

# DERAY<sup>®</sup>-SET 1000

Flame retardant, multi-purpose  
heat shrink tubing

## Features

- Flexible
- Suitable for various applications
- Continuous Operating  
Temperature: -55°C to 125°C
- Shrink Temperature: 110°C



Dimensions

| CASE | EXPANDED                |      | RECOVERED               |                      | COMPARTMENT CONTENTS |                            |
|------|-------------------------|------|-------------------------|----------------------|----------------------|----------------------------|
|      | INTERNAL DIAMETER (MIN) |      | INTERNAL DIAMETER (MAX) | WALL THICKNESS (NOM) | length               | quantity of each case pcs. |
|      | D                       |      | D                       | w                    |                      |                            |
|      | mm                      | IN   | mm                      | mm                   | mm                   |                            |
| 1    | 2,4                     | 3/32 | 1,2                     | 0,5                  | 200                  | 1                          |
|      | 3,2                     | 1/8  | 1,6                     | 0,5                  | 200                  | 1                          |
|      | 4,8                     | 3/16 | 2,4                     | 0,5                  | 200                  | 1                          |
|      | 6,4                     | 1/4  | 3,2                     | 0,6                  | 200                  | 1                          |
|      | 9,5                     | 3/8  | 4,8                     | 0,6                  | 200                  | 1                          |
|      | 12,7                    | 1/2  | 6,4                     | 0,6                  | 200                  | 1                          |
|      | 19,0                    | 3/4  | 9,5                     | 0,8                  | 200                  | 1                          |
| 2    | 2,4                     | 3/32 | 1,2                     | 0,5                  | 70                   | 10                         |
|      | 3,2                     | 1/8  | 1,6                     | 0,5                  | 70                   | 11                         |
|      | 4,8                     | 3/16 | 2,4                     | 0,5                  | 70                   | 13                         |
| 3    | 6,4                     | 1/4  | 3,2                     | 0,6                  | 70                   | 17                         |
| 4    | 9,5                     | 3/8  | 4,8                     | 0,6                  | 70                   | 9                          |
| 5    | 12,7                    | 1/2  | 6,4                     | 0,6                  | 70                   | 6                          |
| 6    | 19,0                    | 3/4  | 9,5                     | 0,8                  | 70                   | 4                          |

Content:

|   |   |   |   |   |
|---|---|---|---|---|
| 1 |   |   |   |   |
| 2 | 3 | 4 | 5 | 6 |

Technical Data

Physical

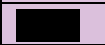
| Property                                             | Test Method                            | Typical Performance coloured | Typical Performance clear |
|------------------------------------------------------|----------------------------------------|------------------------------|---------------------------|
| Tesile Strength                                      | IEC 60684-2                            | 15 MPa                       | 19 MPa                    |
| Elongation                                           | IEC 60684-2                            | 450%                         | 530%                      |
| Langitudinal Change                                  | ASTM-D 2671                            | +/- 10% max.                 | +/- 10% max.              |
| Secant Modulus                                       | ASTM-D 882                             | 175 MPa max.                 | 175 MPa max.              |
| Specific Gravity                                     | ASTM-D 792, A-I                        | 1,25 g/cm3                   | 1,00 g/cm3                |
| Elongation after Heat Aging (168 hrs at 158°C)       | UL 224                                 | 300%                         | 490%                      |
| Tensile Strength after Heat Aging (168 hrs at 158°C) | UL 224                                 | 12 MPa                       | 18 MPa                    |
| Elongation after Heat Shock (4 hrs at 200°C)         | IEC 811-1-2                            | 400%                         | 500%                      |
| Tensile Strength after Heat Shock (4 hrs at 200°C)   | IEC 811-1-2                            | 13 MPa                       | 18 MPa                    |
| Low Temperature Flexibility                          | ASTM-D 2671 Meth. C                    | does not break at -55°C      | does not break at -55°C   |
| Fammability                                          | UL 224 (coloured)<br>FMVSS 302 (clear) | flame retardant              | passed                    |

Electrical

| Property            | Test Method     | Typical Performance coloured | Typical Performance clear |
|---------------------|-----------------|------------------------------|---------------------------|
| Dielectric Strength | VDE 0303 Part 2 | 24 kV/mm                     | 26 kV/mm                  |
| Volume Resistivity  | VDE 0303 Part 3 | 10 <sup>15</sup> Ω x cm      | 10 <sup>15</sup> Ω x cm   |

Chemical

| Property             | Test Method         | Typical Performance coloured | Typical Performance clear |
|----------------------|---------------------|------------------------------|---------------------------|
| Corrosive Action     | ASTM-D 2671 Meth. A | non-corrosive                | non-corrosive             |
| Copper Compatibility | ASTM-D 2671 Meth. B | non-corrosive                | non-corrosive             |
| Chemical Resistance  |                     | good                         | good                      |
| Water Absorption     | VDE 0472            | 0,15%                        | 0,30%                     |

| Colours                                                                            |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| black                                                                              | red                                                                                 | yellow                                                                              | blue                                                                                | white                                                                               |
|  |  |  |  |  |

| Printability | Hot stamp | Ink jet | Offset |
|--------------|-----------|---------|--------|
|              | Very good | good    | good   |