Technical Data Sheet

EPIKURE™ Curing Agent 3072

Product Description

EPIKURE™ Curing Agent 3072 is an accelerated amidoamine similar in class to EPIKURE Curing Agent 3070. Compositions based on EPON™ Resin 828 and EPIKURE 3072 cure well in the presence of moisture and form a strong bond to damp concrete as well as other structural materials. The good profile of mechanical and chemical properties makes this curing agent a candidate for a wide variety of end uses.

Application Areas/Suggested Uses

- Concrete floor toppings
- Grouts
- Adhesives for bonding old concrete to freshly poured concrete
- Metal adhesives

Benefits

- Cures well in the presence of moisture
- Forms excellent bonds to concrete
- Good profile of mechanical and chemical properties

Sales Specifications

Property	Value	Unit	Test Method
Amine Value	517 - 569	g/eq	ASTM D2896
Color	<12	Gardner	ASTM D1544
Viscosity at 25°C	500 - 900	cP	ASTM D2196

Typical Properties

Property	Value	Unit	Test Method
Equivalent Weight Approx.	65		
Pounds/Gallon @ 25°C	8.15	lbs/gal	ASTM D1475

Performance Properties

Table 1 / Epoxy Systems Cured with EPIKURE Curing Agent 3072

	Method	Units	A	B	C	D	E
EPON™ Resin 828		pbw	100	---	100	---	---
EPON Resin 8131		pbw	---	100	---	---	---
EPON Resin 815		pbw	---	---	---	100	---
EPON Resin 813		pbw	---	---	---	---	100
EPIKURE Curing Agent 3072		pbw	35	26	35	35	35
Handling Properties @ 25°C							
Initial Viscosity		cP	4,000	1,200	4,000	800	700
Pot Life, 100 gram mass		min.	40	67	40	50	45
Max. Peak Exotherm, 100g mass		°C	157	202	157	174	157
		°F	315	396	315	345	315
Cured State Properties [1]							
HDT	ASTM D648	°C	59	---	89	59	59
Tensile strength	ASTM D638	psi	8,900	2,400	10,200	8,600	8,900
Tensile elongation at break		%	2.5	2.5	6.0	6.5	4.5
Flexural strength	ASTM D790	psi	16,000	3,100	17,000	13,600	15,500
Initial flexural modulus		ksi	520	70	440	410	450
Compressive yield strength		psi	13,200	2,100	13,000	12,200	13,000
Izod impact, notched	ASTM D256	ft.•lb./in.	0.45	0.95	0.47	0.49	0.38
Hardness	Shore D		88	71	88	84	85
Water absorption [2]		%	0.10	0.66	0.14	0.18	0.17

	Method	Units	A	B	C	D	E
Electrical Properties							
Dielectric constant [3]	ASTM D150		3.97	4.12	3.89	---	3.68
Dissipation factor [3]			0.021	0.033	0.021	---	0.013
Volume resistivity							
at 25 °C		ohm•cm	$1.0(10^{15})$	$1.5(10^{13})$	$1.59(10^{15})$	---	$1.7(10^{15})$
at 66 °C		ohm•cm	$9.9(10^{12})$	$5.2(10^{9})$	$2.72(10^{14})$	---	$2.5(10^{11})$
at 93 °C		ohm•cm	$2.3(10^{11})$	$<10^{9}$	$1.54(10^{12})$	---	$<10^{9}$
at 130 °C		ohm•cm	$<10^{9}$	---	$4.0(10^{9})$	---	---

[1] Determined on 1/8” thick test specimens. Systems A and B were cured for 2 weeks at 25 °C. Systems C, D, and E were cured for 16 hours at 25 °C followed by 2 hours at 100 °C.

[2] Percent weight gain after immersion for 24 hours at 25 °C.

[3] Determined at 106 Hertz and 25 °C.

General Information

EPIKURE Curing Agent 3072 is a moderately reactive room temperature curing agent. The pot life of epoxy compositions based on EPIKURE 3072 depends on the resin, batch size, amount and type of filler loading, and application temperature.

EPIKURE Curing Agent 3072 is normally used at a ratio of 35 parts per 100 parts of EPON Resin 828. In thin sections where exothermic heat is readily dissipated, handling strength is reached in 8 to 12 hours at normal room temperature. Full strength is reached after several days.

While thin sections can be cured rapidly at moderately elevated temperatures, thicker sections should be allowed to gel at room temperature before additional curing at elevated temperatures. Maximum high temperature properties are obtained with a post cure of 1 to 2 hours at 100 °C.

Sand-filled floor topping compositions based on the resin/curing agent mixtures listed in Table 1 containing 600 to 800 parts of sand per 100 parts of resin, have a working life of 1 to 2 hours at 25 °C.

For applications requiring low viscosity, EPIKURE Curing Agent 3072 can be used with epoxy resins containing reactive diluents. However, when maximum adhesion to damp substrates is critical, only EPON Resin 828 should be used. Epoxy resin compositions cured with EPIKURE Curing Agent 3072 are rigid, high strength products having properties intermediate to those obtained with the aliphatic polyamines and the modified amidoamines. Some of the properties of room temperature cured systems will be improved with a post cure of 1 to 2 hours at 100 °C. A comparison of the properties of different systems is presented in Table 1. The effect of a post cure at 100 °C is shown for the composition based on EPON Resin 828.

Safety, Storage & Handling

Please refer to the MSDS for the most current Safety and Handling information.

Please refer to the Hexion web site for Shelf Life and recommended Storage information.

This curing agent product may crystallize after extended storage times. It can be reconstituted by gentle warming of the entire container and its contents to approximately 80°C (176°F) until all visual evidence of crystallization has gone away. Upon cooling to normal ambient temperature conditions the product will regain its original liquid state physical properties.

EPIKURE Curing Agent 3072 should be stored in tightly sealed containers, in a dry location at normal room temperature. Care should be taken to avoid storage environments resulting in moisture contamination. Exposure to moisture causes an increase in viscosity and reactivity, the degree

of increase depending on the amount of moisture which has been absorbed.

Exposure to these materials should be minimized and avoided, if feasible, through the observance of proper precautions, use of appropriate engineering controls and proper personal protective clothing and equipment, and adherence to proper handling procedures. None of these materials should be used, stored, or transported until the handling precautions and recommendations as stated in the Material Safety Data Sheet (MSDS) for these and all other products being used are understood by all persons who will work with them. Questions and requests for information on Hexion Inc. ("Hexion") products should be directed to your Hexion sales representative, or the nearest Hexion sales office. Information and MSDSs on non-Hexion products should be obtained from the respective manufacturer.

Packaging

Available in bulk and drum quantities.

Contact Information

For product prices, availability, or order placement, please contact customer service:

www.hexion.com/Contacts/

For literature and technical assistance, visit our website atwww.hexion.com