



ISOBOND

Filled epoxy system for fillet-joint and structural assembling

Description

Isobond is a filled epoxy adhesive system.
Designed for large composite structures
This system is applicable in thick section.
Excellent sagging resistance, even on vertical substrate.

Uses :

- Fillet-joint to assembled two parts of a structure as joint between the hull and the bulk head.
- Bonding onto epoxy laminate or old polyester laminate. A sanding till the fiber is highly recommended.

Particularity of the system:

Obvious change of colour during the mixing. This system indicates if the hardener has been added.

Epoxy resin Isobond SR 1170

Aspect		paste
Colour		Lemon yellow
Viscosity (m.Pas)	@ 20 °C	Thixotropic
Density (kg/l)	@ 20 °C	1.10 to 1.20

Hardener Isobond SD 407x

Hardeners		IsoBond SD 4072	IsoBond SD 4075
Reactivity type		slow	fast
Colour	SD 407x	Gel orange maroon	Gel orange maroon
Viscosity (m.Pas)		Thixotropic	Thixotropic
Density (g/cm ³)	@ 20 °C	1.04 ± 0.01	1.08 ± 0.01

Mix Isobond SR 1170 / Isobond SD 407x

Bonding systems		SR 1170 / SD 4072	SR 1170 / SD 4075
Mixing ratio		100 g / 50 g or 2 / 1	100 g / 50 g or 2 / 1
Density of mix (kg/l)		0.95 ± 0.01	1.02 ± 0.01
Colour		Maroon	

NB : We can delivered versions with hardeners SD 205x which turn purple when mix together.



Reactivity of mixes Isobond SR 1170 / Isobond SD 407x

Systems	Temperature	Isobond SR 1170 / Isobond SD 4072 Slow hardener	Isobond SR 1170 / Isobond SD 4075 Fast hardener
Gel time in film	@ 20 °C @ 30 °C	4 h 30' 2 h 30'	1 h 45' 1 h 30'
Dust free in film	@ 20 °C @ 30 °C	4 h 45' 3 h 30'	1 h 50' 1 h 30'
Sandable after a minimum of	@ 20 °C @ 30 °C	24 h 10 h	7 h 3 h 45'

Polymerisation

The bonding and fillet-joint based on **Isobond** harden at room temperature.
 A mild post-cure improves all the mechanical properties and the temperature resistance.

	Isobond Slow SD 4072	Isobond Fast SD 4075
Bonding under load at 20°C wait for: (*) Can be handled after:	72 hours 24 hours @ 20 °C	24 hours 16 hours @ 20 °C
Recommended minimum postcure cycle: Recommended post cure cycle:	12 hours @ 40°C 16 h @ 50 °C or 8 h @ 60 °C	8 hours @ 40 °C 16 h @ 50 °C or 8 h @ 60 °C

(*) For instance a strip of wood of 2cm bended is considered as a load against the bonding.

Application of Isobond SR 1170 / Isobond SD 407x

The mix of SR 1170 and its hardeners must be done carefully, specially on side and bottom of the pot.
 When the colour of the mix is homogene, it is properly stirred.

Substrates preparation :

Minimum : degreasing , sanding, dust off.
 In order to bond "difficult" materials as aluminium, steel, thermoplastics, please consult us.

Health & Safety

Product	Symbols	Phrases Risks
Isobond SR 1170	 Xi: Irritant N: Dangerous for the environment	R 36/38 R 51/53
Isobond SD 4075 Isobond SD 4072	 C: Corrosive	R 43 R 34 R 43

EEC Classification 67 / 548 / EEC Directive



Packaging (in Kg)

Unit of delivery (kg)	Resin Isobond SR 1170 (kg)	Hardener Isobond SD 407x (kg)
30	20	2 x 5
6	4	2 x 1
1.5	1	0.5

Mechanical Properties of bonding between epoxy laminates

<i>Test reference</i>		CE 404	CE 404
Adhesive		SR 1170 / SD 4072	SR 1170 / SD 4075
Post-cure		48 h @ room temp. + 16h @ 50 °C	48 h@ room temp. + 16h @ 50 °C
Short beam			
Shear strength	N/mm ²	31	31
Glass transition / DSC			
Tg 1	°C	71	71
Tg1 max	°C	73	76

Norms :

Shear strength : NF T 57-104 Flexion 3 points

Glass Transition : ISO 11357-2: 1999 / DSC / under nitrogen from -5 to 180 °C, 20 °C/min

Tg1 : onset

Tg 1 max : onset second passage.

The informations that we give by writing or verbally, in the context of our technical assistance and our trials, do not engage our responsibility. We advice the users of SICOMIN's epoxy system, to verify by some practical trials if our products are suitable for the envisaged processes and applications. The use, the implementation and the transformation of the supplied products, are not under our control and your responsibility only will respond for it. If our responsibility should nevertheless be involved, it would be, for all the damages, limited to the value of the goods supplied by us and implement by you. We guaranty the non-reproachable quality of our products, in the general context of sales and delivery.