Technical Information

Baxxodur® EC 301

Amine curing agent for the epoxy industry

System description

Baxxodur® EC 301 is a polyether diamine which is used as a curing agent (hardener) for the epoxy industry yielding low mix viscosity and a long pot life.

Features

- Excellent adhesion
- Good flexibility
- Excellent toughness
- Good thermal shock resistance
- Low color

Applications

- Structural adhesive
- Construction
- Composite lamination
- Casting and encapsulation
- Decorative and protective coating

Characteristics
(typical values)

Curing agent

Chemical properties	Value	Unit	Method
Water	max. 0.2	[%]	DIN 51777
Color	max. 30	APHA	DIN EN 1557
Refractive Index	1.447	-	DIN 51423
Density at 20 °C	0.947	[g/cm^3]	DIN 2811-3
Amine Value	~ 460	[mg KOH/g]	DIN 16945
Viscosity at 20 °C	~ 10	[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 301 (AHEW = 61 g/Eq)	33

Processing
(typical values)

Mixing properties	Value	Unit	Test method
Viscosity of mixture at 23°C	570	[mPa*s]	DIN 16945 [2]
Open time at 23°C [1]	211	[min]	DIN 16945 [2]
Time to reach 6 Pa*s at 23°C	551	[min]	DIN 16945 [2]
Time to reach 6 Pa*s at 45°C	187	[min]	DIN 16945 [2]
Time to reach 6 Pa*s at 75°C	42	[min]	DIN 16945 [2]
Gel point at 70°C	89	[min]	ASTM D4473 [3]
Gel point at 90°C	30	[min]	ASTM D4473 [3]
Gel point at 110°C	12	[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; oscillation

Cured Resin
(typical values)

Mechanical properties	Value	Unit	Test method
Tg	88	[°C]	DSC, mod., 5 K/min
HDT	85	[°C]	DIN EN ISO 75-2
Tensile strength	65	[MPa]	DIN EN ISO 527-2
Tensile modulus	2850	[MPa]	DIN EN ISO 527-2
Tensile elongation at Fmax	5.0	[%]	DIN EN ISO 527-2
Flexural strength	108	[MPa]	DIN EN ISO 178
Flexural modulus	2955	[MPa]	DIN EN ISO 178
Charpy (impact strength)	73	[kJ/m^2]	DIN EN ISO 179-1

Epoxy resin cured with Baxxodur® EC 301 for 2h at 80 °C, 2h 100 °C, 2h 120 °C, 2h 140 °C, 2h 160 °C

Additional technical data for this product is available upon request.

Safety

When using this product, the information and advice given in our **Safety Data Sheet** should be observed. Due attention should also be given to the **precautions** necessary for handling chemicals.

IMPORTANT

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