

Adhesives for moulded parts

The newly developed W24 epoxy resin adhesive can be used in the temperature range from -75 °C to +200 °C. The moulded parts are factory-coated with W24 adhesive. In combination with the material G, i.e. as GW24, the adhesive has approval to VG 95343, Part 18 and Part 19.

| Material specifications | | | | | |
|----------------------------|--------------------------------------------------------|--------------------------------------------|-------------------------------------------------------------|---------------------------------------------------------------|-----------------------------------------|
| Description | G* | B7 | H | L | -9 |
| Material | Fluid resistant elastomer | Semi-rigid flame retarded Polyolefin | Flexible Limited Fire Hazard Polyolefin | Flexible flame retardant Fluorelastomer | Modified elastomer blend |
| Application | standard material; excellent resistance against petrol | good mechanical and chemical resistance | low smoke emission, halogen free | high temperature resistance and excellent chemical properties | standard material for low profile boots |
| Colour | Black (BK) | Black (BK) | Black (BK) | Black (BK) | Black (BK) |
| Minimum Shrink Temperature | +135 °C | +135 °C | +135 °C | +175 °C | +135 °C |
| Operating Temperature | -75 °C to +150 °C | -55 °C to +135 °C, Intermittent +225 °C | -55 °C to +105 °C | -55 °C to +200 °C | -55 °C to +120 °C |
| Dielectric Strength | 14 kV/mm to ASTM D2671 | 14 kV/mm to ASTM D2671 | 15 kV/mm | 9 kV/mm to ASTM D2671 | 20 kV/mm to ASTM D2671 |
| Flexibility | Semi rigid | Semi rigid | Flexible | flexible | flexible |
| Flammability | VG 95343 | ASTM D635 | VG 95343 | ASTM D635 | ASTM D635 |
| Specification | VG 95343 Part 6, 7, 8, 9 DEF STAN 59-97 / 3 | MIL-I-81765/1 Type 1 DEF STAN 59-97 / 3 | VG 95343 Part 29, 30 NAVSEA 5617649, DEF STAN 59-97/3 | DEF STAN 59-97/3; MIL-I-81765/4 | SCX15112 |

* standard material

| Adhesive specifications | | | | |
|---------------------------|-----------------------------------|-------------------------------------------------------|---------------------------------------------------|-------------------------------------------------------------|
| Description | WM250 | W8 | W21 | W24 |
| Material | General purpose Hot melt adhesive | EVA, High performance hot melt adhesive | Modified polyamide hot melt adhesive | High performance, pre-coat, 1 part epoxy |
| Application | Good general purpose adhesive | High temperature hot melt that compliments H material | High temperature hot melt adhesive | Specially modified to meet military cable and harness needs |
| Softening Point | 95 °C to ASTM E28 | 110 °C to ASTM E28 | 120 °C to ASTM E28 | N/A |
| Operating Temperature | -50 °C to +80 °C | -55 °C to +105 °C | -55 °C to +120 °C | -75 °C to +200 °C |
| Peel Strength | VG 95343 Part 14 | VG 95343 Part 14 | VG 95343 Part 14 | VG 95343 Part 14 |
| Water Absorption at 25 °C | ASTM D570 | ASTM D570 | ASTM D570 | ASTM D570 |
| Solvent Resistance | Fair under splash conditions | Fair under splash conditions | Very good under most especially saline conditions | Very good to excellent under most conditions |
| Specification | DEF STAN 59-97/3 | DEF STAN 59-97/3 | VG 95343 Part 29, 30 | VG 95343 Part 18, 19; DEF STAN 59-97/3 |

| Material specifications | |
|----------------------------|--------------------------------------|
| Description | B8 |
| Material | Semi-rigid flame retarded Polyolefin |
| Description | General Purpose for 0.6/1kV systems |
| Colour | Black (BK) |
| Minimum Shrink Temperature | +135 °C |
| Operating Temperature | -55 °C to +100 °C |
| Dielectric Strength | 15 kV/mm |
| Resistivity | - |
| Flexibility | Semi rigid |
| Flammability | ASTM D635 |
| Water Absorption at 25 °C | 0.03% |
| Specification | ESI 09/11, Det Norske Veritas |

Adhesives and Mastics

B8 Material is coated with Hot Melt Adhesive (WM250) as standard, and is applied either as a spiral code W2, or smooth coat code W. Alternatively shapes are coated with Black Mastic code WM252.

Helashrink 100 Series

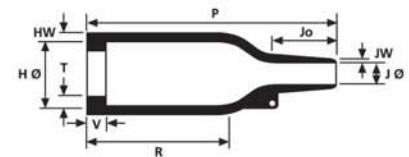
Straight plug-and-socket connector terminal casing. This style is used in conjunction with circular grooved adaptor, providing protection against environmental stresses. The inside lip has been designed to provide extra reinforced stress relief. Special fitting 199-4-G for audio plugs has external ribs for an improved grip.



Recovered 199-4-G, VG style shape for small audio connectors with external ribs for improved grip.

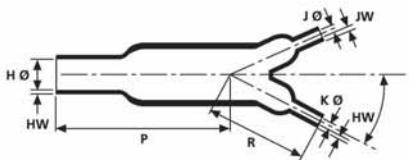
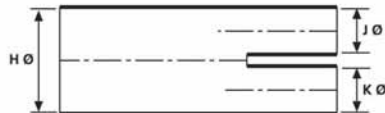


150 series boot recovered on to connector.



Helashrink 200 Series

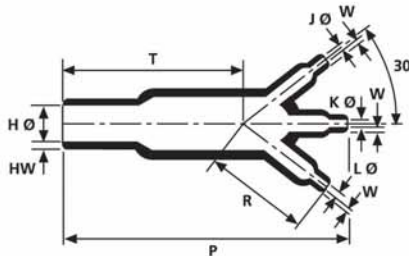
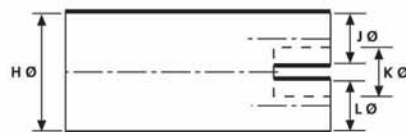
Branching parts are used for easy, time-saving insulation of the branch point of a cable where it is split into single wires. Branching parts with hot-melt adhesive also serve to relieve the mechanical tension in cable harnesses.



Two-way outlet shape 203-1-G as supplied and recovered.

Helashrink 300 Series

Branching parts are used for easy, time-saving insulation of the branch point of a cable where it is split into single wires. Branching parts with hot-melt adhesive also serve to relieve the mechanical tension in cable harnesses.



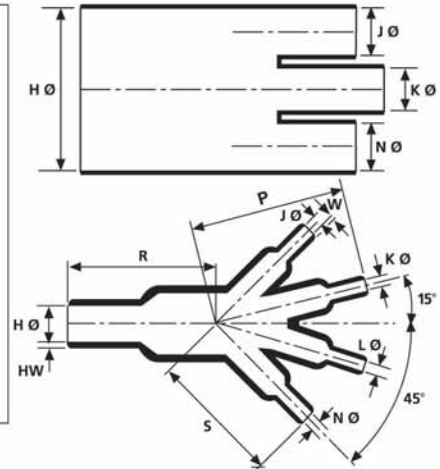
304-1-G as applied / fully recovered.

Helashrink 400 Series

Branching parts are used for easy, time-saving insulation of the branch point of a cable where it is split into single wires. Adhesive lined branching parts also serve to relieve the mechanical tension in cable harnesses.

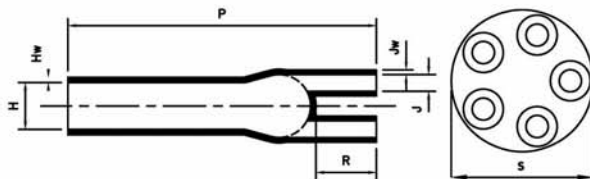


403-1-G as supplied / recovered.



Helashrink 500 Series

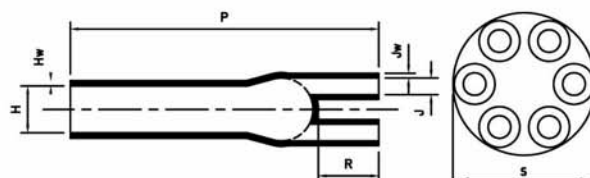
Cable breakout boots are designed for insulating and sealing a cable crotch, or conduit system, and provide excellent resistance to abrasion and weathering.



Helashrink 500 Series supplied and recovered.

Helashrink 600 Series

Cable breakout boots are designed for insulating and sealing a cable crotch, or conduit system, and provide excellent resistance to abrasion and weathering.



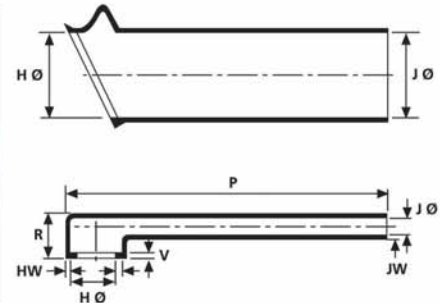
Helashrink 600 Series supplied and recovered.

Helashrink 1100 Series

Right-angle, low profile shape with rib, VG/ Mil style, often used on airborne harnesses to achieve low profile, compact strain relief and mechanical protection. The photo below shows a shape style that provides connector strain relief and is used in applications of partially loaded connectors with small cable diameters.



1123-1-G Supplied and recovered.

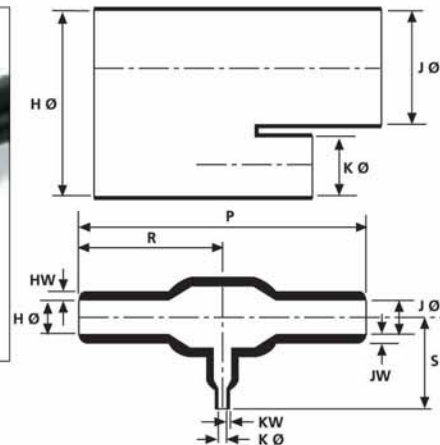


Helashrink 1200 Series

90° (right angled) transition parts (T-joints) are used for a simple time-saving insulation of the branch point of a cable, where it is split into single wires. Adhesive lined T-joints also serve to relieve the mechanical tension and to protect against corrosion in cable harnesses.

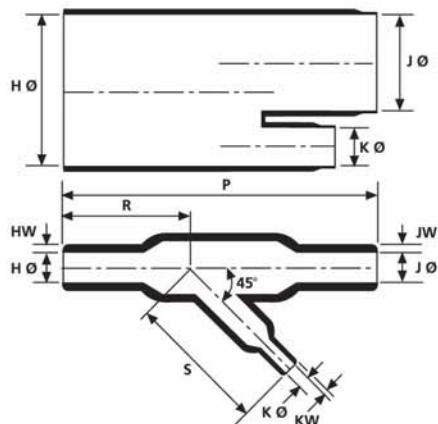


Moulded shape 1202-1-G.



Helashrink 1300 Series

45° transition parts (Y-joints) are used for a simple time-saving insulation of the branch point of a cable where it is divided into single wires. Y-joints with hot-melt adhesive also serve to relieve the mechanical tension in cable harnesses.



Angled T shape 1303-1-G as supplied / recovered.

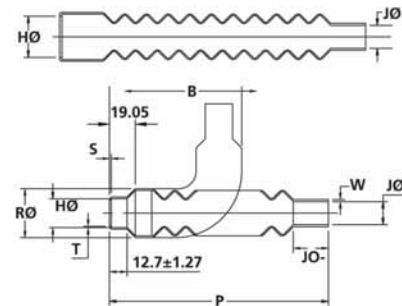
Helashrink 313C Series Convolute boot, low profile with adapter lip

This style is used with a circular grooved adapter to provide strain relief and if adhesive is used, excellent environmental sealing can be achieved.

The convoluted design provides the flexibility to accommodate different cable outlet angles.



313C722-774 series as supplied / recovered.

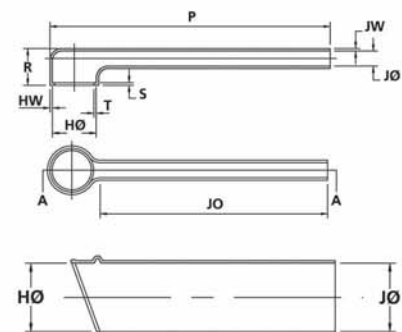


Helashrink 333F Series Right angle, boot 90°, low profile with adapter lip

The boot provides connector strain relief in applications with partially loaded connectors, resulting in small cable diameters requiring a high shrink ratio.



333F322-385 series as supplied / recovered.

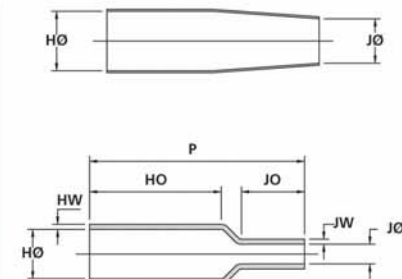


Helashrink 313E Series Shim boot, low profile, no adapter lip

This part is normally used to build up, or shim a cable diameter to facilitate a better fit for components in a cable harness.



313E445-457 series as supplied / recovered.

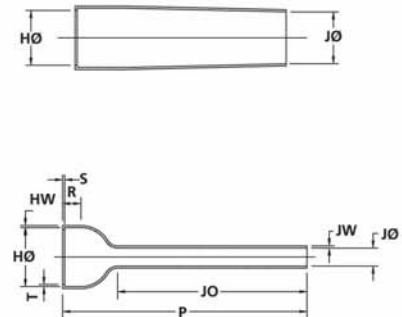


Helashrink 313F Series Straight boot, low profile with adapter lip

This boot provides strain relief in applications with partially loaded connectors, resulting in small cable diameters requiring a high shrink ratio.

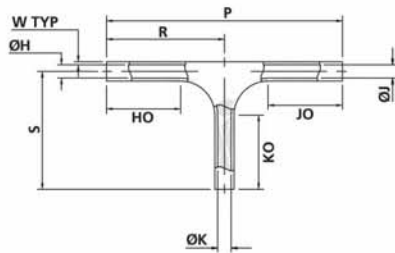


313F322-396 series as supplied / recovered

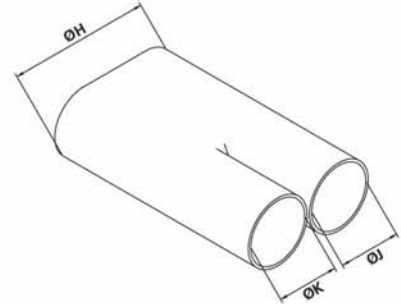


Helashrink 412H Series Transition, side breakout, low profile

This style provides connector cable strain relief and is used in conjunction with a circular grooved adapter.

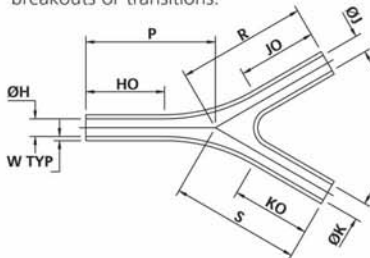


412H622-625 as supplied / recovered.

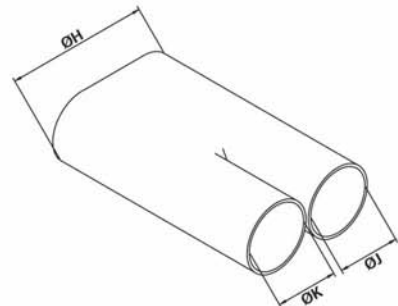


Helashrink 492H Series Transition 1 to 2 cables, Y, low profile

This style provides strain relief, sealing and mechanical protection on cable harness breakouts or transitions.

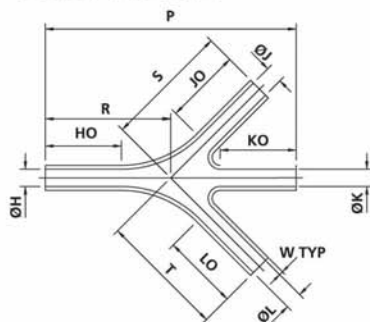


492H412-415 series as supplied / recovered.



Helashrink 573H Series Transition, 1 to 3 cables, low profile

This style provides strain relief, sealing and mechanical protection on cable harness breakouts or transitions.



573H532-535 series as supplied / recovered.

