

RavaSafe® ZH-LSF 30 is a thermoplastic zero halogen, low smoke flame retardant compound designed for general purpose sheathing application.

This compound combines excellent processing and good mechanical properties.

Typical Application: Telecom, Low and Medium power cable application

Standard norms (type of material) : EN 50363 (TM7), VDE 0207 / 0250 (HM2, HM4), BS 7655 (LTS 2), IEC 60502 (ST8) and IEC 60092-360 (SHF1)

Technical properties:

| Physical and Mechanical Properties | Typical Value | Units (SI) | Test Method |
|--|---------------|------------|------------------------|
| Density, 23°C | 1,55 | g/cm³ | ISO 1183-1 (ASTM D792) |
| Melt flow index (150°C /21,6kg) | 7 | g/10 min | ISO 1133 (b) |
| Hardness (15 seconds) | 48 | Shore D | ISO R 868 (ASTM D2240) |
| Water immersion test (7d @ 70°C) | 1,3 | mg/cm² | IEC 60811-402 |
| Tear strength at 23°C | 8,1 | N/mm | BS 6469-99.1 |
| Unaged mechanical properties (200 mm/min) | | | |
| Tensile strength | 9,5 | MPa | IEC 60811-501 |
| Elongation at break | 185 | % | |
| Thermal ageing 7 days at 120°C | | | |
| Tensile strength variation (Δ) | 17 | % | IEC 60811-501 |
| Elongation at break variation (Δ) | -9 | % | |
| Thermo Mechanical Properties | | | |
| Hot Pressure Deformation (6h @ 90°C) | < 50 | % | IEC 60811-508 |
| Cold Elongation at Break at -15°C | 96 | % | IEC 60811-505 |
| Cold Elongation at Break at -40°C | >20 | % | IEC 60811-505 |
| Oil resistance test 4h at 70°C (IRM 902 – immersion) | | | |
| Tensile strength variation (Δ) | -34 | % | IEC 60811-404 |
| Elongation at break variation (Δ) | -5 | % | |

| Flammability | Typical Value | Units (SI) | Test Method |
|--|---------------|------------|-------------------------|
| Oxygen Index | 41 | % | ISO 4589-2 (ASTM D2863) |
| Temperature Index | >310 | °C | ISO 4589-3 |
| Halogen content | < 0,5 | % | IEC 60754-1 |
| <i>Acid gas emission</i> | | | |
| pH | > 4,3 | / | IEC 60754-2 |
| Conductivity | < 2,5 | μS/mm | IEC 60754-1 |
| <i>Smoke density measurement</i> | | | |
| Smoke density – Flaming mode (1,5 mm) Ds max | 66 | / | ASTM E 662 |
| Smoke density – Non Flaming mode (1,5 mm) Ds max | 204 | / | |

| Electrical properties | Typical Value | Units (SI) | Test Method |
|-----------------------|--------------------|------------|-------------|
| Volume Resistivity | 5x10 ¹⁵ | Ω.cm | ASTM D 257 |
| Surface Resistivity | 2x10 ¹⁶ | Ω | |

Recommended extrusion profile:

| Extrusion Temperatures | Zones | | | | | | | |
|------------------------|-------|-------|-------|-------|-------|--------|-------|-------|
| | Z1 | Z2 | Z3 | Z4 | Z5 | Collar | Head | Die |
| Temperature (Imperial) | 266°F | 284°F | 302°F | 320°F | 320°F | 329°F | 338°F | 338°F |
| Temperature (SI) | 130°C | 140°C | 150°C | 160°C | 160°C | 165°C | 170°C | 170°C |

RavaSafe® ZH-LSF 30 is a product able to run on standard extruders, based on low compression screw and head. This compound is supplied in aluminium foil bags. Pre-drying is not required before extrusion process.

RavaSafe® ZH-LSF 30 is colourable. A full range of specific colour masterbatches (RAVACOLOR™) and additive masterbatches (RAVABOOST™) are available.

For any further information, please contact Ravago W&C.

The material description is subject to changes during the validation period of the product.

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