

Specification Sheet

Part Number: 309-65133

Thin, 2 to 1 shrink ratio tubing provides insulation and abrasion protection for wires and cables.

Flammability rating of UL224 VW-1 for use in applications requiring the highest degree of flame protection (excludes clear tubing).

Flexible-yet-durable material resists most common oils, chemicals and fluids.

Available in a variety of diameters and colors for identifying and marking wires and cables.

Available in mini reels, bulk reels, and sticks for small to large volume applications.



Heat Shrink Tubing, Bulk Reel, 2:1 Shrink Ratio, 3/16", 4.8/2.4 Dia, PO, Black, 1000 ft/reel

|                |               |
|----------------|---------------|
| Article Number | 309-65133     |
| Type           | TFN21 4.8/2.4 |
| Color          | Black (BK)    |
| Quantity Per   | reel          |

|                              |                                                                                                                                                                                                                                                                                                                                                                                        |
|------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Product Description          | TFN21 is a highly flexible thin wall heat shrink tubing with a 2 to 1 shrink ratio and excellent flame retardant properties. In addition to providing insulation and abrasion protection for wires and cables, the polyolefin material also offers resistance to oils, solvents and chemicals. Available in mini reels, bulk reels and sticks, for small to large volume applications. |
| Short Description            | Heat Shrink Tubing, Bulk Reel, 2:1 Shrink Ratio, 3/16", 4.8/2.4 Dia, PO, Black, 1000 ft/reel                                                                                                                                                                                                                                                                                           |
| Global Part Name             | TFN21 4.8/2.4-PO-X-BK                                                                                                                                                                                                                                                                                                                                                                  |
| Length L (Imperial)          | 1000.0                                                                                                                                                                                                                                                                                                                                                                                 |
| Length L (Metric)            | 304.8                                                                                                                                                                                                                                                                                                                                                                                  |
| Variant                      | Thin-Wall                                                                                                                                                                                                                                                                                                                                                                              |
| Nominal Diameter (Imperial)  | 0.19                                                                                                                                                                                                                                                                                                                                                                                   |
| Nominal Diameter (Metric)    | 4.8                                                                                                                                                                                                                                                                                                                                                                                    |
| Wall Thickness WT (Imperial) | .019                                                                                                                                                                                                                                                                                                                                                                                   |
| Wall Thickness WT (Metric)   | 0.48                                                                                                                                                                                                                                                                                                                                                                                   |
| Material                     | Polyolefin, cross-linked (PO-X)                                                                                                                                                                                                                                                                                                                                                        |
| Material Shortcut            | PO-X                                                                                                                                                                                                                                                                                                                                                                                   |
| Flammability                 | UL 224 VW-1                                                                                                                                                                                                                                                                                                                                                                            |

|                               |                                   |
|-------------------------------|-----------------------------------|
| Halogen Free                  | No                                |
| UV Resistant (Yes/No)         | No                                |
| Operating Temperature         | -67°F to +275°F (-55°C to +135°C) |
| Reach Compliant (Article 33)  | Yes                               |
| ROHS Compliant                | Yes                               |
| Certification/Specification   | UL   ANSI/UL 224 CSA              |
| UL Recognized (US)            | Yes                               |
| UL Recognized (US and Canada) | Yes                               |
| Package Quantity (Imperial)   | 1000                              |
| Package Quantity (Metric)     | 304.8                             |
| Customs Number                | 3926909988                        |

## About HellermannTyton

HellermannTyton is a global manufacturer of cable management and identification solutions for automotive, solar, electrical, construction, industrial automation, broadband and other OEM markets. The company's integrated approach to product design, sustainability, production, quality assurance and delivery is optimized to benefit local and global customers. HellermannTyton operates in 40 countries, with North American headquarters in Milwaukee, Wisconsin. ([www.hellermann.tyton.com](http://www.hellermann.tyton.com)).

