

#### **FEATURES**

- Very flexible
- 2:1 shrinkage ratio, shrinks to half its original diameter
- Flame retardant
- Operating temperature range of -55 to 135°C and up to 200°C for short time durations
- Shrink temperature of 90°C minimum
- Excellent electrical insulation properties
- Resistant to common fluids and solvents
- Meets requirements of SAE-AMS-DTL-23053/5 Class 1

# RS PRO Heat Shrink Tubing, Black 19.1mm Sleeve Dia. x 1.2m Length 2:1 Ratio

RS Stock No.: 398-155



RS Professionally Approved Products bring to you professional quality parts across all product categories. Our product range has been tested by engineers and provides a comparable quality to the leading brands without paying a premium price.



#### **Product Description**

Heat shrink tubing is a type of extruded plastic tubing that can be cut to size and fitted over a wire or cable joint to protect and insulate the connection. When heated is applied the tubing shrinks permanently providing a protective seal. The amount it shrinks depends on its shrink ratio. When you buy the tubing it is in its expanded state, this expanded tubing has memory so when it is heated it returns to its original state. Larger shrink ratios are required to cover materials with a greater size variation.

#### **General Specifications**

| Sleeve Type     | Heat Shrink   |
|-----------------|---|
| Colour          | Black   |
| Adhesive Lined  | No  |
| Shrink Ratio    | 2:1   |
| Material        | Polyolefin  |
| Flame Retardant | Yes   |
| Halogen Free    | No  |
| Application     | Electrical insulation and protection of resistors and capacitors, Environmental protection against moisture, dust, and chemicals, Mechanical protection to wires and small parts from abrasion, Mechanical strain relief on cable and connector joints to prevent damage caused by flexing or bending, Bundling and organizing harness wires, cable, and tubing, Colour coded identification of cables, wires, and components |

#### **Electrical Specifications**

| Dielectric Strength 19.7KV/mm |
|-------------------------------|
|-------------------------------|



## **Mechanical Specifications**

| Sleeve Diameter             | 19.1mm  |
|-----------------------------|---|
| Shrunk Diameter             | 9.5m  |
| Sleeve Length               | 1.2m  |
| Wall Thickness              | 0.76mm  |
| Tensile Strength            | 10.3MPa (min.)  |
| Elongation                  | 200% (min.)   |
| Low Temperature Flexibility | No cracking, during mandrel bend after 4 hours at -55°C |
| Flexibility                 | Highly flexible   |
| Heat Shock                  | No dripping, flowing or cracking after 4 hours at 250°C |
| Specific Gravity            | 1.35 (max.)   |
| Longitudinal Change         | 0±5%  |

| Chemical Properties |   |  |
|---------------------|---|--|
| Fluid Resistance    | Resistant to common fluids and solvents |  |
| Flammability        | Flame Retarded                          |  |
| Tensile Strength    | 10.3MPa (min.)                          |  |
| Dielectric Strength | 19.7KV/mm                               |  |
| Corrosion           | Non-corrosive                           |  |

## **Operation Environment Specifications**

| Operating Temperature | -55°C to 135°C |
|-----------------------|----------------|
| Shrink Temperature    | 90°C           |

# Approvals

| Compliance/Certifications | SAE-AMS-DTL-23053/5 class 1; UL224, VW-1; CSA C22.2 No.198.1  |
|---------------------------|---|
| Standards Met             | BS3G 198 Part 3 11B, CSA C22.2 No. 198.1, IEC 60684-3-212 A&B, MIL SAE-AMS-DTL 23053/5 Class 1, RoHS Compliant, UL 224 VW-1 E48762, VG 95343 Part 5 A&B |







| Part Number | Color          |                  | Dimensions     |                        |
|-------------|----------------|------------------|----------------|------------------------|
|             |                | As Supplied (mm) | After Recovery | Wall Thickness         |
|             |                |                  | (mm)           | Shrunk                 |
|             | -              | D (I.D.min. )    | d (I.D.max.)   | w (mm)                 |
| 700-4453    | Clear          | 3.0              | 1.0            | 0.60±0.10              |
| 700-4456    | Clear          | 6.0              | 2.0            | 0.70±0.10              |
| 700-4450    | Clear          | 9.0              | 3.0            | 0.80±0.15              |
| 700-4469    | Clear          | 12.0             | 4.0            | 0.85±0.15              |
| 700-4462    | Clear          | 18.0             | 6.0            | 1.00±0.15              |
| 700-4466    | Clear          | 24.0             | 8.0            | 1.20±0.20              |
| 700-4475    | Yellow         | 3.0              | 1.0            | 0.60±0.10              |
| 700-4478    | Yellow         | 6.0              | 2.0            | 0.70±0.10              |
| 700-4472    | Yellow         | 9.0              | 3.0            | 0.80±0.15              |
| 700-4481    | Yellow         | 12.0             | 4.0            | 0.85±0.15              |
| 700-4484    | Yellow         | 18.0             | 6.0            | 1.00±0.15              |
| 700-4488    | Yellow         | 24.0             | 8.0            | 1.20±0.20              |
| 700-4497    | Blue           | 3.0              | 1.0            | 0.60±0.10              |
| 700-4490    | Blue           | 6.0              | 2.0            | 0.70±0.10              |
| 700-4494    | Blue           | 9.0              | 3.0            | 0.80±0.15              |
| 700-4504    | Blue           | 12.0             | 4.0            | 0.85±0.15              |
| 700-4507    | Blue           | 18.0             | 6.0            | 1.00±0.15              |
| 700-4501    | Blue           | 24.0             | 8.0            | 1.20±0.20              |
| 700-4510    | Red            | 3.0              | 1.0            | 0.60±0.10              |
| 700-4513    | Red            | 6.0              | 2.0            | 0.70±0.10              |
| 700-4517    | Red            | 9.0              | 3.0            | 0.80±0.15              |
| 700-4526    | Red            | 12.0             | 4.0            | 0.85±0.15              |
| 700-4529    | Red            | 18.0             | 6.0            | 1.00±0.15              |
| 700-4523    | Red            | 24.0             | 8.0            | 1.20±0.20              |
| 700-4532    | Black          | 3.0              | 1.0            | 0.60±0.10              |
| 700-4535    | Black          | 6.0              | 2.0            | 0.70±0.10              |
| 700-4539    | Black          | 9.0              | 3.0            | 0.80±0.15              |
| 700-4548    | Black          | 12.0             | 4.0            | 0.85±0.15              |
| 700-4541    | Black          | 18.0             | 6.0            | 1.00±0.15              |
| 700-4545    | Black          | 24.0             | 8.0            | 1.20±0.20              |
| 700-4554    | White          | 3.0              | 1.0            | 0.60±0.10              |
| 700-4557    | White          | 6.0              | 2.0            | 0.60±0.10<br>0.70±0.10 |
| 700-4551    | White          | 9.0              | 3.0            | 0.70±0.10<br>0.80±0.15 |
| 700-4551    | White          | 12.0             | 4.0            | 0.85±0.15              |
| 700-4567    | White          | 18.0             | 6.0            | 1.00±0.15              |
| 700-4567    | White          | 24.0             | 8.0            | 1.00±0.15              |
| 700-4573    | Green / Yellow | 3.0              | 1.0            | 0.60±0.10              |
| 700-4589    | Green / Yellow | 6.0              | 2.0            |                        |
| 700-4589    | Green / Yellow | 9.0              | 3.0            | 0.70±0.10              |
|             |                |                  |                | 0.80±0.15              |
| 700-4608    | Green / Yellow | 12.0             | 4.0            | 0.85±0.15              |
| 700-4611    | Green / Yellow | 18.0             | 6.0            | 1.00±0.15              |
| 700-4618    | Green / Yellow | 24.0             | 8.0            | 1.20±0.20              |



#### CROSS REFFERENCE LIST

| RS Stock No. | Description                         |
|--------------|-------------------------------------|
| 700-4453     | Heatshrink tube clear 3/1mm         |
| 700-4456     | Heatshrink tube clear 6/2mm         |
| 700-4450     | Heatshrink tube clear 9/3mm         |
| 700-4469     | Heatshrink tube clear 12/4mm        |
| 700-4462     | Heatshrink tube clear 18/6mm        |
| 700-4466     | Heatshrink tube clear 24/8mm        |
| 700-4475     | Heatshrink tube yellow 3/1mm        |
| 700-4478     | Heatshrink tube yellow 6/2mm        |
| 700-4472     | Heatshrink tube yellow 9/3mm        |
| 700-4481     | Heatshrink tube yellow 12/4mm       |
| 700-4484     | Heatshrink tube yellow 18/6mm       |
| 700-4488     | Heatshrink tube yellow 24/8mm       |
| 700-4497     | Heatshrink tube blue 3/1mm          |
| 700-4490     | Heatshrink tube blue 6/2mm          |
| 700-4494     | Heatshrink tube blue 9/3mm          |
| 700-4504     | Heatshrink tube blue 12/4mm         |
| 700-4507     | Heatshrink tube blue 18/6mm         |
| 700-4501     | Heatshrink tube blue 24/8mm         |
| 700-4510     | Heatshrink tube red 3/1mm           |
| 700-4513     | Heatshrink tube red 6/2mm           |
| 700-4517     | Heatshrink tube red 9/3mm           |
| 700-4526     | Heatshrink tube red 12/4mm          |
| 700-4529     | Heatshrink tube red 18/6mm          |
| 700-4523     | Heatshrink tube red 24/8mm          |
| 700-4532     | Heatshrink tube black 3/1mm         |
| 700-4535     | Heatshrink tube black 6/2mm         |
| 700-4539     | Heatshrink tube black 9/3mm         |
| 700-4548     | Heatshrink tube black 12/4mm        |
| 700-4541     | Heatshrink tube black 18/6mm        |
| 700-4545     | Heatshrink tube black 24/8mm        |
| 700-4554     | Heatshrink tube white 3/1mm         |
| 700-4557     | Heatshrink tube white 6/2mm         |
| 700-4551     | Heatshrink tube white 9/3mm         |
| 700-4560     | Heatshrink tube white 12/4mm        |
| 700-4567     | Heatshrink tube white 18/6mm        |
| 700-4573     | Heatshrink tube white 24/8mm        |
| 700-4582     | Heatshrink tube green/yellow 3/1mm  |
| 700-4589     | Heatshrink tube green/yellow 6/2mm  |
| 700-4595     | Heatshrink tube green/yellow 9/3mm  |
| 700-4608     | Heatshrink tube green/yellow 12/4mm |
| 700-4611     | Heatshrink tube green/yellow 18/6mm |
| 700-4618     | Heatshrink tube green/yellow 24/8mm |