

DERAY®-IAKT

Thin wall adhesive lined polyolefin

Adhesive lined heat shrink tubing ideal for effective moisture-resistant insulation.



Features and Benefits

- Flexible
- Adhesive bonds to plastics, rubber, steel polyethylene and other materials
- Shrink ratio: 3:1 & 4:1
- Continuous operating temperature of outer jacket: -55°C to 110°C
- Shrink temperature: 95°C min.

Standards

- Industrial and automotive OEM specifications

Typical Applications

- Environmental sealing and strain relief of connectors and terminals
- Moisture sealing and electrical insulation of simple in-line splices
- Abrasion resistance for tubes and pipes
- Repair of damaged wire harnesses

3:1 & 4:1

Shrink ratio

-55°C - 110°C (-67°F to 230°F)

Continuous operating temperature

Markets:

Automotive, Industrial

Standards:



Dimensions for shrink ratio 3:1

| ORDER NUMBER | EXPANDED | RECOVERED | | DELIVERY UNITS | |
|--------------|---------------------------|---------------------------|------------------------------|----------------|-----------------------|
| | INTERNAL DIAMETER (MIN) D | INTERNAL DIAMETER (MAX) D | TOTAL WALL THICKNESS (NOM) W | SPOOL | LENGTHS |
| | <i>mm (in)</i> | <i>mm (in)</i> | <i>mm (in)</i> | <i>m (ft)</i> | <i>1.22 m (48 in)</i> |
| 3.0/1.0 | 3.0 (0.118) | 1.0 (0.039) | 1.00 (0.039) | 300 (984) | 25 |
| 4.5/1.5 | 4.5 (0.177) | 1.5 (0.059) | 1.10 (0.043) | 300 (984) | 25 |
| 6.0/2.0 | 6.0 (0.236) | 2.0 (0.079) | 1.20 (0.047) | 300 (984) | 10 |
| 9.0/3.0 | 9.0 (0.354) | 3.0 (0.118) | 1.40 (0.055) | 150 (492) | 10 |
| 12.0/4.0 | 12.0 (0.472) | 4.0 (0.157) | 1.70 (0.067) | 100 (328) | 10 |
| 19.0/6.0 | 19.0 (0.748) | 6.0 (0.236) | 2.10 (0.083) | 50 (164) | 10 |
| 24.0/8.0 | 24.0 (0.945) | 8.0 (0.315) | 2.40 (0.094) | 50 (164) | 10 |
| 40.0/13.0 | 40.0 (1.575) | 13.0 (0.512) | 2.40 (0.094) | 30 (98) | 10 |

Dimensions for shrink ratio 4:1

| ORDER NUMBER | EXPANDED | RECOVERED | | DELIVERY UNITS | |
|--------------|---------------------------|---------------------------|------------------------------|----------------|-----------------------|
| | INTERNAL DIAMETER (MIN) D | INTERNAL DIAMETER (MAX) D | TOTAL WALL THICKNESS (NOM) W | SPOOL | LENGTHS |
| | <i>mm (in)</i> | <i>mm (in)</i> | <i>mm (in)</i> | <i>m (ft)</i> | <i>1.22 m (48 in)</i> |
| 4.0/1.0 | 4.0 (0.157) | 1.0 (0.039) | 1.00 (0.039) | 300 (984) | 25 |
| 8.0/2.0 | 8.0 (0.315) | 2.0 (0.079) | 1.20 (0.047) | 150 (492) | 10 |
| 12.0/3.0 | 12.0 (0.472) | 3.0 (0.118) | 1.40 (0.055) | 100 (328) | 10 |
| 16.0/4.0* | 16.0 (0.630) | 4.0 (0.157) | 1.70 (0.067) | 50 (164) | 10 |
| 24.0/6.0 | 24.0 (0.945) | 6.0 (0.236) | 2.10 (0.083) | 50 (164) | 10 |
| 32.0/8.0 | 32.0 (0.1260) | 8.0 (0.315) | 2.40 (0.094) | 50 (164) | 10 |
| 52.0/13.0* | 52.0 (2.047) | 13.0 (0.512) | 2.40 (0.094) | 30 (98) | 10 |

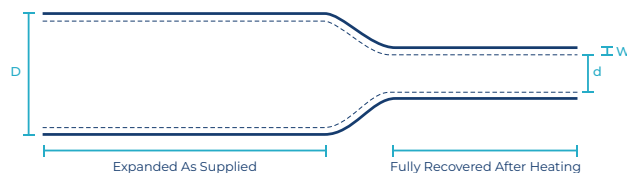
*IAKT 4:1 sizes 16.0/4.0 & 52.0/13.0 clear have different delivery units

Ordering

Select a dimension which will shrink snugly over the application to be covered. If recovery is restricted the resultant wall thickness will be less than specified.

- Select options:
 - Color: Black (BK), clear (CL)
- Please specify the product name, order number and options you require:
 - Example: DERAY®-IAKT 3:1, 40.0/13.0, black

Please contact your Customer Service Representative for information on custom colors, sizes, lengths and material data sheet.



DERAY®-IAKT colored

Technical data

| PROPERTY | CURRENT VALUES | TEST METHODS |
|--|------------------------------------|---------------------|
| MATERIAL | | |
| Material | Polyolefin, modified; free of lead | n/a |
| Specific gravity | 1.25 g/cm ³ max. | ASTM-D 792, A-I |
| Shrink ratio | 3:1 / 4:1 | n/a |
| Longitudinal shrinkage | 3:1: - 15 % max.; 4:1: - 18 % max. | ASTM-D 2671 |
| MECHANICAL | | |
| Tensile strength | 15 MPa | IEC 60684-2 |
| Elongation | 410% | IEC 60684-2 |
| Secant modulus | 175 MPa max. | ASTM-D 882 |
| THERMAL | | |
| Tensile strength after thermal ageing (168 h at 150°C) | 14 MPa | IEC 811-1-2 |
| Elongation after thermal ageing (168 h at 150°C) | 310% | IEC 811-1-2 |
| Tensile strength after thermal shock (4 h at 200°C) | 15 MPa | IEC 811-1-2 |
| Elongation after thermal shock (4 h at 200°C) | 370% | IEC 811-1-2 |
| Cold bend test | does not break at -55°C | ASTM-D 2671 Meth. C |
| Combustion behaviour | jacket selfextinguishing | FMVSS 302 |
| Shrink temperature | 95°C min. | n/a |
| Storage temperature | 40°C max. | n/a |
| Continuous operating temperature | -55°C to 110°C | IEC 216 |
| CHEMICAL | | |
| Corrosive action | non-corrosive | ASTM-D 2671 Meth. A |
| Compatibility with copper | non-corrosive | ASTM-D 2671 Meth. B |
| Resistance against chemicals | good | n/a |
| Water absorption | 0.15% | VDE 0472 |
| ELECTRICAL | | |
| Dielectric strength | 22 kV/mm | VDE 0303 Part 2 |
| Spec. volume resistivity | 10 ¹⁴ Ω x cm | VDE 0303 Part 3 |

DERAY®-IAKT transparent

Technical data

| PROPERTY | CURRENT VALUES | TEST METHODS |
|--|--|---------------------|
| MATERIAL | | |
| Material | Polyolefin, modified; free of lead and cadmium | n/a |
| Specific gravity | 1.00 g/cm ³ max. | ASTM-D 792, A-1 |
| Shrink ratio | 3:1 / 4:1 | n/a |
| Longitudinal shrinkage | 3:1: - 15 % max.; 4:1: - 18 % max. | ASTM-D 2671 |
| MECHANICAL | | |
| Tensile strength | 17 MPa | IEC 60684-2 |
| Elongation | 450% | IEC 60684-2 |
| Secant modulus | 175 MPa max. | ASTM-D 882 |
| THERMAL | | |
| Tensile strength after thermal ageing (168 h at 150°C) | 15 MPa | IEC 811-1-2 |
| Elongation after thermal ageing (168 h at 150°C) | 360% | IEC 811-1-2 |
| Tensile strength after thermal shock (4 h at 200°C) | 16 MPa | IEC 811-1-2 |
| Elongation after thermal shock (4 h at 200°C) | 380% | IEC 811-1-2 |
| Cold bend test | does not break at -55°C | ASTM-D 2671 Meth. C |
| Combustion behaviour | passed | FMVSS 302 |
| Shrink temperature | 95°C min. | n/a |
| Storage temperature | 50°C max. | n/a |
| Continuous operating temperature | -55°C to 110°C | IEC 216 |
| CHEMICAL | | |
| Corrosive action | non-corrosive | ASTM-D 2671 Meth. A |
| Compatibility with copper | non-corrosive | ASTM-D 2671 Meth. B |
| Resistance against chemicals | good | n/a |
| Resistance against mould | does not promote mould growth | ISO 846 |
| Water absorption | 0.17% | VDE 0472 |
| ELECTRICAL | | |
| Dielectric strength | 23 kV/mm | VDE 0303 Part 2 |
| Spec. volume resistivity | 10 ¹⁴ Ω x cm | VDE 0303 Part 3 |