

EPBOND 510

Epoxy mastic - for use in GT NO96

Product description

EPBOND 510 is a low-density, thixotropic epoxy mastic for GT NO96 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	EPBOND510 Resin	EPBOND510 Hardener
Mix ratio by weight		100	30
Mix ratio by volume		100	30
Maximum permissible deviation		±7% of the hardener quantity	
Appearance	Visual inspection	Thixotropic paste	Thixotropic paste
Color	Visual inspection	Grey	Dark blue
Density before mixing at 25°C (g/cm3)	ASTMD4052	Approx. 1.05	Approx. 1.05
Density after curing at 25°C (g/cm3)	ASTMD4052	Approx. 1.05	
Viscosity at 25°C (Pa.s)		700	600
Working time (500g) at 25°C (minutes)	Gel timer	Approx. 90 minutes	
Shelf life		12 months	

Processing procedure

EPBOND 510 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	180	170	130	88	70
Compressive modulus		MPa	7000	6000	5200	4700	4100

Cure conditions: 40°C / 7 days

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Viscosity as a function of temperature

Temperature (°C)	10	15	20	25	30	35
Resin viscosity (pa.s)	1580	1120	880	700	620	570
Hardener viscosity (pa.s)	1550	1040	850	600	540	490

Cure conditions

After its open time, EPBOND 510 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.

Shore D hardness								
Time (days)	5°C	10°C	15°C	20°C	23°C	30°C	35°C	40°C
1	20	44	55	66	73	75	77	77
2	42	66	72	73	75	76	77	78
3	66	70	72	75	76	77	78	79
4	68	72	73	76	76	78	78	79
5	70	73	74	77	77	79	79	79
6	72	74	75	78	77	79	80	80
7	75	75	76	78	78	79	80	80
8	75	76	77	78	78	80	80	80
9	76	77	78	78	79	80	80	80
10	77	78	78	78	79	80	80	80
11	77	78	79	79	70	80	80	80
12	77	79	79	79	80	80	80	80
13	77	79	79	79	80	80	80	80
14	78	79	79	79	80	80	80	80
15	78	79	79	79	80	80	80	80

Packaging

EPBOND510 Resin	EPBOND510 Hardener
190kg	190kg

Storage

Unopened EPBOND 510 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 510 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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US customary-unit equivalents

US customary-unit equivalents are provided for convenience alongside the original SI test data. The original source values and test methods remain the controlling reference. Converted values are rounded.

Source value	US equivalent
25 °C	77 °F
500 g	1.102 lb
20 °C	68 °F
-170 °C	-274 °F
-100 °C	-148 °F
-45 °C	-49 °F
180 MPa	26107 psi
170 MPa	24656 psi
130 MPa	18855 psi
88 MPa	12763 psi
70 MPa	10153 psi
7000 MPa	1015264 psi
6000 MPa	870226 psi
5200 MPa	754196 psi
4700 MPa	681677 psi
4100 MPa	594655 psi
40 °C	104 °F
23 °C	73.4 °F
40 °C	104 °F
5 °C	41 °F
10 °C	50 °F
15 °C	59 °F
30 °C	86 °F
35 °C	95 °F
190 kg	418.9 lb
12-35 °C	53.6 to 95 °F
5-35 °C	41 to 95 °F