones               | 1    |
| UV Light                     | 2    |
| Petroleum                    | 1    |
| Fungus (ASTM G-21)           | 1    |
| Halogen Free                 | Yes  |
| RoHS                         | Yes  |
| SVHC                         | None |