



Heat Shrink Tubing Selection Guide

Use our flow chart to find the correct heat shrink tubing for your particular application.

Begin your search in the flow chart at the START point. You will be guided through Diagrams 1 to 4 to the target according to your heat shrink tubing requirements. Using the "yes/no" and "either/or" decisions, you will be able to select the correct heat shrink tubing with ease.

Of course, you can always call us whenever you wish on our usual telephone numbers.

Diagram 1

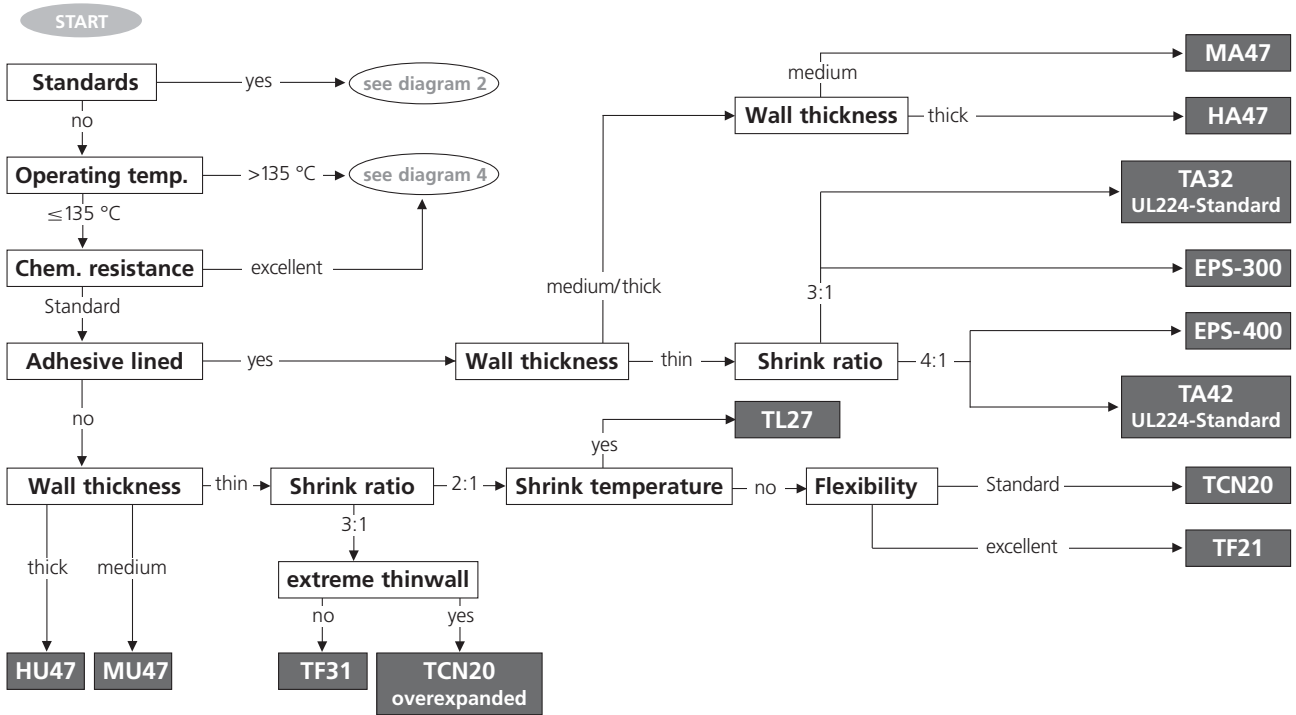
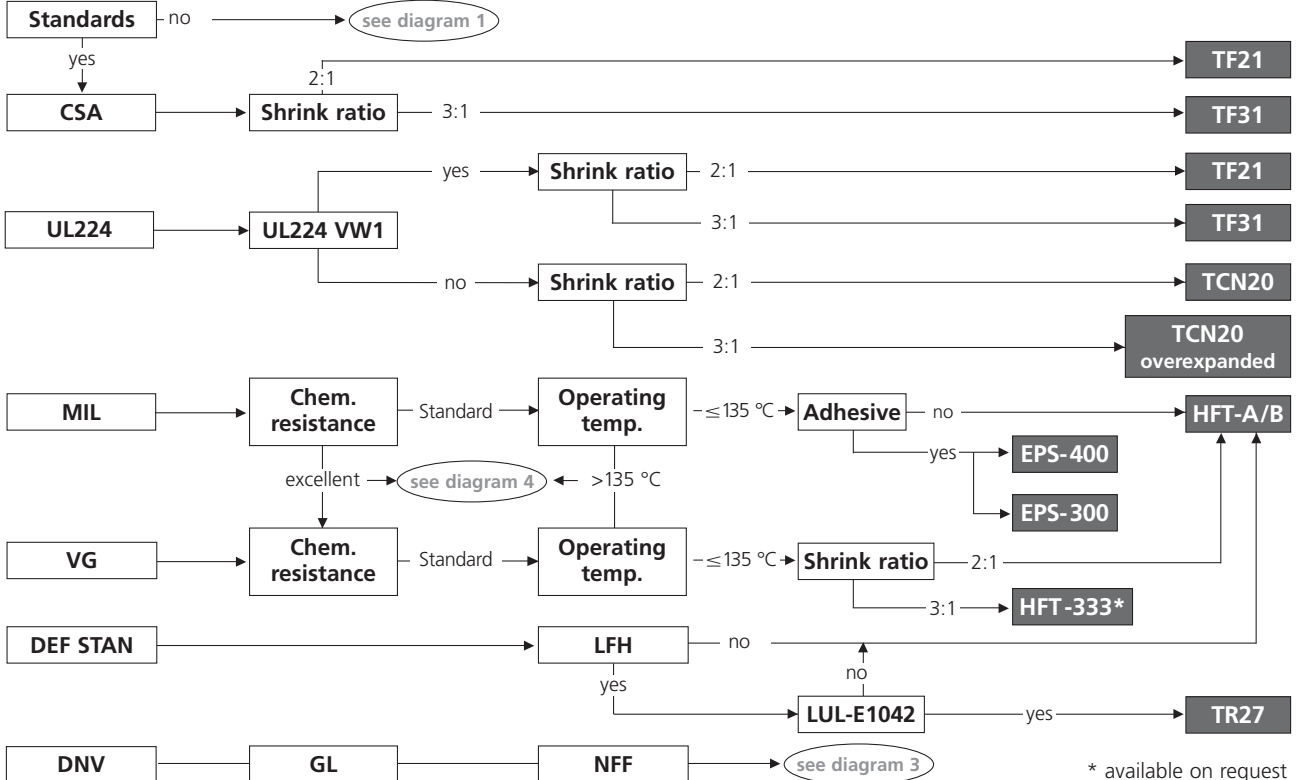


Diagram 2



\* available on request



Diagram 3

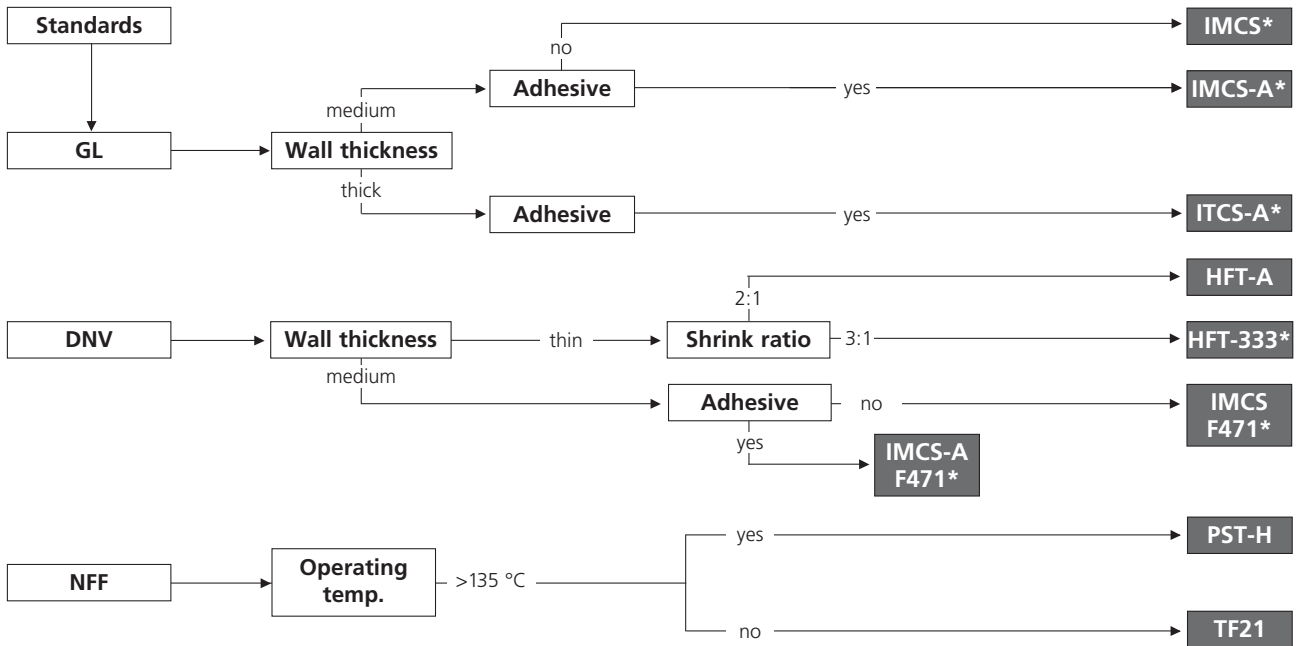
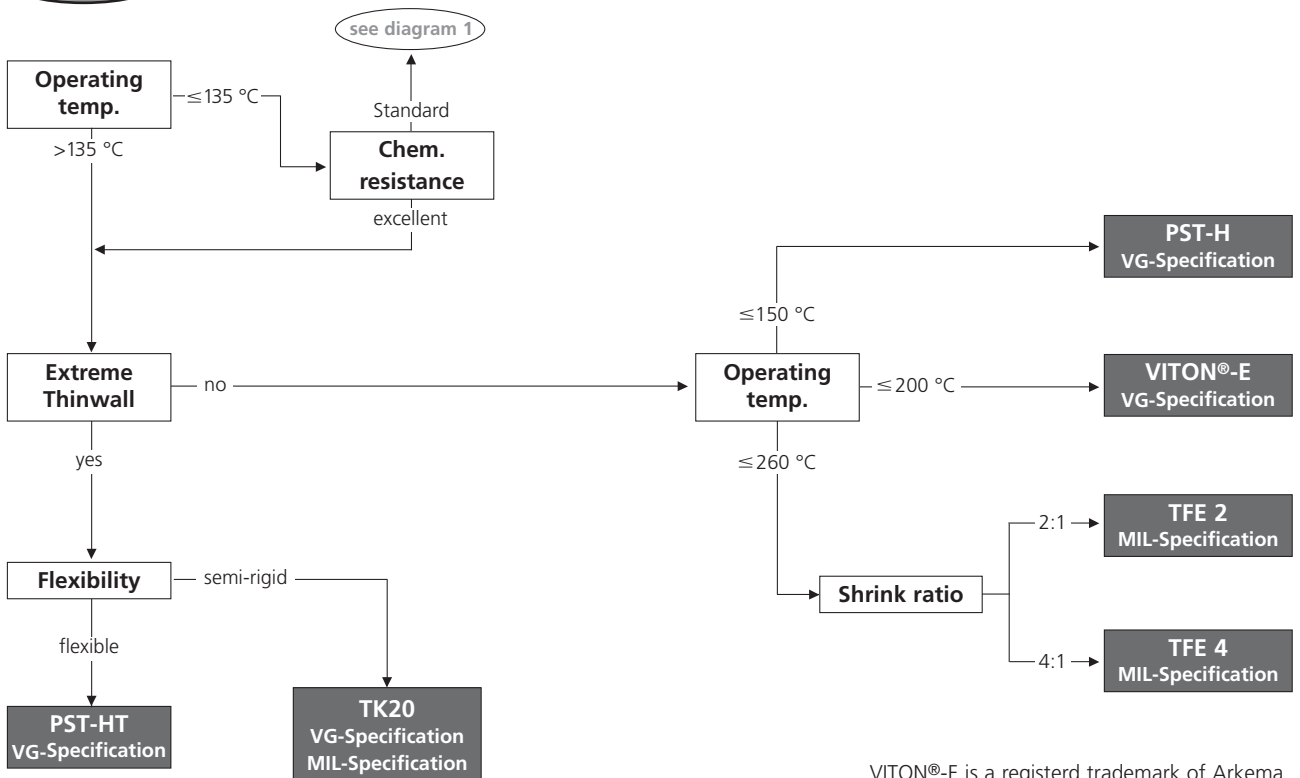


Diagram 4



\* available on request

VITON®-E is a registered trademark of Arkema.



■ suitable

□ of limited suitability

++ very good

+ good

o limited

These details are only rough guide values. They should be regarded as a material specification and are no substitute for a suitability test. Please see our datasheets for further details.

|  | Material Data |          |                            |              |  | Technical data               |
|--|---------------|----------|----------------------------|--------------|--|------------------------------|
|  | Page          | Material | Operating Temperature [°C] | Shrink Ratio | Longitudinal change after complete shrinkage [%] | Dielectric strength [kV/mm]  |
| <b>Heat Shrinkable Tubing</b>                          |               |          |                            |              |  |                              |
| <b>Heat shrinkable kit</b>                             |               |          |                            |              |  |                              |
| • ShrinKit 321 Universal                               | 242           | PEX      | -55 °C to +135 °C          | 3:1          | +/-5% max.                                       | 20 kV/mm acc. to ASTM D 2671 |
| • ShrinKit 321-A with adhesive liner                   | 243           | PEX      | -55 °C to +110 °C          | 3:1          | +1%/-15% max.                                    | 15kV/mm acc. to IEC 684 P2   |
| • ShrinKit 321-A Basic with adhesive liner             | 244           | PEX      | -55 °C to +110 °C          | 3:1          | +1%/-15% max.                                    | 15kV/mm acc. to IEC 684 P3   |
| • ShrinKit 321 Basic                                   | 245           | PEX      | -55 °C to +135 °C          | 3:1          | +/-5% max.                                       | 20 kV/mm acc. to ASTM D 2671 |
| • ShrinKit 321 Universal Basic                         | 246           | PEX      | -55 °C to +135 °C          | 3:1          | +/-5% max.                                       | 20 kV/mm acc. to ASTM D 2671 |
| • HIS-3 BAG  | 247           | PEX      | -55 °C to +135 °C          | 3:1          | -5% max.   | 20 kV/mm acc. to ASTM D 150  |
| • HIS-3  | 249           | PEX      | -55 °C to +135 °C          | 3:1          | -10% max.  | 25kV/mm acc. to ASTM D 876   |
| • HIS-A, with adhesive liner                           | 251           | PEX      | -55 °C to +125 °C          | 3:1          | -10% max.  | 15kV/mm acc. to IEC 684 P2   |
| • HIS-PACK   | 252           | PEX      | -55 °C to +125 °C          | 2:1          | -5% max.   | 25kV/mm acc. to IEC 684 P2   |
| • TREDUX thin wall                                     | 255           | PEX      | -55 °C to +135 °C          | 3:1/2:1      | +/- 5% max.                                      | 20kV/mm                      |
| • TREDUX medium wall with adhesive liner               | 256           | PEX      | -55 °C to +110 °C          | 4:1          | +/- 5% max.                                      | 20kV/mm                      |
| • TREDUX thick wall with adhesive liner                | 257           | PEX      | -55 °C to +110 °C          | 3,5:1        | +/- 5% max.                                      | 20kV/mm                      |
| <b>Hot melt tape • HMT200A</b>                         | 258           | EVA      | -50 °C to +105 °C          | -            | -  | -                            |
| <b>Out of PVC • LVR, self extinguishing</b>            | 259           | PVC      | -30 °C to +105 °C          | 2:1          | +/-10% max.                                      | 15kV/mm acc. to IEC 243      |
| <b>Flexible and coloured HFT-A, self extinguishing</b> | 260           | PEX      | -55 °C to +135 °C          | 2:1          | -5% max.   | 20kV/mm acc. to IEC 684 P2   |
| <b>Low-heat</b>  |               |          |                            |              |  |                              |
| • TCN20, self extinguishing, 2:1                       | 263           | PEX      | -55 °C to +125 °C          | 2:1          | +/-5% max.                                       | 20KV/mm acc. to IEC 243      |
| • TCN20, self extinguishing, 3:1                       | 264           | PEX      | -55 °C to +125 °C          | 3:1          | +/-5% max.                                       | 20kV/mm                      |
| • TL27, halogen free                                   | 265           | PEX      | -55 °C to +135 °C          | 2:1          | +5%/-15% max.                                    | 22KV/mm acc. to IEC 684 P2   |
| <b>Flexible and coloured</b>                           |               |          |                            |              |  |                              |
| • TF21   | 266           | PEX      | -55 °C to +135 °C          | 2:1          | +/-5% max.                                       | 37KV/mm                      |
| • TF31   | 270           | PEX      | -55 °C to +135 °C          | 3:1          | -10% max.  | 37KV/mm                      |
| <b>Flexible and transparent</b>                        |               |          |                            |              |  |                              |
| • TF24   | 269           | PEX      | -55 °C to +135 °C          | 2:1          | +/-5%  | 46KV/mm                      |
| • TF34   | 272           | PEX      | -55 °C to +135 °C          | 3:1          | -5% max.   | 46KV/mm                      |
| <b>Thin wall with adhesive liner</b>                   |               |          |                            |              |  |                              |
| • EPS-300  | 273           | PEX      | -55 °C to +110 °C          | 3:1          | -10% max.  | 15kV/mm acc. to IEC 684 P2   |
| • EPS-400  | 273           | PEX      | -55 °C to +110 °C          | 4:1          | -10% max.  | 15kV/mm acc. to IEC 684 P2   |
| <b>1 m lengths</b>                                     |               |          |                            |              |  |                              |
| • TA32 with adhesive liner                             | 274           | PEX      | -55 °C to +125 °C          | 3:1          | -15% max.  | 15kV/mm acc. to IEC 684 P2   |
| • TA42 with adhesive liner                             | 274           | PEX      | -55 °C to +125 °C          | 4:1          | -15% max.  | 15kV/mm acc. to IEC 684 P2   |
| • MA47 medium wall with adhesive liner                 | 275           | PEX      | -55 °C to +110 °C          | 4:1          | -10% max.  | 20kV/mm                      |
| • HA47 thick wall with adhesive liner                  | 276           | PEX      | -55 °C to +110 °C          | to 3,5:1     | -10% max.  | 20kV/mm                      |
| • MU47 medium wall without adhesive line               | 275           | PEX      | -55 °C to +110 °C          | to 4:1       | -10% max.  | 20kV/mm                      |
| • HU47 thick wall without adhesive liner               | 276           | PEX      | -55 °C to +110 °C          | to 3,5:1     | -10% max.  | 20kV/mm                      |
| • HA67 with adhesive liner                             | 277           | PEX      | -55 °C to +110 °C          | to 3,5:1     | -10% max.  | 20kV/mm                      |
| <b>Out of Elastomer</b>                                |               |          |                            |              |  |                              |
| • PST-H  | 278           | POA      | -75 °C to +150 °C          | 2:1          | -10% max.  | 20kV/mm acc. to IEC684 P2    |
| • PST-HT light weight                                  | 279           | PES      | -75 °C to +150 °C          | 2:1          | -10% max.  | 20kV/mm acc. to IEC684 P2    |
| <b>Out of Fluororubber • Viton®-E</b>                  | 280           | XLFPM    | -55 °C to +200 °C          | 2:1          | -10% max.  | 15kV/mm acc. to IEC 684 P2   |
| <b>Out of PVDF • TK20</b>                              | 281           | PVDF     | -55 °C to +175 °C          | 2:1          | +/- 10% max                                      | 30kV/mm acc. to IEC 684P2    |
| <b>Out of PTFE</b>                                     |               |          |                            |              |  |                              |
| • TFE2   | 282           | PTFE     | -65 °C to +260 °C          | 2:1          | -20% max.  | 40kV/mm acc. to DIN 53481    |
| • TFE4   | 282           | PTFE     | -65 °C to +260 °C          | 4:1          | -20% max.  | 40kV/mm acc. to DIN 53481    |
| <b>Flame retardant</b>                                 |               |          |                            |              |  |                              |
| • TR27   | 284           | PEX      | -40 °C to +105 °C          | 2:1          | +5%/-10%max.                                     | 15kV/mm acc. to IEC 684 P2   |

\* Only valid for Central European Climate

\*\* Only outer sleeve



|  | Technical data     |               |                                      |           | Resistant properties |          |       |                 | Possible applications |             |                     |             |                  |          |          |               |                              |               |             | Sample Applications |                       |               |               |                         |                             |
|--|--------------------|---------------|--------------------------------------|-----------|----------------------|----------|-------|-----------------|-----------------------|-------------|---------------------|-------------|------------------|----------|----------|---------------|------------------------------|---------------|-------------|---------------------|-----------------------|---------------|---------------|-------------------------|-----------------------------|
|  | Self-extinguishing | Silicone-free | Copper compatibility (non-corrosive) | Printable | UV light*            | Solvents | Fuels | Acids and bases | Harnessmaker          | Electronics | Automotive industry | Motor sport | Railway vehicles | Military | Aviation | Ship building | Repair of underground cables | Energy supply | Wind energy | Solar energy        | Electrical insulation | Colour coding | Strain relief | Anti-kinking protection | Protection against moisture |
|  | Yes                | Yes           | Yes                                  |           | +                    | +        | o     | +               | ■                     | ■           |                     |             |                  |          |          |               |                              |               |             |                     | ■                     | ■             |               | ■                       | ■                           |
|  | Yes**              | Yes           | Yes                                  |           | +                    | +        | o     | +               | ■                     | ■           |                     |             |                  |          |          |               |                              |               |             |                     | ■                     | ■             |               | ■                       | ■                           |
|  | Yes**              | Yes           | Yes                                  |           | +                    | +        | o     | +               | ■                     | ■           |                     |             |                  |          |          |               |                              |               |             |                     | ■                     | ■             |               | ■                       | ■                           |
|  | Yes                | Yes           | Yes                                  |           | +                    | +        | o     | +               | ■                     | ■           |                     |             |                  |          |          |               |                              |               |             |                     | ■                     | ■             |               | ■                       | ■                           |
|  | Yes                | Yes           | Yes                                  |           | +                    | +        | o     | +               | ■                     | ■           |                     |             |                  |          |          |               |                              |               |             |                     | ■                     | ■             |               | ■                       | ■                           |
|  | Yes                | Yes           | Yes                                  |           | +                    | +        | o     | +               | ■                     | ■           |                     |             |                  |          |          |               |                              |               |             |                     | ■                     | ■             |               | ■                       | ■                           |
|  | Yes**              | Yes           | Yes                                  |           | +                    | +        | o     | +               | ■                     | ■           |                     |             |                  |          |          |               |                              |               |             |                     | ■                     | ■             |               | ■                       | ■                           |
|  | Yes                | Yes           | Yes                                  |           | +                    | +        | o     | +               | ■                     | ■           |                     |             |                  |          |          |               |                              | ■             | ■           |                     | ■                     | ■             |               | ■                       | ■                           |
|  | Yes                | Yes           | Yes                                  |           | +                    | +        | o     | +               | ■                     | ■           |                     |             |                  |          |          |               |                              | ■             | ■           |                     | ■                     | ■             |               | ■                       | ■                           |
|  | Yes                | Yes           | Yes                                  |           | +                    | +        | o     | +               | ■                     | ■           |                     |             |                  |          |          |               |                              | ■             | ■           |                     | ■                     | ■             |               | ■                       | ■                           |
|  | Yes                | Yes           | Yes                                  | Yes       | +                    | +        | o     | o               | ■                     | ■           |                     |             |                  |          |          |               |                              |               |             |                     | ■                     | ■             |               | ■                       | ■                           |
|  | Yes                | Yes           | Yes                                  | Yes       | +                    | +        | +     | +               | ■                     | ■           |                     |             | ■                | ■        | ■        |               |                              |               |             |                     | ■                     | ■             |               | ■                       | ■                           |
|  | Yes                | Yes           | Yes                                  | Yes       | +                    | +        | o     | +               | ■                     | ■           |                     |             |                  |          |          |               |                              |               |             |                     | ■                     | ■             |               | ■                       | ■                           |
|  | Yes                | Yes           | Yes                                  | Yes       | +                    | +        | o     | +               | ■                     | ■           |                     |             |                  |          |          |               |                              |               |             |                     | ■                     | ■             |               | ■                       | ■                           |
|  | Yes                | Yes           | Yes                                  | Yes       | +                    | +        | o     | +               | ■                     | ■           |                     |             |                  |          |          |               |                              |               |             |                     | ■                     | ■             |               | ■                       | ■                           |
|  | Yes                | Yes           | Yes                                  | Yes       | +                    | +        | +     | +               | ■                     | ■           |                     |             |                  |          |          |               |                              |               |             |                     | ■                     | ■             |               | ■                       | ■                           |
|  | Yes                | Yes           | Yes                                  | Yes       | +                    | +        | +     | +               | ■                     | ■           |                     |             |                  |          |          |               |                              |               |             |                     | ■                     | ■             |               | ■                       | ■                           |
|  | Yes                | Yes           | Yes                                  | Yes       | +                    | +        | +     | +               | ■                     | ■           |                     |             |                  |          |          |               |                              |               |             |                     | ■                     | ■             |               | ■                       | ■                           |
|  | Yes**              |               |                                      |           | +                    | +        | o     | +               | ■                     | ■           |                     |             |                  |          |          |               |                              |               |             |                     | ■                     | ■             |               | ■                       | ■                           |
|  | Yes**              | Yes           | Yes                                  |           | +                    | +        | o     | +               | ■                     | ■           |                     |             |                  |          |          |               |                              |               |             |                     | ■                     | ■             |               | ■                       | ■                           |
|  | Yes**              | Yes           | Yes                                  |           | +                    | +        | o     | +               | ■                     | ■           |                     |             |                  |          |          |               |                              |               |             |                     | ■                     | ■             |               | ■                       | ■                           |
|  | Yes**              | Yes           | Yes                                  |           | +                    | +        | o     | +               | ■                     | ■           |                     |             |                  |          |          |               |                              |               |             |                     | ■                     | ■             |               | ■                       | ■                           |
|  |                    | Yes           | Yes                                  |           | +                    | o        | o     | +               |                       |             |                     |             |                  |          |          | ■             |                              | ■             | ■           |                     | ■                     | ■             |               | ■                       | ■                           |
|  |                    | Yes           | Yes                                  |           | +                    | o        | o     | +               |                       |             |                     |             |                  |          |          | ■             |                              | ■             | ■           |                     | ■                     | ■             |               | ■                       | ■                           |
|  |                    | Yes           | Yes                                  |           | +                    | o        | o     | +               |                       |             |                     |             |                  |          |          | ■             |                              | ■             | ■           |                     | ■                     | ■             |               | ■                       | ■                           |
|  |                    | Yes           | Yes                                  |           | +                    | o        | o     | +               |                       |             |                     |             |                  |          |          | ■             |                              | ■             | ■           |                     | ■                     | ■             |               | ■                       | ■                           |
|  | Yes                | Yes           | Yes                                  |           | +                    | +        | ++    | +               | ■                     | ■           |                     | ■           | ■                | ■        | ■        |               |                              |               |             |                     | ■                     | ■             |               | ■                       | ■                           |
|  | Yes                | Yes           | Yes                                  |           | +                    | +        | ++    | +               | ■                     | ■           |                     | ■           | ■                | ■        | ■        |               |                              |               |             |                     | ■                     | ■             |               | ■                       | ■                           |
|  | Yes                | Yes           | Yes                                  |           | +                    | ++       | ++    | ++              | ■                     | ■           |                     | ■           | ■                | ■        | ■        |               |                              |               |             |                     | ■                     | ■             |               | ■                       | ■                           |
|  | Yes                | Yes           | Yes                                  |           | +                    | +        | ++    | +               |                       |             |                     |             |                  |          |          |               |                              |               |             |                     | ■                     | ■             |               | ■                       | ■                           |
|  | Yes                | Yes           | Yes                                  |           | +                    | ++       | ++    | ++              |                       |             |                     |             |                  |          |          |               |                              |               |             |                     | ■                     | ■             |               | ■                       | ■                           |
|  | Yes                | Yes           | Yes                                  |           | +                    | +        | +     | +               |                       |             |                     | ■           |                  |          |          | ■             |                              |               |             |                     | ■                     | ■             |               | ■                       | ■                           |



|  | Material Data |          |                            |              | Technical data              |                    |               |                                      |           |
|--|---------------|----------|----------------------------|--------------|-----------------------------|--------------------|---------------|--------------------------------------|-----------|
|  | Page          | Material | Operating Temperature [°C] | Shrink Ratio | Dielectric strength [kV/mm] | Self-extinguishing | Silicone-free | Copper compatibility (non-corrosive) | Printable |
| <ul style="list-style-type: none"> <li>■ suitable</li> <li>□ of limited suitability</li> <li>++ very good</li> <li>+ good</li> <li>o limited</li> </ul> <p>These details are only rough guide values. They should be regarded as a material specification and are no substitute for a suitability test. Please see our datasheets for further details.</p> |               |          |                            |              |                             |                    |               |                                      |           |

### Heat Shrinkable Moulded Shapes

| Heat Shrinkable Moulded Shapes                  |     |     |   |     |   |     |     |     |    |  |  |  |  |  |  |  |
|---|-----|-----|---|-----|---|-----|-----|-----|----|--|--|--|--|--|--|--|
| For plug-and-socket connectors                  |     |     |   |     |   |     |     |     |    |  |  |  |  |  |  |  |
| • Helashrink 100 Series, straight               | 287 | PEX | Detailed Information about the Materials and Adhesives of these moulded parts can be found on page 286. | 3:1 | Detailed Information about the Materials and Adhesives of these moulded parts can be found on page 286. |     |     |     |    |  |  |  |  |  |  |  |
| • Helashrink 1100 Series, right angle           | 289 | PEX |   | 3:1 |   |     |     |     |    |  |  |  |  |  |  |  |
| For branch points                               |     |     |   |     |   |     |     |     |    |  |  |  |  |  |  |  |
| • Helashrink 200 Series, two way outlet         | 291 | PEX |   | 3:1 |   |     |     |     |    |  |  |  |  |  |  |  |
| For plug-and-socket connectors                  |     |     |   |     |   |     |     |     |    |  |  |  |  |  |  |  |
| • Helashrink 300 Series, tree way outlet        | 291 | PEX | 3:1   |     |   |     |     |     |    |  |  |  |  |  |  |  |
| • Helashrink 400 Series, four way outlet        | 292 | PEX | 3:1   |     |   |     |     |     |    |  |  |  |  |  |  |  |
| • Helashrink 1200 Series, T-joint               | 292 | PEX | 3:1   |     |   |     |     |     |    |  |  |  |  |  |  |  |
| • Helashrink 1300 Series, Y-joint               | 293 | PEX | 3:1   |     |   |     |     |     |    |  |  |  |  |  |  |  |
| Low profile                                     |     |     |   |     |   |     |     |     |    |  |  |  |  |  |  |  |
| • Helashrink 333F Series, straight and flexible | 294 | PEX | -55 °C to +70 °C  | 3:1 | 20kV/mm   | Yes | Yes | Yes | +  |  |  |  |  |  |  |  |
| • Helashrink 313C Series, right angle           | 294 | PEX | -55 °C to +70 °C  | 3:1 | 20kV/mm   | Yes | Yes | Yes | +  |  |  |  |  |  |  |  |
| • Helashrink 313E Series, straight              | 295 | PEX | -55 °C to +70 °C  | 3:1 | 20kV/mm   | Yes | Yes | Yes | +  |  |  |  |  |  |  |  |
| • Helashrink 313F Series, straight              | 295 | PEX | -55 °C to +70 °C  | 3:1 | 20kV/mm   | Yes | Yes | Yes | +  |  |  |  |  |  |  |  |
| • Helashrink 412H Series, T-joint               | 296 | PEX | -55 °C to +70 °C  | 3:1 | 20kV/mm   | Yes | Yes | Yes | +  |  |  |  |  |  |  |  |
| • Helashrink 492H Series, Y-joint               | 296 | PEX | -55 °C to +70 °C  | 3:1 | 20kV/mm   | Yes | Yes | Yes | +  |  |  |  |  |  |  |  |
| • Helashrink 573H Series, tree way outlet       | 297 | PEX | -55 °C to +70 °C  | 3:1 | 20kV/mm   | Yes | Yes | Yes | +  |  |  |  |  |  |  |  |
| Two component adhesive                          |     |     |   |     |   |     |     |     |    |  |  |  |  |  |  |  |
| • V9500   | 298 | EP  | -75 °C to +150 °C   | -   | -   |     |     |     |    |  |  |  |  |  |  |  |
| End caps  |     |     |   |     |   |     |     |     |    |  |  |  |  |  |  |  |
| • pinched, PEC                                  | 299 | PEX | -45 °C to +125 °C   | 3:1 | 20kV/mm   | Yes | Yes | Yes | +  |  |  |  |  |  |  |  |
| • for low voltage, HEK                          | 300 | PEX | -55 °C to +80 °C  | 3:1 | 15kV/mm   | Yes | Yes | Yes | ++ |  |  |  |  |  |  |  |
| Cable break out boots for low voltage           |     |     |   |     |   |     |     |     |    |  |  |  |  |  |  |  |
| • HEV   | 301 | PEX | -55 °C to +80 °C  | 3:1 | 15kV/mm   | Yes | Yes | Yes | ++ |  |  |  |  |  |  |  |
| • Helashrink 500 Series                         | 302 | PEX | -55 °C to +80 °C  | 3:1 | 15kV/mm   | Yes | Yes | Yes | ++ |  |  |  |  |  |  |  |
| • Helashrink 600 Series                         | 302 | PEX | -55 °C to +80 °C  | 3:1 | 15kV/mm   | Yes | Yes | Yes | ++ |  |  |  |  |  |  |  |

|  | Material Data |          |                            |  | Technical data     |               |                                      |           |  |
|--|---------------|----------|----------------------------|--|--------------------|---------------|--------------------------------------|-----------|--|
|  | Page          | Material | Operating Temperature [°C] |  | Self-extinguishing | Silicone-free | Copper compatibility (non-corrosive) | Printable |  |
| <ul style="list-style-type: none"> <li>■ suitable</li> <li>□ of limited suitability</li> <li>++ very good</li> <li>+ good</li> <li>o limited</li> </ul> <p>These details are only rough guide values. They should be regarded as a material specification and are no substitute for a suitability test. Please see our datasheets for further details.</p> |               |          |                            |  |                    |               |                                      |           |  |

### Non Shrinkable Tubing

|  |     |      |  |     |     |     |     |
|--|-----|------|--|-----|-----|-----|-----|
| <b>Rubber tubing Chloroprene</b> • Helsyn H      | 303 | CR   | -65 °C to +95 °C, intermittent 120 °C  | Yes | Yes | Yes | Yes |
| <b>Rubber tubing Chloroprene</b> • Helsyn HS, HT | 304 | CR   | -25 °C to +100 °C, intermittent 120 °C | Yes | Yes | Yes | Yes |
| <b>Rubber tubing Silicone</b> • Helsyn SLP       | 305 | SI   | -65 °C to +180 °C, intermittent 250 °C | Yes | No  | Yes | Yes |
| <b>Rubber tubing PTFE</b> • FE                   | 306 | PTFE | -65 °C to +250 °C, intermittent 350 °C | Yes | Yes | Yes | No  |

\* Only valid for Central European Climate



| Resistant properties |          |       |                 |   | Possible applications |             |                     |             |                  |          |          |               |                              |               |             |              |                       |               | Sample Applications |                         |                             |   |  |
|----------------------|----------|-------|-----------------|---|-----------------------|-------------|---------------------|-------------|------------------|----------|----------|---------------|------------------------------|---------------|-------------|--------------|-----------------------|---------------|---------------------|-------------------------|-----------------------------|---|--|
| UV light*            | Solvents | Fuels | Acids and bases |   | Harnessmaker          | Electronics | Automotive industry | Motor sport | Railway vehicles | Military | Aviation | Ship building | Repair of underground cables | Energy supply | Wind energy | Solar energy | Electrical insulation | Colour coding | Strain relief       | Anti-kinking protection | Protection against moisture |   |  |
|                      |          |       |                 | Detailed Information about the Materials and Adhesives of these moulded parts can be found on page 286. | ■                     | ■           |                     |             |                  | ■        |          |               |                              | ■             |             |              | ■                     |               |                     | ■                       | ■                           | ■ |  |
| ++                   | ++       | ++    | +               |   | ■                     | ■           | ■                   | ■           | ■                | ■        |          |               |                              |               |             |              | ■                     |               |                     | ■                       | ■                           | ■ |  |
| ++                   | ++       | ++    | +               |   | ■                     | ■           | ■                   | ■           | ■                | ■        |          |               |                              |               |             |              | ■                     |               |                     | ■                       | ■                           | ■ |  |
| ++                   | ++       | ++    | +               |   | ■                     | ■           | ■                   | ■           | ■                | ■        |          |               |                              |               |             |              | ■                     |               |                     | ■                       | ■                           | ■ |  |
| ++                   | ++       | ++    | +               |   | ■                     | ■           | ■                   | ■           | ■                | ■        |          |               |                              |               |             |              | ■                     |               |                     | ■                       | ■                           | ■ |  |
| ++                   | ++       | ++    | +               |   | ■                     | ■           | ■                   | ■           | ■                | ■        |          |               |                              |               |             |              | ■                     |               |                     | ■                       | ■                           | ■ |  |
| ++                   | ++       | ++    | +               |   | ■                     | ■           | ■                   | ■           | ■                | ■        |          |               |                              |               |             |              | ■                     |               |                     | ■                       | ■                           | ■ |  |
| ++                   | +        | ++    | +               |   | ■                     | ■           | ■                   | ■           | ■                | ■        |          |               |                              |               |             |              | ■                     |               |                     | ■                       | ■                           | ■ |  |
| ++                   | +        | +     | +               |   | ■                     | ■           |                     |             | ■                | ■        |          |               |                              |               |             |              | ■                     |               |                     | ■                       | ■                           | ■ |  |
| ++                   | +        | +     | +               |   | ■                     | ■           |                     |             | ■                | ■        |          |               |                              |               |             |              | ■                     |               |                     | ■                       | ■                           | ■ |  |
| ++                   | +        | +     | +               |   | ■                     | ■           |                     |             | ■                | ■        |          |               |                              |               |             |              | ■                     |               |                     | ■                       | ■                           | ■ |  |

| Resistant properties |       |      |          | Possible industry |                 |              |             |                     |             |                  |          |          |               |              |             |              |                       | Possible Applications |               |               |                             |  |
|----------------------|-------|------|----------|-------------------|-----------------|--------------|-------------|---------------------|-------------|------------------|----------|----------|---------------|--------------|-------------|--------------|-----------------------|-----------------------|---------------|---------------|-----------------------------|--|
| UV light*            | Ozone | Fire | Solvents | Fuels             | Acids and bases | Harnessmaker | Electronics | Automotive industry | Motor sport | Railway vehicles | Military | Aviation | Ship building | Construction | Wind energy | Solar energy | Electrical insulation | Colour coding         | Strain relief | Cable binding | Protection against moisture |  |
| +                    | +     | o    | +        | +                 | +               | ■            |             | ■                   |             | ■                | ■        | ■        |               |              |             |              | ■                     | ■                     | ■             | ■             |                             |  |
| +                    | +     | o    | +        | +                 | +               | ■            |             | ■                   |             | ■                | ■        | ■        |               |              |             |              | ■                     | ■                     | ■             | ■             |                             |  |
| ++                   | ++    | o    | ++       | ++                | ++              |              | ■           |                     |             | ■                |          | ■        |               |              |             |              | ■                     | ■                     | ■             | ■             |                             |  |
| ++                   | ++    | ++   | ++       | ++                | ++              |              |             |                     | ■           |                  | ■        | ■        |               |              |             |              | ■                     | ■                     | ■             | ■             |                             |  |



## Overview of applications for Heat Shrink Tubing

When selecting the correct heat shrink tubing size, it is important to bear in mind the 80:20 rule. The heat shrink tubing must shrink by at least 20% and not more than 80% of its complete shrinkage capacity to achieve the right result. In our overview of applications you will find the best heat shrink tube for every cable diameter. The 80:20 rule has of course been taken into account in the table.

### Heat Shrink Tubing with a shrink ratio of 2:1

HIS-Pack; LVR; HFT-A; TL27; TF21; TF24;  
PST-H; PST-HT; VITON-E®; TK20; TFE-2;  
TR27; TCN20

| Shrink ratio 2:1 |           |                     |
|------------------|-----------|---------------------|
| Size mm          |           | Cable/Wire diameter |
| 1.2/0.6          |           | 0.7 mm              |
|                  |           | 1.1 mm              |
|                  |           | 1.4 mm              |
| 3.2/1.6          | 2.4/1.2   | 1.9 mm              |
|                  |           | 2.2 mm              |
|                  |           | 2.9 mm              |
| 6.4/3.2          | 4.8/2.4   | 3.8 mm              |
|                  |           | 4.3 mm              |
|                  |           | 5.7 mm              |
| 12.7/6.4         | 9.5/4.7   | 5.8 mm              |
|                  |           | 7.7 mm              |
|                  |           | 8.6 mm              |
| 25.4/12.7        | 19.1/9.5  | 11.4 mm             |
|                  |           | 15.2 mm             |
|                  |           | 17.2 mm             |
| 50.8/25.4        | 38.1/19.1 | 22.9 mm             |
|                  |           | 30.5 mm             |
|                  |           | 34.3 mm             |
| 101.6/50.8       | 76.2/38.1 | 45.7 mm             |
|                  |           | 61.0 mm             |
|                  |           | 68.6 mm             |
|                  |           | 91.4 mm             |

### Heat Shrink Tubing with a shrinkage ratio of 3:1

With the optimal shrinkage ratio of 3:1, you can cover a wide range of applications with just a few sizes. This leads to reduced stock expenditure and requires less space. 3:1 heat shrink tubes: HIS-3; HIS-A; TREDUX; TF34; TF31; EPS-300; TA32; TCN20; HIS-3 BAG; ShrinKits 321

| Shrink ratio 3:1 |      |                     |
|------------------|------|---------------------|
| Size mm          |      | Cable/Wire diameter |
| 1.5/0.5          |      | 0.7 mm              |
|                  |      | 1.3 mm              |
|                  |      | 1.4 mm              |
|                  | 3/1  | 2.6 mm              |
| 6/2              |      | 2.8 mm              |
|                  |      | 5.2 mm              |
|                  |      | 5.6 mm              |
| 18/6             | 12/4 | 8.4 mm              |
|                  |      | 10.4 mm             |
|                  |      | 11.2 mm             |
| 40/13            | 24/8 | 15.6 mm             |
|                  |      | 18.4 mm             |
|                  |      | 20.8 mm             |
|                  |      | 34.6 mm             |

### Conversion from imperial to metric

|      |       |       |       |       |        |        |       |      |       |
|------|-------|-------|-------|-------|--------|--------|-------|------|-------|
| Inch | 1/32" | 3/64" | 1/16" | 5/64" | 3/32"  | 1/8"   | 3/16" | 1/4" | 3/8"  |
| mm   | 0.8   | 1.2   | 1.6   | 2.0   | 2.4    | 3.2    | 4.8   | 6.4  | 9.5   |
| Inch | 1/2"  | 5/8"  | 3/4"  | 1"    | 1 1/4" | 1 1/2" | 2"    | 3"   | 4"    |
| mm   | 12.7  | 15.9  | 19.1  | 25.4  | 31.8   | 38.1   | 50.8  | 76.2 | 101.6 |

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**The right Heat Shrink Tube**

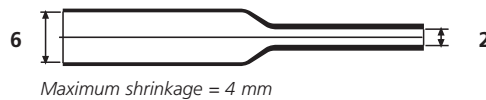
The **80:20 rule** means that a heat shrink tube should shrink by a **maximum of 80%** and a **minimum of 20%**.

**For example:**

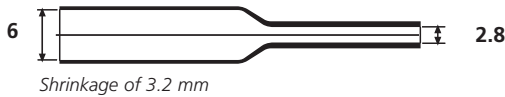
A cable with a diameter of 5 mm is to be wrapped in heat shrink tubing. In theory both sizes 6/2 and 12/4 would be suitable, since the required diameter of 5 mm lies within the shrink range of both tube sizes.

**Size 6/2**

**Maximum shrink (100%)**



**Optimum shrinkage max. (80%)**



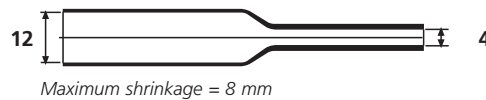
**Optimum shrinkage min. (20%)**



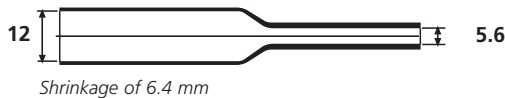
Size 6/2 has a range of application of between 2.8 mm and 5.2 mm and is therefore suitable for the cable diameter of 5 mm.

**Size 12/4**

**Maximum shrink (100%)**



**Optimum shrinkage max. (80%)**



**Optimum shrinkage min. (20%)**



The smallest application diameter of size 12/4 is 5.6 mm. This size is therefore unsuitable for a cable diameter of 5 mm.

**Calculator tool for Heat Shrink Tubing**

The calculator tool for heat shrink tubing is a selection guide for shrink tubing sizes based on the object to be covered. Fill in your specification and the calculator presents the right tubing size according to the 80:20 rule. Find more information under <http://www.hellermannTyton.co.uk/heatshrink-calculator/>! The calculator tool also checks if the heat shrink tubing you have chosen is suitable for your application. For example you can find the heat shrink tubing with the Product Search on the HellermannTyton website.