Product information

ANCAMINE® R 215

(PRELIMINARY)

GENERAL DESCRIPTION

Ancamine® R 215 is an amine based hardener for epoxy systems. It is a colourless low viscosity liquid with a faint amine odor.

SPECIFICATION

Property	Value	Unit	Test method*
Appearance	clear liquid	-	visual
Colour (APHA)	≤ 50	-	DIN ISO 6271, ASTM D1209
Water content	max. 0.2	% by wt.	Karl-Fischer**
Amine value	655 - 665	mg KOH/g	titration

PROPERTIES

Ancamine® R 215 combines the advantages of polyamines in epoxy systems: low mix viscosity and high reactivity.

Epoxy systems cured with Ancamine® R 215 exhibit excellent chemical resistance and high heat distortion temperatures as well as low magnetic and thermal conductivity.

* DIN, ISO or ASTM methods describe our analytical procedures in general. The actual methods used internally are more precise and can be obtained upon request.

** Modified by using a solution of 30% salicylic acid in methanol under cooling.

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APPLICATIONS

Ancamine® R 215 is designed to be used as epoxy hardener for high speed manufacturing of composites.

Typical final applications are:

- Concrete exposed to de-icing salts
- Concrete exposed to marine salts
- Tunneling and mining applications
- Electromagnetic applications
- Masonry strengthening
- Housebuilding

GENERAL CHEMICAL DATA

Property	Value	Unit	Test method
H-active equivalent weight	42,5	g/val	

PROPERTIES OF EPOXY FORMULATION BASED ON ANCAMINE® R 215

	Unit	Ancamine® R 215	Standard Epoxy Resin
Viscosity at 25°C	mPa*s	13.6	~13000
Epoxy equivalent weight	g/val	42.5	188
Mixing ratio	w/w	23.7	100

RHEOLOGICAL AND THERMAL PROPERTIES OF NEAT SYSTEM

	Unit	Value
Viscosity at 25°C		
Initial viscosity	mPa*s	2220
Doubling after	min	49
15000 mPa*s after	min	116
Exothermic behaviour at 23° (150g)		
Max. temperature	°C	130
in	min	215
Gelation time	min	192
Rheological properties at 80°C		
Initial viscosity	mPa*s	60
Gelation time	min	26
Rheological properties at 100°C		
Initial viscosity	mPa*s	30
Gelation time	min	8.5
DSC after curing at 1h/50°C and 1h/150°C		
Exothermic peak	°C	0
Exothermic heat flow	J/g	0
Tg, 1. scan	°C	145
Tg, 2. scan	°C	150

MECHANICAL PROPERTIES OF NEAT SYSTEM AFTER CURING

	Unit	Value	Standard
Tensile strength	MPa	78	DIN EN ISO 527
Elongation at break	%	5.4	
Tensile modulus	MPa	2800	
Flexural strength	MPa	114	DIN EN ISO 178
Elongation	%	7.4	
Flexural modulus	MPa	2700	

MECHANICAL PROPERTIES OF REBAR BASED ON ANCAMINE® R 215

	Unit	Value
Rebar diameter	mm	12
Fibre content	%	85
Tensile modulus	GPa	61
Tensile strength	MPa	1400
Elongation at break	%	2.5
Tg	°C	150

TRANSPORT AND PACKAGING

Ancamine® R 215 is supplied in 180 kg non-returnable drums.

STORAGE

Ancamine® R 215 is slightly hygroscopic and tends to form carbamates by reaction with atmospheric CO_2. It should be stored free from moisture and carbon dioxide in glass, stainless steel and similar containers. Carbon steel is adequate under normal circumstances, but the use of aluminum should be avoided. Ancamine® R 215 is stable for at least one year when stored in original containers at temperatures below 25 °C.

Ancamine® R 215 crystallizes below 15 °C. It is necessary to completely liquify the entire contents of the container by warming to a maximum of 60 °C and mix thoroughly before use.

SAFETY AND HANDLING

For information on toxicity and handling, consult our Material Safety Data Sheet for this product.

Marl, May 27, 2019; This data sheet replaces all former issues.

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