

# Compound RDX-PVC 105-A-001XL

Modified lead-free radiation crosslinkable polyvinylchloride based compound, highly heat resistant for appliance wire and automotive wire insulation for 105 C (221 F) applications in the motor compartment.

## Compound properties

The RDX-PVC 105-A-001XL compound is a high grade, lead-free non-meltable (\*) PVC based compound, offering an excellent combination of mechanical, electrical and abrasion resistant properties. The superb heat-resistance makes this crosslinkable compound an ideal choice for the insulation of automotive wires for 100 Celsius (212 F) applications in the motor compartment. The compound has been developed to meet stringent specifications such as the Japanese automotive industry, like JASO D 608-92 Type AVX and other specifications where heat-resistance is required. The compound also complies with UL styles specifying crosslinked PVC like UL 1429, 1430, 1431, 1534, 1536 and 3317.

Properties (measured on a 0.5 mm <sup>2</sup> wire, 0.5 mm insulation thickness)	Test Method	Typical value
<i>Physical properties</i>		
Density	ISO 1183	
Tensile strength (v = 50 mm/min)	IEC 811-1-1	> 17 MPa
Elongation at break (v = 50 mm/min)	IEC 811-1-1	> 150%
Abrasion resistance (abrasive tape)	JASO D 608-92	Pass (> 550 mm)
Abrasion resistance (scrape abrasion)	JASO D 608-92	> 300 cycles
<i>Thermal properties</i>		
Withstand voltage after cold bend test (4 hr at -40 C)	JASO D 608-92	No dielec. breakdown
Withstand voltage after cold impact (4 hr at -25 C)	ISO 6722 / LV 112	No dielec. breakdown
Heat ageing (7 days at 120 C)	JASO D 608-92	No dielec. breakdown
Heat-resistance (30 minutes at 200 C)	JASO D 608-94	No dielec. breakdown
Heat-resistance (3000 hr, 105 C)	ISO 6722 / LV 112	No dielec. breakdown
Shrinkage (15 minutes 150 C)	JASO D 608-92	< 2 %
<i>Crosslink degree</i>		
Gel fraction (after radiation by e-beam at a dose of 70 kGy)		Approximately 55%

<i>Electrical properties</i>		
Insulator resistance (1 hr 70 C/100 V/1 min)	JASO D 608-92	> 10@10 ohm.cm
Withstand voltage (1 kV, 1 minute)	JASO D 608-92	Pass
Withstand voltage (5 kV, 0,15 seconds)	JASO D 608-92	Pass
	JASO D 608-92	Pass
<i>Oil resistance</i>		
Voltage withstand after immersion in OIL #1 , JIS K 6301 (20 hrs @ 50 C)	JASO D 608-92	Pass
<i>Burning properties</i>		
Horizontal burning test	JASO D 608-92	< 15 sec
Limited oxygen index	ASTM D-2863	26%

(\*) : after crosslinking

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