

Halogen-free cable compound

HFFR Cable Compound

RESLEN REF 607 is a general purpose, halogen-free thermoplastic cable sheath compound 1, providing very good mechanical and electrical properties, with a permissible operating temperature at the core of 90°C.

RESLEN REF 607 is designed for low-voltage, armored, and signal cables with low corrosive gas emission levels in fire-exposed conditions.

The material meets the requirements of the following standards:

- VDE 0207, VDE 0266, VDE 0276 Part 604 & Part 622 for HM4
- VDE 0207 Part 24, VDE 0250 Part 214, VDE 0819 Part 107 for HM2

RESLEN REF 607 is a thermoplastic halogen free sheathing and general 90°C application cable compound, ensuring excellent electrical and mechanical properties.

RESLEN REF 607 is suitable for low voltage cables, armoured cables & signal cables having low emission of smoke when affected by fire.

Standards complying:

- VDE 0207, VDE 0266, VDE 0276 Part 604 & Part 622 for HM4
- VDE 0207 Part 24, VDE 0250 Part 214, VDE 0819 Part 107 for HM2

Property ¹	Typical Value	Unit	Test Method.
Properties Tested ¹	Typical Value	Unit	Test Method
Density	1.53	g/cm ³	ISO 1183-1
Melt Flow Rate, 190°C/21.6kg	14.6±1.8g	/10min	ISO 1133
Melt Flow Rate, 150°C/21.6kg	5.1±0.3g	/10min	ISO 1133
Tensile Strength, min.	11	MPa	ISO 527
Elongation at Break, min. Elongation at Break, min.	75	%	ISO 527
Shore Hardness	50 Skala D 50 D Scale		ISO 868
Oxygen Index, min. Oxygen Index, min.	36	%	ISO 4589-1,2

¹ The properties were marked on shapes obtained by injection molding, in accordance with ISO 3167, cured for 24 hours at a temperature of 23°C and a relative humidity of 50%.

¹ Values mentioned above were calculated on injection moulded samples according to ISO 3167 standard. The samples were conditioned for 24h at 23°C and relative humidity 50%.

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Property Properties Tested ²	Typical		Test method
	Value	Unit	Test
	Typical Value	Unit	Method
1 Mechanical Properties			
1.1 Properties before aging Properties in the state as manufactured			EN 60811-1-19.2
1.1.1 Tensile strength, min. Tensile Strength, min.	10.5	MPa	
1.1.2 Elongation at break, min. Elongation at break, min.	175	%	
1.2 Properties after aging in an air circulating oven, 110°C, 168h Properties after Ageing in Air Oven, 110°C, 168h			EN 60811-1-28.1
1.2.1 Tensile strength, min. Tensile Strength, min.	11.5	MPa	
1.2.2 Change in tensile strength, max. Change in Tensile Strength, max.	+10	%	
1.2.3 Elongation at break, min. Elongation at Break, min.	140	%	
1.2.4 Change in Elongation at Break, max. Change in Elongation at Break, max.	-25	%	
1.3 Properties after Aging in Air Oven, 100°C, 168h (Aging of complete cable) (Finished Cable Ageing)			EN 60811-1-28.1
1.3.1 Tensile strength, min. Tensile Strength, min.	11.5	MPa	
1.3.2 Change in tensile strength, max. Change in Tensile Strength, max.	+10	%	
1.3.3 Elongation at break, min. Elongation at Break, min.	140	%	
1.3.4 Change in Elongation at Break, max. Change in Elongation at Break, max.	-15	%	

Properties tested on samples taken from extruded cable or sheathing.

² Values obtained on samples taken from extruded cable or sheathing.

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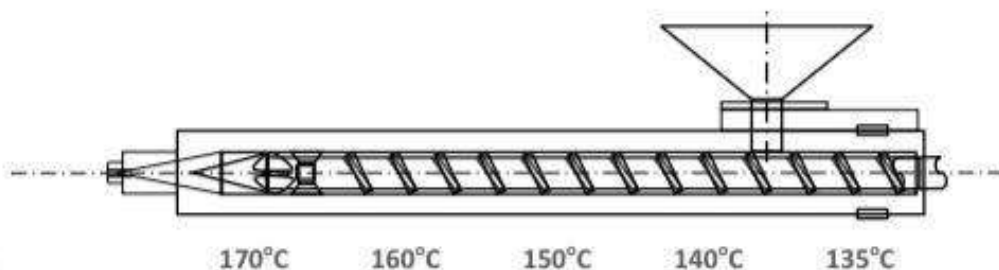
Property	Typical Value	Unit	Test Method
Properties Tested ²	Typical Value	Unit	Test Method
2 Pressure resistance, 90°C, 4h Hot Pressure Test, 90°C, 4h			EN 60811-3-18.1
2.1 Indentation depth, max. Indentation, max.	50%		
3 Winding resistance, -15°C Cold bending, -15°C	No Cracks		EN 60811-1-4 8.2
4 Coating susceptibility to winding, 130°C, 1h Resistance to Cracking (Heat Shock), 130°C, 1h	No Cracks		EN 60811-1-4 9.2
5 Determination of halogens Assessment of Halogens/Halogen gas emission			
5.1 pH / pH	≥ 4.3		IEC 60754-2, EN 50267-2-2
5.2 Conductivity	≤ 10 μS·mm ⁻¹		IEC 60754-2, EN 50267-2-2
5.3 Halogen Acid Gas, HCl and HBr Quantity HCl & HBr Content	0.5%		IEC 60754-1, EN 50267-2-1
5.4 Halogen Acid Gas Quantity, HF HF Content	0.1%		EN 60684-2

Properties tested on samples taken from an extruded sheath or cable.

² Values obtained on samples taken out of extruded cable or sheathing.

Processing

Processing Parameters



Temperature Profile

Recommended extrusion temperature: 135–170°C

Recommended Melt Temperature: 155–175°C

Quality Certificate

DIN EN 10204 - 3.1

Product/Material: RESLEN

REF 607 NT 280000

Customer Name:

Customer item no.:

LOT:

CHG2121010284

Control	Unit	Specification	Measured value	Comment
Stress at Fmax 250 mm/min PN-EN 60811-501	MPa	≥ 10,5	13,8	
Elongation at break 250 mm/min PN-EN 60811-501	%	≥ 165	221	
Density 23°C ISO 1183-1	g/cm3	1,52 - 1,56	1,53	
MFR 190°C/21.6kg ISO 1133	g/10 min	12,0 - 22,0	16,0	
Ash content 600°C ISO 3451-1.4	%	41,5 - 45,5	43,1	
Shore D hardness 23°C PN EN ISO 868	*	46,0 - 54,0	50,2	
Oxygen index PN EN ISO 4589	%	≥ 40,1	40,1	

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Recommended mold temperature: 40-70°C

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Permissible moisture content during processing: 0.1%

Permitted Humidity Contents During Processing: 0.1%

Recommended drying parameters: 3-4 hours, 60°C

Recommended drying time and temperature: 3-4h, 60°C