



BYGlue-188F/60X

Epoxy resin systems

Low temperature, anti-crystallization



Component A:

Epoxy matrix

Without classified Toxic products (T)

Component B:

H-601 Fast hardener, phenol free

H-608 slow hardener

H-609 Ultra slow hardener

Profile:

Cure at ambient temperature and post cure at 40 to 60°C

Packaging:

Component A: 10kg

Component B: 10kg

Component A:

Appearance	Viscous liquid	
Chemical nature	Epoxy resin. Reaction product between bisphenol and epichlorhydrine.	
Storage	Can crystallize at low temperature or after a long storage. Shelf life : 2 years @ 18 – 25°C	
Color	Clear to yellow, Gardner < 3	
Density (Kg/l) Picnometer NF EN ISO 2811-1	@ 20 °C	1.159 + 0.005
Viscosities (m.Pas + 20 %)	@ 15 °C	6380 ±1270
	@ 20 °C	3240 ± 650
	@ 25 °C	1780 ±360
Rheometer CP 50 mm Shear rate 10 s	@ 30 °C	1040±210
	@ 40 °C	410 ±80



Component B:

		H-601	H-608	H-609
Aspect / color		Amber Liquid	Clear Liquid	Clear Liquid
Reactivity levels		Fast	Medium	Ultra slow
Viscosities (m.Pas + 20 %)	@ 15 °C	450±90	110±22	25±5
	@ 20 °C	300±60	80±16	18±4
	@ 25 °C	200±40	60±12	15±3
Rheometer CP 50 mm Shear rate 10 s	@ 30 °C	140±28	40±8	11±2
	@ 40 °C	75±15	25±5	8±2
Density (g/cm ³ + 0.005) Picnometer NF EN ISO 2811-1	@ 20 °C	1.073	0.952	0.948

Component A/Component B Mixes:

		H-601	H-608	H-609
Viscosities (m.Pas + 20 %)	@ 20 °C	1400	940	630
	@ 30 °C	700	360	220
Rheometer CP 50 mm Shear rate 10 s ⁻¹	@ 40 °C	350	210	120
Quantity by weight		3: 1		

Levels of Reantivites on 100g mix Component A/Component B :

		H-601	H-608	H-609
Exothermic temperature (°C)	@ 20 °C	215	200	22
	@ 30 °C	215	210	40
	@ 40 °C	215	210	110
Time taken to achieve exotherm	@ 20 °C	20min	73min	15h
	@ 30 °C	12min	33min	7h
	@ 40 °C	7min	19min	3h
Time taken to reach 50 °C	@ 20 °C	13min	63min	17h
	@ 30 °C	9min	23min	9h
	@ 40 °C	3min	11min	4h30



Mechanical properties of pure resin:

		H-601		H-608		H-609		
Cure Schedule		24h 23°C	24h 23°C	24h 23°C	24h 23°C	24h 23°C	24h 23°C	24h 23°C
	+	+	+	+	+	+	+	+
		24h 40°C	8h 60°C	24h 40°C	16h 60°C	24h 40°C	16h 60°C	8 h 80°C
Tensile								
Modulus of elasticity	N/mm ²	3250	3200	3150	3050	2750	2400	2300
Maximum resistance	N/mm ²	76	79	77	77	66	64	54
Resistance at break	N/mm ²	75	73	76	74	63	59	46
Elongation at max.resistance	%	3.6	4.2	3.4	4.0	3.1	3.9	4.9
Elongation at break	%	3.8	5.7	3.5	4.8	3.4	4.8	9.6
Flexion								
Modulus of elasticity	N/mm ²	3450	3250	3200	3100	3100	2800	2500
Maximum resistance	N/mm ²	125	124	120	119	103	99	87
Elongation at max.resistance	%	4.9	5.6	4.5	5.5	4.1	5.0	5.5
Elongation at break	%	9.3	8.2	10.0	9.0	11.5	9.3	13.0
Charpy impact strength								
Resilience	KJ/mm ²	20	29	24	35	28	40	37
Glass Transition / DSC								
Tg 1	°C	65	77	65	79	65	79	85
Tg 1 max	°C	/	80	/	84	/	/	87

Tests carried out on samples of pure cast resin, without prior degasing, between steel plates.

Measures undertaken according to Afnor normes :

Tension: NF T 51-034

Flexion : NF T 51-001

Choc Charpy: NF T 51-035

Glass transition DSC : Onset - Tg1: 1stpoint @ 20 °C/ mn,

Tg 1 max.: 2nd passage 180 °C under nitrogen gaz

ISO 11357

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