RE 12461 POLYOL
RE 1010 ISOCYANATE
ELECTRICAL POLYURETHANE RESIN
SEMI-FLEXIBLE – SELF-EXTINGUISH – UL 94 V0

DESCRIPTION

Casting resin for mechanical and numerous electrical applications especially for low or medium voltage when requiring an extinguishing characteristic.
Example: capacitors, transformers, electronic cards and components with UL 94 V0 and EN 45545 qualification.

PROPERTIES

- *Semi-flexible*
- *Low viscosity*
- *Several reactivity*
- *UL 94 V0, EN 45545*
- *UL 746 HAI , HWI*
- *Good thermal conductivity*

PHYSICAL PROPERTIES						
Composition				**RE 12461 POLYOL**	**RE 1010 ISOCYANATE**	**MIXED**
Mix ratio by weight Mix ratio by volume at 25°C				100 100	16 20	
Aspect				liquid	liquid	liquid
Colour	**RE 12461 POLYOL**	**(11) (16) (35) (74) (91) (94)**		white red grey black	dark amber	white red grey black
Viscosity at 25°C (mPa.s)			BROOKFIELD LVT	7,000	20	1,100
Specific gravity at 25°C Specific gravity cured product at 23°C			ISO 1675 : 1985 ISO 2781 : 1996	1.57 -	1.22 -	- 1.55
Gel Time at 25°C On 200 g (min)	**RE 12461 POLYOL**	**(11) (91) (94) (74) (35) (16)**	Gel Timer TECAM			10 30 35 50
Curing time at 25°C (200 g)			Hours			12-24
Final hardness at 25°C (200 g)			Days			7

MECHANICAL PROPERTIES at 23°C (1)			
Hardness	ISO 868 : 2003	Shore D1 / D15	46 / 36
Tensile strength	ISO 37 : 2011	MPa	7
Elongation at break	ISO 37 : 2011	%	110

(1) *Average values obtained on standard specimens / Hardening 16 hours at 80°C.*

AXSON FRANCE - SikaAxson
Head Office France
+33 1 34 40 34 60
axson@axson.com
www.sikaaxson.com

GERMANY
+49 (0)7125 940 492
tooling@de.sika.com
www.sikaaxson.de

SPAIN & PORTUGAL
+34 93 225 16 20
spain@axson.com
axson.es

SLOVAKIA
+421 37 642 25 26
axson.sk@axson.com
axson-ce.sk

NORTH AMERICA
+1 517 663 8191
axsonmh@axson.com
axsontech.us

JAPAN
+81 564 26 25 91
sales.japan@axson.com
axson.jp

INDIA
+91 20 25560710
info.india@axson.com
axson.com

ITALY
+39 02 96 70 23 36
axson@axson.it
axson.it

U.K.
+44 1 638 66 00 62
sales.uk@axson.com
axson.com

MEXICO
+52 55 52 64 49 22
marketing@axson.com.mx
axson.com.mx

CHINA
+86 21 58 68 30 37
marketing.china@axson.com
axson.cn

MIDDLE EAST
+971 7 2432227
axsonmideast@axson.com
axson.com

PROCESSING

Before use Isocyanate *RE 1010: check carefully the absence of crystallisation or dimerization on each package:*
- Solid particle presence.
- Cloudy liquid.
In case of crystallisation or dimerization, the product must be placed in on oven at 60°C until complete decrystallisation (16 hours maximum). Rehomogeneize and return to room temperature. After shaking the product into the package, the product must be as clear as water.
If after treatment, the product is not clear, DO NOT USE THE PRODUCT.

Settling may be observed on the polyol. In that case, it is necessary to mix the POLYOL part until both colour and aspect become homogeneous. This is not harmful for the product quality.

Both parts (POLYOL and ISOCYANATE) have to be mixed at a temperature higher than 18°C according to the mix ratio indicated on the technical data sheet. Before casting check that parts or moulds are free of any trace of moisture.

THERMAL AND SPECIFIC PROPERTIES (1)			
Working temperature	-	°C	-50 / +120
Maximum working temperature (10 000 hrs)	-	°C	130
Thermal conductivity	EN 993-15	W/m.K	0.7
Glass transition temperature (Tg)	ISO 11359 : 1999	°C	- 5
Coefficient of thermal expansion (CTE) [-40 to -20]°C [+20 to +120]°C	ISO 11359 : 1999	10^{-6} K^{-1}	45 140
Auto-extinguishing	UL94 : 1979		V0 sur 6 mm (4)
Hot wire ignition (HWI)	UL 746 A	Category PLC	1 sur 3 mm (4) 0 sur 6 mm (4)
High current arc ignition (HAI)	UL 746 A	Category PLC	0 sur 3 mm (4) 0 sur 6 mm (4)
Fire behaviour (2)	NF F 16101 : 1988		I 3 – F2
	EN 45545-2 :2013	R 22 R 23 R 24	HL1 HL2 HL3
Water absorption (23°C – 24 Hours)	ISO 62 : 1999	%	0.3
Directive 2011/65/EU (ROHS) (3)	-	-	Conform

(1) Average values obtained on standard specimens / Hardening 16 hours at 80°C.
(2) Products RE 12461-(16) and RE 12461-(94).
(3) European directive on the restriction of the use of certain hazardous substances electrical and electronic equipment.
(4) UL file number: E113398.

AXSON FRANCE - SikaAxson
Head Office France
+33 1 34 40 34 60
axson@axson.com
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GERMANY
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SPAIN & PORTUGAL
+34 93 225 16 20
spain@axson.com
axson.es

SLOVAKIA
+421 37 642 25 26
axson.sk@axson.com
axson-ce.sk

NORTH AMERICA
+1 517 663 8191
axsonmh@axson.com
axsontech.us

JAPAN
+81 564 26 25 91
sales.japan@axson.com
axson.jp

INDIA
+91 20 25560710
info.india@axson.com
axson.com

ITALY
+39 02 96 70 23 36
axson@axson.it
axson.it

U.K.
+44 1 638 66 00 62
sales.uk@axson.com
axson.com

MEXICO
+52 55 52 64 49 22
marketing@axson.com.mx
axson.com.mx

CHINA
+86 21 58 68 30 37
marketing.china@axson.com
axson.cn

MIDDLE EAST
+971 7 2432227
axsonmideast@axson.com
axson.com

DIELECTRIC AND INSULATING PROPERTIES at 23°C (1)			
Dielectric strength (50 Hz - 1 mm)	CEI 60243-1 E2 : 1998	kV/mm	25
Dielectric constant ε (100 Hz)	CEI 60250 : 1969	-	7.7
Dissipation factor tan δ (100 Hz)	CEI 60250 : 1969	-	0.12
Volume resistivity (1000 V)	CEI 60093 E2 : 1980	Ω.cm	2.10^{14}
Tracking resistance	CEI 60112 E3 : 1979	-	IRC-600 - < 0.1

HANDLING PRECAUTIONS

Normal health and safety precautions should be observed when handling these products :
- *Ensure good ventilation.*
- *Wear gloves, glasses and protective clothes.*

For further information, please consult the product safety data sheet.

STORAGE CONDITIONS

Storage at a temperature below 5°C can provoke crystallisation and dimerization of the ISOCYANATE RE 1010. Shelf life is 12 months for the POLYOL and 12 months for ISOCYANATE in a dry place and in their original unopened containers at a temperature between 15 to 25°C.
Any open can must be tightly closed under dry inert gas (dry air, nitrogen, etc…).

GUARANTEE

The information contained in this technical data sheet result from research and tests conducted in our Laboratories under precise conditions. It is the responsibility of the user to determine the suitability of AXSON products, under their own conditions before commencing with the proposed application. AXSON guarantee the conformity of their products with their specifications but cannot guarantee the compatibility of a product with any particular application. AXSON disclaim all responsibility for damage from any incident which results from the use of these products. The responsibility of AXSON is strictly limited to reimbursement or replacement of products which do not comply with the published specifications

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axson.jp

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axson.cn

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