Technical Information

Baxxodur® EC 302

Amine curing agent for the epoxy industry

System description

Baxxodur EC 302 is a polyether amine based curing agent with low viscosity and a long pot life.

Features

- High peel strength
- Good adhesion
- Good toughness
- Good thermal shock resistance

Applications

- Construction
- Structural adhesive
- Epoxy toughener

Characteristics (typical values)

Curing agent

Chemical properties	Value	Unit	Method
Water	max. 0.25	[%]	DIN 51777
Color	max. 100	APHA	DIN EN 1557
Refractive Index at 20 °C	1.4489	-	DIN 51423
Density at 20 °C	0.97	[g/cm^3]	DIN 2811-3
Amine Value	~ 250	[mg KOH/g]	DIN 16945
Viscosity at 20 °C	~ 24	[mPa*s]	DIN 3219

Mixing
(parts by weight)

Component	Parts by weight
Standard Epoxy Resin based on Bisphenol-A (EEW = 185 g/Eq)	100
Baxxodur EC 302 (AHEW = 107 g/Eq)	58

Processing
(typical values)

Mixing Properties	Value	Unit	Test method
Viscosity of mixture at 23°C	550	[mPa*s]	DIN EN ISO 3219
Open time at 23°C [1]	350	[min]	DIN 16945 [2]
Time to reach 6 Pa*s at 23°C	962	[min]	DIN 16945 [2]
Time to reach 6 Pa*s at 45°C	322	[min]	DIN 16945 [2]
Time to reach 6 Pa*s at 75°C	76	[min]	DIN 16945 [2]
Gel point at 70°C	148	[min]	ASTM D4473 [3]
Gel point at 90°C	50	[min]	ASTM D4473 [3]
Gel point at 110°C	19	[min]	ASTM D4473 [3]

[1] Time to double the initial mix viscosity
[2] Anton Paar rheometer; plate-plate diameter: 25 mm; gap: 1mm; shear rate of 100 1/s
[3] Anton Paar rheometer; plate-plate diameter: 25 mm; gap: 1 mm; oszillation

Cured Resin
(typical values)

Epoxy resin cured with Baxxodur EC 302 for 2h at 80 °C, 2h 100 °C, 2h 120 °C, 2h 140 °C, 2h 160 °C

Mechanical Properties	Value	Unit	Test method
Tg	49	[°C]	DSC, mod., 5 K/min
HDT	49	[°C]	DIN EN ISO 75-2
Tensile strength	55	[MPa]	DIN EN ISO 527-2
Tensile modulus	3019	[MPa]	DIN EN ISO 527-2
Tensile elongation at F_{max}	2.8	[%]	DIN EN ISO 527-2
Flexural strength	89	[MPa]	DIN EN ISO 178
Flexural modulus	3168	[MPa]	DIN EN ISO 178
Charpy (impact strength)	91	[kJ/m^2]	DIN EN ISO 179-1

Additional technical data for this product is available upon request.

Contact

E-Mail: info.intermediates@basf.com

Internet:www.intermediates.basf.com

Note

July 2018