

EPBOND 515

Epoxy mastic - for use in Mark III

Product description

EPBOND 515 is a low-density, thixotropic epoxy mastic for Mark III systems. It secures insulation boxes and distributes loads evenly, while retaining good flexibility and adhesion at low temperatures.

Key features

- Thixotropic mastic: non-sagging and suitable for vertical application
- Low density
- Excellent resistance to compressive creep
- Easy to mix and apply

Physical properties

Property	Test method	EPBOND515 Resin	EPBOND515 Hardener
Mix ratio by weight		100	72
Mix ratio by volume		100	100
Maximum permissible deviation		±7% of the hardener quantity	
Appearance	Visual inspection	Thixotropic paste	Thixotropic paste
Colour	Visual inspection	Dark green	Light beige
Density before mixing at 25°C (g/cm ³)	ASTMD4052	Approx. 1.26	Approx. 0.91
Density after curing at 25°C (g/cm ³)	ASTMD4052	Approx. 1.12	
Viscosity at 25°C (Pa.s)		Approx. 900	Approx. 600
Working time (500g) at 25°C (minutes)	Gel timer	Approx. 120	
Glass transition temperature T _g	TMA	68°C	
Glass transition temperature T _g	TMA	36x10-6K-1	

Mechanical properties			
Temperature		-25°C	+23°C
Tensile strength (MPa)	ISO527-2:1996	39	25
Elongation at break (%)	ISO527-2:2006	1.2	1.0
Young's modulus (MPa)	ISO527-2:2006	4200	3800
Compressive strength (MPa)	ISO604:2002	100	62
Compressive modulus (MPa)	ISO604:2002	3800	3400
Shear strength (MPa) (2017 aluminium / sanded with 150-grit paper)	ISO4587:1995	16	16.2

Mechanical properties			
Compressive creep: 30x30x30mm, load 0.6MPa	MH2004-CS/7.4		0.03
- After 360 hours under load (mm)			0.01
- After 360 hours recovery (mm)			

(1) Cure conditions: 23°C /14 days

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Processing procedure

EPBOND 515 epoxy mastic can be extruded using automatic metering and mixing equipment at a maximum pressure of 200Bar. Excessive pressure may crush the hollow microspheres. To facilitate pumping and extrusion, apply the resin and hardener at temperatures above 20°C.

Compressive strength

Temperature		°C	-170	-100	-45	+23	+40
Compressive strength	ISO 604: 2002	MPa	160	150	120	62	57
Compressive modulus		MPa	6500	5200	4600	3400	3000

Cure conditions: 40°C /7 days

Cure conditions

After its open time, EPBOND 515 rapidly develops strength and reaches a high degree of cure. The mastic can be considered fully cured after 21 days at 23°C or 7 days at 40°C.

Cure rate and strength development can be characterised by measuring the increase in hardness with curing time at different temperatures, expressed as Shore D hardness.

Shore D hardness	1 days	2 days	3 days	4 days	5 days	6 days	7 days
10°C	41	63	66	68	71	73	75
25°C	70	74	76	77	78	79	80
35°C	76	78	79	80	80	80	80

(3) Test specimen - ISO868:2003: diameter 55mm, thickness 20mm

Open time

Temperature (°C)	Open time	
	C2 Adhesive bead	C5 Adhesive bead
15	260	230
20	180	110
25	120	75
30	75	60
35	45	45

Packaging

EPBOND515 Resin	EPBOND515 Hardener
230kg	165kg

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Storage

Unopened EPBOND 515 has a shelf life of 12 months when stored dry. The recommended storage temperature is 12-35°C for the resin and 5-35°C for the hardener. Prolonged storage below 10°C may cause the EPBOND 515 resin component to crystallise. Stop using the material if crystallisation occurs.

Safety precautions :

Avoid skin contact during application. Wear protective clothing, a mask and protective gloves as necessary, and work in a well-ventilated area. Refer to the material safety data sheet for further information.

Notes

All data above were measured under specified conditions. As actual processing methods and other factors may affect performance, customers should conduct the necessary tests before use to confirm suitability for their application. We guarantee that our products meet our quality specifications.

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