



# SANHO CHEMICAL CO., LTD.

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## TOHMIDE 245-LP

TOHMIDE 245-LP is an epoxy curing agent of polyaminoamide derived from polymerized fatty acid. TOHMIDE 245-LP is a low viscosity type epoxy curing agent ,and provide moderate curing speed ,and the mixing ratio of TOHMIDE 245-LP with an epoxy resin is relatively small. The major application fields of TOHMIDE 245-LP are bonding, sealing and resin motars.

### 1. TYPICAL SPECIFICATION :

Appearance	: Brown Liquid
Viscosity(25°C)	: 200 ~ 500 mPa · s
Colour	: 12 Max.
Amine Value(JIS)	: 450 ± 15
Specific Gravity (25°C)	: 0.90
Flash point (°C)	: 214

### 2. THE STANDARD MIXING RATIO :

40 ~ 60 parts to 100 parts of Bisphenol-A type epoxy resin whose epoxy equivalent weight is about 190.

### 3. CURING CHARACTERISTICS

Epoxy resin	: bisphenol-A type liquid epoxy resin whose epoxy equivalent weight is about 190.
Total mass	: 200g
Room temperature	: 23°C

Epoxy / TOHMIDE #245-LP		100 / 54
Peak Exothermic Time	Min	211
Peak Exothermic Temperature	°C	99
Gelling Time	Min	< 160

### 4. MECHANICAL PROPERTIES

Epoxy resin : bisphenol-A type liquid epoxy resin whose epoxy equivalent weight is about 190. Precured at 23°C for 7days



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Epoxy resin / TOHMIDE 245-LP		100 / 43	100 / 54	100 / 67
Tensile Strength	Mpa	4.6	4.9	5.0
Bending Strength	Mpa	7.0	8.0	7.6
Flexural Modulus	Gpa	2.6×10 <sup>2</sup>	3.0×10 <sup>2</sup>	2.7×10 <sup>2</sup>
Compressive strength	Mpa	2.6	7.0	6.8
Izod Impact Strength	J / M	1.6	1.8	2.0
Rockwell Hardness	(M-scale)	53	56	55
Heat Distortion Temp	(°C)	40	42	44

## 5. LAP SHEAR STRENGTH

A resin mix of Tohmide245-LP 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-LP	100 / 25	100 / 43	100 / 67	100 / 100	100 / 150
Lap shear strength Mpa	176	167	157	157	2.0

## 6. CHEMICAL RESISTANCE

Percentage increase in weight of the cured products of Tohmide245-LP 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.

Immersion time (days)	1 day			7 days			30 days		
	25	43	67	25	43	67	25	43	67
Epoxy / TOHMIDE 245-LP									
Tap Water	0.1	0.2	0.2	0.7	0.9	1.0	1.3	1.7	1.9
5% solution of Salt	0.2	0.2	0.3	0.7	0.8	0.9	1.4	1.6	1.9
10% solution of Caustin soda	0.3	0.2	0.3	0.7	0.7	0.8	1.3	1.4	1.7
10% solution of Ammonia	0.2	0.4	0.2	0.7	0.9	0.8	1.5	1.9	1.6
5% solution of Surfrucic Acid	1.0	1.6	4.0	1.5	2.8	8.0	2.2	4.1	12
5% solution of Hydrochloric Acid	0.5	0.8	2.1	1.2	2.0	5.3	2.2	3.7	9.5
Kerocene	0.3	0.2	0.6	0.4	0.4	0.6	0.5	0.5	0.6
Isopropylalcohol	1.6	1.9	2.8	3.2	4.2	6.5	4.8	6.7	12
Metyliso butylietone	13	7.5	5.2	35	20	16	--	26	27