

IS-PP-17 Type 21A

Halogenfree flame retardant compound for thermoplastic insulation
for automotive wire to meet ISO 6722-Class C

Compound properties

Compound IS-PP-17 Type 21A is thermoplastic halogen free, 125 Celsius, flame-retarded and offers a unique combination of mechanical, electrical and abrasion resistant properties.

The excellent extrudability at high speeds makes this thermoplastic compound an ideal choice for non halogen, low smoke wires for the automotive industry for 125 C applications.

The IS-PP-17 Type 21A is developed for conductors above 2.0 mm².

The material shows excellent strip ability.

Properties (measured on a 0.35 mm ² wire)	Test Method	Typical value
<i>Physical properties</i>		
Specific gravity	ISO 1183	1.35 +/- 0.03
Tensile strength (v = 50 mm/min)	IEC 811-1-1	> 18 Mpa
Elongation at break (v = 50 mm/min)	IEC 811-1-1	> 500%
Abrasion resistance (Needle 0.45 mm, 7 N load)	ISO 6722 / LV 112	> 300 cycles
<i>Thermal properties</i>		
Melt flow rate (230 C, 5 kg)	ISO 1133	3.5
Cold bend test (4 hr at -40 C)	ISO 6722 / LV 112	No dielectric breakdown
Cold impact (4 hr at -15 C; 100 gram weight)	ISO 6722 / LV 112	No dielectric breakdown
Heat shock (6 hr, 175 C)	ISO 6722 / LV 112	No dielectric breakdown
Heat ageing (10 days at 150 C); Load 0.5 kg	ISO 6722 / LV 112	No dielectric breakdown
Heat-resistance (3000 hr, 125 C) ; Load 0.5 kg	ISO 6722 / LV 112	No dielectric breakdown
Shrinkage (15 minutes 150 C)		0.4%

(*): Preliminary datasheet only.

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Electrical properties		
Insulator resistance (1 hr 80 C/100 V/1 min)	ISO 6722 / LV 112	9*10@14 ohm.cm
Insulator resistance (after 40 days in 1% NaCl water, 80 C)	ISO 6722 / LV 112	3*10@10 ohm.cm
Oil resistance		
Increase in OD after 20 hr at 50 C immersion in:		
ASTM oil Nr. 1		< 2.0 %
ASTM oil Nr. 2 (IRM 902)		< 3.0 %
ASTM oil Nr. 3 (IRM 903)		< 3.0 %
Burning properties		
Light transmission	IEC 61034-1	86%
Burning test (45 degrees angle)	ISO 6722 / LV 112	< 15 sec
Halogen content	IEC 754-1	< 0.2%
Limited oxygen index	ASTM D-2863	27 - 28 %
Corrosivity test : pH	IEC 754-2	5.2
: conductivity	IEC 754-2	< 7,5 uS/mm

Extrusion guide IS-PP-17

A special extrusion guide is available. Before processing the IS-PP-17 Type 21A it is strongly recommended to follow up the instructions in the extrusion guide, to ensure proper extrusion resulting in an excellent product

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