

EpoxAcast® 655

Epoxy; Epoxide

Smooth-On, Inc

Message:

EpoxAcast® 655 (formerly Metalset® A-30) is a versatile aluminum filled castable epoxy that is very hard and strong. It is dimensionally stable, even when mass cast up to 512 in 3 / 8,390 cm 3 . Different hardener speed options are available depending on your project requirements. Maximum heat resistance is achieved using HT HIGH TEMP hardener (up to 225°F/108°C).

Cured EpoxAcast® 655 epoxy has high physical properties and is used for a variety of applications including making hard tooling, vacuum forming dies/molds, injection molds, foundry patterns, jigs and fixtures and metal forming dies.

Depending on project requirements, Part A Base can be mixed with 101 FAST, 102 MEDIUM, 103 SLOW or HT HIGH TEMP hardeners.

General Information			
Filler / Reinforcement	Aluminum		
Features	Good Dimensional Stability		
	High Hardness		
	High Strength		
Uses	Molds/Dies/Tools		
	Patterns		
Appearance	Grey		
Processing Method	Casting		
Physical	Nominal Value	Unit	Test Method
Specific Gravity			ASTM D1475
-- ¹	1.64	g/cm ³	
-- ²	1.66	g/cm ³	
Specific Volume			ASTM D792
-- ³	0.603	cm ³ /g	
-- ⁴	0.596	cm ³ /g	
Cure Time			
23°C ⁵	1.0	day	
23°C ⁶	1.0	day	
23°C ⁷	0.1	day	
23°C ⁸	0.4	day	
66°C ⁹	0.1	day	
66°C ¹⁰	0.1	day	
66°C ¹¹	0.1	day	
Hardness	Nominal Value	Unit	Test Method
Durometer Hardness ¹² (Shore D)	90		ASTM D2240
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus			ASTM D638
-- ¹³	49600	MPa	

-- 14	14100	MPa	
Tensile Strength			ASTM D638
Break 15	33.2	MPa	
Break 16	41.4	MPa	
Tensile Elongation			ASTM D638
Break 17	0.54	%	
Break 18	0.50	%	
Flexural Modulus 19	9670	MPa	ASTM D790
Flexural Strength 20	52.8	MPa	ASTM D790
Compressive Modulus			ASTM D695
-- 21	865	MPa	
-- 22	1860	MPa	
Compressive Strength			ASTM D695
-- 23	108	MPa	
-- 24	86.2	MPa	
Elastomers	Nominal Value	Unit	Test Method
Tear Strength	24.5	kN/m	ASTM D624
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			ASTM D648
0.45 MPa, Unannealed 25	107	°C	
0.45 MPa, Unannealed 26	57.2	°C	
Thermoset	Nominal Value	Unit	Test Method
Thermoset Components			
Part A 27	Mix Ratio by Weight: 100		
Part A 28	Mix Ratio by Weight: 100		
Part A 29	Mix Ratio by Weight: 100		
Part A 30	Mix Ratio by Weight: 100		
Part B 31	Mix Ratio by Weight: 8.0		
Part B 32	Mix Ratio by Weight: 12		
Part B 33	Mix Ratio by Weight: 10		
Part B 34	Mix Ratio by Weight: 11		
Pot Life			
-- 35	210	min	
-- 36	240	min	
-- 37	30	min	
-- 38	75	min	
Thermoset Mix Viscosity			ASTM D2393
-- 39	12000	cP	
-- 40	23000	cP	
NOTE			
1.	Using HT Hardner		
2.	Using 101, 102 or 103 Hardner		

3.	Using 101, 102 or 103 Hardner
4.	Using HT Hardner
5.	HT HIGH TEMP Hardener, followed by 2 hr at 175°F and 3 hr at 300°F
6.	103 SLOW Hardener
7.	101 FAST Hardener
8.	102 MEDIUM Hardener
9.	103 SLOW Hardener
10.	102 MEDIUM Hardener
11.	101 FAST Hardener
12.	Using HT Hardner
13.	Using HT Hardner
14.	Using 101, 102 or 103 Hardner
15.	Using 101, 102 or 103 Hardner
16.	Using HT Hardner
17.	Using 101, 102 or 103 Hardner
18.	Using HT Hardner
19.	Using 101, 102 or 103 Hardner
20.	Using 101, 102 or 103 Hardner
21.	Using 101, 102 or 103 Hardner
22.	Using HT Hardner
23.	Using HT Hardner
24.	Using 101, 102 or 103 Hardner
25.	Using HT Hardner, if post cured according to post curing schedule
26.	Using 101, 102 or 103 Hardner, If cured at room temperature
27.	HT HIGH TEMP Hardener
28.	103 SLOW Hardener
29.	102 MEDIUM Hardener
30.	101 FAST Hardener
31.	HT HIGH TEMP Hardener
32.	103 SLOW Hardener
33.	101 FAST Hardener
34.	102 MEDIUM Hardener
35.	103 SLOW Hardener
36.	HT HIGH TEMP Hardener
37.	101 FAST Hardener
38.	102 MEDIUM Hardener
39.	Using HT Hardner
40.	Using 101, 102 or 103 Hardner

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Recommended distributors for this material

Susheng Import & Export Trading Co.,Ltd.

Tel: +86 21 5895 8519

Phone: +86 13424755533

Email: sales@su-jiao.com

No. 215, Lianhe North Road, Fengxian District, Shanghai, China

