

EpoxAcast® 650

Epoxy; Epoxide

Smooth-On, Inc

Message:

EpoxAcast® 650 is a mineral filled general purpose casting epoxy that is low cost and versatile. It features a low mixed viscosity for minimal bubble entrapment. Choose Fast, Medium or Slow catalyst to fit your project. You can also use HT Hardener to give your castings higher heat resistance. EpoxAcast® 650 is used for making hard dies for metal stamping as well as patterns and fixtures. It is also used for electrical encapsulation to extend the life cycles and enhance the performance of potted electronic devices. The high compressive strength of EpoxAcast® 650 makes it ideal for making stamping dies for production pressing of metal ornaments.

General Information			
Filler / Reinforcement	Mineral		
Features	General Purpose		
	Good Compressive Strength		
	Low Viscosity		
Uses	Modeling Material		
	Patterns		
Appearance	Off-White		
Processing Method	Casting		
	Encapsulating		
Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.52	g/cm ³	ASTM D1475
Specific Volume	0.658	cm ³ /g	ASTM D792
Cure Time			
23°C ¹	1.0	day	
23°C ²	1.0	day	
23°C ³	0.2	day	
23°C ⁴	1.00	hr	
66°C ⁵	0.3	day	
66°C ⁶	30.0	min	
66°C ⁷	0.1	day	
Hardness	Nominal Value	Unit	Test Method
Barcol Hardness	93		ASTM D2240
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus			ASTM D638
-- ⁸	10400	MPa	
-- ⁹	7440	MPa	
Tensile Strength			ASTM D638

Break ¹⁰	41.4	MPa	
Break ¹¹	47.6	MPa	
Tensile Elongation			ASTM D638
Break ¹²	0.82	%	
Break ¹³	0.42	%	
Flexural Modulus			ASTM D790
-- ¹⁴	4900	MPa	
-- ¹⁵	5340	MPa	
Flexural Strength			ASTM D790
-- ¹⁶	74.8	MPa	
-- ¹⁷	40.6	MPa	
Compressive Modulus			ASTM D695
-- ¹⁸	927	MPa	
-- ¹⁹	983	MPa	
Compressive Strength			ASTM D695
-- ²⁰	110	MPa	
-- ²¹	113	MPa	
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			ASTM D648
1.8 MPa, Unannealed ²²	86.1	°C	
1.8 MPa, Unannealed ²³	53.9	°C	
Thermoset	Nominal Value	Unit	Test Method
Thermoset Components			
Part A ²⁴	Mix Ratio by Weight: 100		
Part A ²⁵	Mix Ratio by Weight: 100		
Part A ²⁶	Mix Ratio by Weight: 100		
Part A ²⁷	Mix Ratio by Weight: 100		
Part B ²⁸	Mix Ratio by Weight: 10		
Part B ²⁹	Mix Ratio by Weight: 14		
Part B ³⁰	Mix Ratio by Weight: 12		
Part B ³¹	Mix Ratio by Weight: 13		
Pot Life			
-- ³²	210	min	
-- ³³	180	min	
-- ³⁴	20	min	
-- ³⁵	90	min	
Thermoset Mix Viscosity			ASTM D2393
-- ³⁶	5000	cP	
-- ³⁷	7000	cP	
NOTE			

1.

HT HIGH TEMP Hardener, followed by 2 hr at 175°F and 3 hr at 300°F

2.	103 SLOW Hardener
3.	102 MEDIUM Hardener
4.	101 FAST Hardener
5.	103 SLOW Hardener
6.	101 FAST Hardener
7.	102 MEDIUM Hardener
8.	Using 101,102 or 103 Hardener
9.	Using HT Hardener
10.	Using 101,102 or 103 Hardener
11.	Using HT Hardener
12.	Using HT Hardener
13.	Using 101,102 or 103 Hardener
14.	Using 101,102 or 103 Hardener
15.	Using HT Hardener
16.	Using HT Hardener
17.	Using 101,102 or 103 Hardener
18.	Using HT Hardener
19.	Using 101,102 or 103 Hardener
20.	Using HT Hardener
21.	Using 101,102 or 103 Hardener
22.	Using HT Hardener, Post cured
23.	Using 101,102 or 103 Hardener, Cured at 73°F
24.	HT HIGH TEMP Hardener
25.	103 SLOW Hardener
26.	102 MEDIUM Hardener
27.	101 FAST Hardener
28.	HT HIGH TEMP Hardener
29.	103 SLOW Hardener
30.	101 FAST Hardener
31.	102 MEDIUM Hardener
32.	103 SLOW Hardener
33.	HT HIGH TEMP Hardener
34.	101 FAST Hardener
35.	102 MEDIUM Hardener
36.	Using HT Hardener
37.	Using 101,102 or 103 Hardener

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