



SANHO CHEMICAL CO., LTD.

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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 equivalent weight is about 190(for example,“EPIKOTE-828” o f the Shell ChemicalCompany, etc.), is30-50 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 :

Epoxy resin	: bisphenol-A type liquid epoxy resin whose epoxy equivalent weight is about 190.
Total mass	: 100g
Room temperature	: 23°C

Epoxy resin / TOHMIDE 245	100 / 54
Peak exothermic time. (min.)	132
Peak exothermic temp. (°C)	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 CONDITION		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°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°C for 7 days, and immersing them into respective chemical substances.

Unit : %

Immersion time (days)	7 days			30 days		
	42	54	67	42	54	67
Epoxy / TOHMIDE 245 (Mixing Ratio by weight)	42	54	67	42	54	67
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 Caustic 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 Sulfuric Acid	1.0	2.2	5.7	1.9	4.3	11
5% solution of Hydrochloric 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
Methylisobutylketone	15	7.8	5.3	27	16	12