

TPE 3288 -ZHF

Thermoplastic halogenfree flame retardant EPDM-elastomer based compound for insulation and jacketing, requiring a combination of very low temperature flexibility (-55 C), good electrical and mechanical properties.

Compound properties

Compound TPE 3288-ZHF is a halogenfree, flame-retarded thermoplastic elastomer-based compound for insulation and jacketing of low voltage wire and cables. The combination of high LOI, good heat-ageing, good mechanical properties, low temperature flexibility, and low smoke emission, makes this compound an ideal choice for various applications, such as flexible elevator cables, flexible control cables, mass transit cables, rolling stock jacketing cables and many more.

Properties (*)	Test Method	Typical value
<i>Physical properties</i>		
Specific gravity	ISO 1183	1.55 gr/cm ³
Hardness	ASTM D-2240	Shore A 88
Elasticity	DIN 53457	28 Mpa
Stress at 20% elongation	IEC 811-1-1	3.9 Mpa
Tensile strength	IEC 811-1-1	10 Mpa
Elongation at break	IEC 811-1-1	185%
Tear strength	ISO 34/1-94, A	5 N/mm
Water absorption (24 h, 23 C)	ASTM D-570	0.4 %
<i>Thermal properties</i>		
Hot pressure test (6 hr, 80 C)	VDE 0472/p 609	pass
Heat ageing (10 days at 100 C)		
- Variation in tensile strength	IEC 811-1-1	< 15%
- Variation in elongation at break	IEC 811-1-1	< 10%
Heat ageing (7 days at 136 C)		
- Variation in tensile strength	IEC 811-1-1	< 35
- Variation in elongation at break	IEC 811-1-1	< 30%
Low temperature brittle point	ISO 812	-55

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TPE3288ZHF/RG020521

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Properties	Test Method	Typical value
<i>Electrical properties</i>		
Surface resistivity at 20 C	ASTM D 257	6 x 10 ¹⁴ ohm
Dielectric strength	ASTM D 149	20 kV/mm
<i>Environmental properties</i>		
IRM 902 oil resistance (4 hrs, 70 C) - Variation in tensile & elongation		< 35 %
<i>Burning properties</i>		
Acid gas test	IEC 754-1	< 0.3%
Limited oxygen index	ASTM D-2863	36%
Temperature index	NES 715	275
Vertical burning-test	IEC 332-3	Pass (**)
Smoke density	IEC 61034	Pass (**)
Toxicity index	NES 713	3.5
Corrosivity test : pH	IEC 754-2	> 4.3
: conductivity	IEC 754-2	9.5 uS/cm

(**): Bundle tests are depending on cable constructions

The compound TPE 3288-ZHF can be easily crosslinked by e-beam radiation for improved heat-ageing (7 days 150 C), hot-pressure and fluid resistance properties. A dose of approximately 150 kGy is recommended.