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TOHMIDE 245

TOHMIDE 245 is an epoxy curing agent of polyaminoamide derived from polymerized fatty acid. TOHMIDE 245 is a low viscosity type epoxy curing agent ,and provide long pot-life The major application fields of TOHMIDE 245 are bonding, sealing and resin motars.

1.TYPICAL SPECIFICATION:

Appearance	: Brown Liquid			
Viscosity(25°C)	∶ 1,500~3,000 mPa · s			
Colour	: 10 max.			
Amine Value(JIS)	: 455 ± 15			
Specific Gravity (25°C)	: 0.96			
Flash point (°C)	: 220°C			

2.THE STANDARD MIXING RATIO:

The Standard Mixing Ratio of Tohmide245 with an epoxy resin, whose epoxy quivalent weight is about 190(for example, "EPIKOTE-828" of the Shell ChemicalCompany, etc.,), is 30-50 parts by weight to 100 parts of the epoxy.

* Active Hydrogen Equivalent Weight : 90

(Note: This value is theoretically calculated only for your reference)

3.CURING CHARACTERISTICS

Exothermic Reaction:

: bisphenol-A type liquid epoxy resin whose epoxy equivalent Epoxy resin weight is about 190.

Total mass : 100g Room temperature : 23℃

Epoxy resin / 7	TOHMIDE 245	100 / 54
Peak exothermic t	ime. (min.)	132
Peak exothermic t	140	
Gell Time	(min.)	<120



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4.MECHANICAL PROPERTIES

Epoxy resin : bisphenol-A type liquid epoxy resin whose epoxy equivalent weight is about 190. Precured at 23°C for 7 days , and settle in room temperature for one day then put in oven 80°C for one hours.

CURING COND	ITION	23°C			80° C / 1hr	
Epoxy resin / TOHMIDE 245		100 / 43	100 / 54	100 / 67	100 / 54	
Tensile Strength	(kgf/mm ²)	2.5	3.6	4.5	7.3	
Bending Strength	(kgf/mm ²)	7.2	8.3	8.0	8.8	
Flexural Modulus	(kgf/mm ²)	2.0×10^{2}	2.4×10^{2}	2.3×10^{2}	2.9×10^2	
Compressive strength	(kgf/mm ²)	7.1	7.4	7.2	8.1	
Izod Impact Strength	(kgf/cm-cm)	2.5	2.9	3.3	2.2	
Rockwell Hardness	(M-scale)	32	36	36	77	
Heat Distortion Temp	(°C)	40	46	49	57	

5.LAP SHEAR STRENGTH

A resin mix of Tohmide245 and the same epoxy resin as employed above were cured at 22-23°C , and applied to bond mild steel plates whose surfaces were pre-treated by sand-blast. Thereafter, LAP SHEAR STRENGTH of the cured products were measured 7 days after bonding them at $22-23^{\circ}$ C by the mixtured resins.

Epoxy resin / TOHMIDE 245	100 / 33	100 / 43	100 / 54	100 / 67	100 / 82
Lap shear strength (kgf/ mm ²)	18	17	17	16	17

6.CHEMICAL RESISTANCE

Percentage increase in weight of the cured products of Tohmide 245 and the same epoxy resin as employed above were measured as follow after being cured at $22-23^{\circ}$ C for 7 days, and immersing them into respective chemical substances.

						Unit:%	
Immersion time (days)	7 days			30 days			
Epoxy / TOHMIDE 245	42	54	67	12	54	67	
(Mixing Ratio by weight)	42	54	07	42	54	07	
Tap Water	0.4	0.5	0.5	1.2	1.1	1.3	
5% solution of Salt	0.4	0.4	0.4	1.0	1.1	1.1	
10% solution of Caustin soda	0.3	0.3	0.4	1.0	0.9	1.0	
10% solution of Ammonia	0.4	0.4	0.4	1.0	1.0	1.3	
5% solution of Surfruic Acid	1.0	2.2	5.7	1.9	4.3	11	
5% solution of Hydrochioric Acid	0.7	1.3	3.2	1.6	2.8	6.8	
Kerocene	-0.1	-0.1	-0.1	0.1	0.0	0.0	
Isopropylalcohol	1.0	1.1	1.9	2.0	2.4	3.9	
Metyliso butylietone	15	7.8	5.3	27	16	12	