

## Dual Wall Adhesive

- **Shrink Temp. 194°F**
- **Flame Retardant**
- **Versatile & Economical Termination Solution**
- **Resists Common Automotive Chemicals**
- **Easily Installs Over Connectors & Splices**
- **Excellent Electrical Properties**
- **Protects from Fluids, Moisture & Corrosion**

## 2:1 and 3:1 Dual Wall Adhesive Heatshrink Tubing

Dual wall adhesive lined polyolefin heatshrink tubing is ideal for producing strong, weather tight seals on any heatshrink installation. During the application of heat from a heat gun or other heat source, the inner adhesive wall melts and flows, creating an adhesion layer to ensure a snug fit to your harness or connector.

Adhesive lined heatshrink comes in 2:1 and 3:1 shrink ratio, and it is available in 4' sticks.



Seals and protects a wide variety of electrical applications, including wire splices, breakouts, and connectors-to-cable transitions.



### Shrinks to 1/2 it's original diameter

| Nominal Size | Part #  | Unshrunk Diameter | Shrunk Diameter | Bulk Box Put Up/4' Pcs. | Shop Box Put Up/4' Pcs. | Available Colors | Lbs/10Pcs. |
|--------------|---------|-------------------|-----------------|-------------------------|-------------------------|------------------|------------|
| 1/8"         | H2A0.13 | 3.2mm             | 1.6mm           | 250                     | 25                      | BK,CL            | 0.17       |
| 1/4"         | H2A0.25 | 6.4mm             | 3.2mm           | 250                     | 25                      | BK,CL            | 0.32       |
| 3/8"         | H2A0.38 | 9.6mm             | 4.8mm           | 250                     | 25                      | WH,BK,RD         | 0.55       |
| 1/2"         | H2A0.50 | 12.7mm            | 6.4mm           | 200                     | 25                      | WH,BK,CL,RD      | 0.73       |
| 3/4"         | H2A0.75 | 19.1mm            | 9.6mm           | 80                      | 25                      | WH,BK,RD         | 1.15       |
| 1"           | H2A1.00 | 25.4mm            | 12.7mm          | 50                      | 25                      | WH,BK,RD         | 1.53       |
| 1 1/2"       | H2A1.50 | 38.1mm            | 19.1mm          | 15                      | 5                       | BK               | 2.50       |

### Shrinks to 1/3 it's original diameter

| Nominal Size | Part #  | Unshrunk Diameter | Shrunk Diameter | Bulk Box Put Up/4' Pcs. | Shop Box Put Up/4' Pcs. | Available Colors | Lbs/10Pcs. |
|--------------|---------|-------------------|-----------------|-------------------------|-------------------------|------------------|------------|
| 1/8"         | H3A0.13 | 3.0mm             | 1.0mm           | 250                     | 25                      | WH,BK,CL,RD      | 0.26       |
| 3/16"        | H3A0.19 | 4.8mm             | 1.5mm           | 250                     | 25                      | WH,BK,CL,RD      | 0.31       |
| 1/4"         | H3A0.25 | 6.0mm             | 2.0mm           | 250                     | 25                      | WH,BK,CL,RD      | 0.35       |
| 3/8"         | H3A0.38 | 9.0mm             | 3.0mm           | 250                     | 25                      | WH,BK,CL,RD      | 0.55       |
| 1/2"         | H3A0.50 | 12.0mm            | 4.0mm           | 200                     | 25                      | WH,BK,CL,RD      | 0.75       |
| 3/4"         | H3A0.75 | 19.0mm            | 6.0mm           | 80                      | 25                      | WH,BK,CL,RD      | 1.65       |
| 1"           | H3A1.00 | 24.0mm            | 8.0mm           | 50                      | 25                      | WH,BK,CL,RD      | 2.15       |
| 1 1/2"       | H3A1.50 | 38.0mm            | 13.0mm          | 25                      | -                       | WH,BK,CL,RD      | 4.40       |

\*Contact your Account Representative for heatshrink cutting & printing services.



## 2/1 DUAL WALL ADHESIVE

- **Shrink Temperature**  
194°F (90°C)
- **Versatile And Economical**  
Termination Solution
- **High Resistance To**  
Chemicals And Oils
- **Easily Installs Over**  
Connectors And Splices
- **Excellent Electrical**  
Properties



**Cut Cleanly**

**Scissor**

### Material

**Polyolefin**

### Grade

**H2A**

| Nominal Size | Part #  | Unshrunk Diameter /mm | Shrunk Diameter /mm | Put-Ups                 |                         | Available Colors | Lbs/ 10Pcs. |
|--------------|---------|-----------------------|---------------------|-------------------------|-------------------------|------------------|-------------|
|              |         |                       |                     | Bulk Box Put Up/4' Pcs. | Shop Box Put Up/4' Pcs. |                  |             |
| 1/8"         | H2A0.13 | 3.2                   | 1.6                 | 250                     | 25                      | BK, CL           | 0.17        |
| 1/4"         | H2A0.25 | 6.4                   | 3.2                 | 250                     | 25                      | BK, CL           | 0.32        |
| 3/8"         | H2A0.38 | 9.6                   | 4.8                 | 250                     | 25                      | WH, BK, RD       | 0.53        |
| 1/2"         | H2A0.50 | 12.7                  | 6.4                 | 200                     | 25                      | WH, BK, CL, RD   | 0.65        |
| 3/4"         | H2A0.75 | 19.1                  | 9.6                 | 80                      | 25                      | WH, BK, RD       | 1.59        |
| 1"           | H2A1.00 | 25.4                  | 12.7                | 50                      | 25                      | WH, BK, RD       | 1.63        |
| 1 1/2"       | H2A1.50 | 38.1                  | 19.1                | 15                      | 5                       | BK               | 2.50        |

### 2/1 Dual Wall Adhesive Heatshrink Tubing Shrinks To 1/2 its original diameter!

Dual wall adhesive lined polyolefin heatshrink tubing is ideal for producing strong, weather tight seals on any heatshrink installation.

During the application of heat from a heat gun or other heat source, the inner adhesive walls melts and flows, creating adhesion layer to ensure a snug fit to your harness or connector.

Adhesive lined heatshrink has 2:1 shrink ratio, and it is available in 4' strips.

### Colors Available:

4= White (WH), Black (BK), Clear (CL), and Red (RD).

Colors Available:



White (WH), Black (BK), Clear (CL), Red (RD).

**Seals and protects a wide variety of electrical applications, including wire splices, breakouts, and connectors-to-cable transitions.**



## 2/1 DUAL WALL ADHESIVE

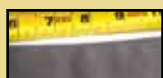


Moisture Absorption % ASTM D-570 \_\_\_\_\_ 0.5  
Flammability Rating \_\_\_\_\_ UL VW-1



### Chemical Resistance

Corrosion MIL-DTL-23053 \_\_\_\_\_ No Corrosion  
Fluid Resistance (23°C/73°F, 24 hrs.) \_\_\_\_\_ 900min.



**Measure the Shrinkflex® tubing**  
to length and cut with a scissor.

*The thickness of your bundle, as well*

*as the desired final appearance, will determine the length of the tubing you cut. Generally, a piece 1 1/2" - 2" long will accommodate almost any need. Single wires, or smaller bundles, require shorter pieces.*



**Slip the Shrinkflex® tubing over the**  
bundle and position it so that both the  
sleeved and unsleeved portions are

*sufficiently covered. Notice the small pieces of tubing installed on single wires as part of a color coding system. If your project requires multiple operations, always work up from the smallest to the largest bundle.*



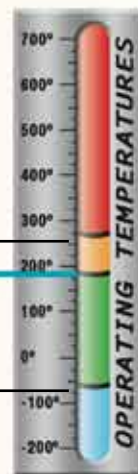
**Gently apply heat to Shrinkflex®**  
tubing from a heat gun, hair dryer or

*torch with an appropriate attachment. Keep the heat source far enough away so that hot metal or direct flame does not come in contact with the tubing, wires or sleeving. Move the heat around the bundle to prevent damaging the sleeving and to ensure that all areas of the tubing have been shrunk. Once cooled, your installation is complete.*

**Shrinks**  
194°F (90°C)

**Maximum Continuous**  
MIL-DTL-23053  
257°F (125°C)

**Minimum Continuous**  
MIL-DTL-23053  
-67°F (-55°C)



### PHYSICAL PROPERTIES

Recommended Cutting \_\_\_\_\_ Scissors

Colors \_\_\_\_\_ 4

Tensile Strength PSI ASTM D-638 \_\_\_\_\_ 1,500

Elongation % ASTM D-638 \_\_\_\_\_ 200

Deformation % (316°F/158°C, 1 Hr.) \_\_\_\_\_ Max. 50  
MIL-DTL-23053

Heat Shock (482°F/ 250°C, 4 Hrs.) \_\_\_\_\_ No Cracking  
MIL-DTL-23053

Cold Bend (-67°F/-55°C, 4 Hrs.) \_\_\_\_\_ No Cracking  
MIL-DTL-23053

Flexibility (316°F/158°C, 168 Hrs.) \_\_\_\_\_ No Cracking  
MIL-DTL-23053

Secant Modulus PSI MIL-DTL-23053 \_\_\_\_\_ 25,000

Longitudinal Change % MIL-DTL-23053 \_\_\_\_\_ +5, -15

Dielectric Strength (volts/mil) ASTM D-876 \_\_\_\_\_ 500

Volume Resistivity (ohm-cm) ASTM D-876 \_\_\_\_\_ 1.0 x 10<sup>14</sup>



## What is Heatshrink Tubing?

Heatshrink tubing is a flexible, pre-stretched tube, engineered from a wide range of polymers, that will shrink to a fixed diameter when sufficient heat is applied. Its diameter and thickness can vary, and it is rated by its expansion ratio, a comparative of the differences in expansion and recovery rate.

Heatshrink tubing is the ideal way to create a tight, professional finish on any wire, hose or cable management project. Once shrunk, the tubing will hold its reduced state, even in elevated temperatures. Typical applications for the heatshrink tubing include: electrical insulation, termination, splicing, cable bundling, color coding, strain relief, wire marking, identification, mechanical protection, corrosion protection, abrasion protection and moisture and weather sealing.

## What does shrink ratio (2:1, 3:1, etc.) mean?

The shrink ratio is the approximate maximum amount that heatshrink tubing will shrink relative to the unshrunk diameter. For example, a piece of 3/4" heatshrink tubing with a 3:1 shrink ratio will shrink down to a maximum diameter of approximately 1/4" when fully shrunk. All heatshrink tubing on our site is specified in it's UNSHRUNK diameter, so consider the shrink ratio and the unshrunk diameter when ordering heatshrink tubing. Heatshrink tubing with a larger shrink ratio will be more forgiving when fitting the tubing over plugs or connectors, but will have a bit thicker wall thickness and slightly less flexibility when shrunk than a lower ratio product.



### Step 1

**Measure the heatshrink tubing to length and cut with a scissor. The thickness of your bundle, as well as the desired final appearance, will determine the length of the tubing you cut. Generally, a piece 1 1/2" - 2" long will accommodate almost any need (such as this bundle of network cables). Single wires, or smaller bundles, require shorter pieces.**



### Step 2

**Slip the tubing over the bundle and position it so that both the sleeved and unsleeved portions are sufficiently covered. Notice the small pieces of tubing installed on single wires as part of a color coding system. If your project requires multiple operations, always work up from the smallest to the largest bundle.**



### Step 3

**Gently apply heat from a heat gun, hair dryer or torch with an appropriate attachment. Keep the heat source far enough away so that hot metal or direct flame don't come in contact with the tubing, wires or sleeving. Move the heat around the bundle to prevent damaging the sleeving and to ensure that all areas of the tubing have been shrunk. Once cooled, your installation is complete.**



## Milwaukee High Quality Heat Guns & Accessories

Production quality heat guns from one of the finest names in tools. These high quality guns will provide years of dependable service under the most intensive conditions. High strength, impact resistant cases with heavy duty motors and heating elements.

**Dual Temp - HGD8975-6**

**Variable Temp LED Display - HGL8988-20**

**Accessory Kit - HGA49-80-0300**