



# SANHO CHEMICAL CO., LTD.

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## KINGMIDE 300-65

KINGMIDE 300-65 is a polyamide type epoxy curing agent synthesized by polymerized fatty acid and polyamines.

The resin component of KINGMIDE 300-65 is designed for high molecule weight and it is therefore semi-solid in its form at an ambient temperature.

However, for easy handling at an actual application works, KINGMIDE 300-65 is dissolved in the manufacturing process before being released to the users.

KINGMIDE 300-65, when cured with an epoxy resin, provides its cured films with such high orders desired at actual application field as good flexibility, simultaneously with good water resistance and good alkali resistance.

KINGMIDE 300-65 is thus desired for heavy duty primer coatings application of anti corrosion resistance.

### 1. SPECIFICATIONS

Appearance	: Brown, viscous liquid
Solid content (%)	: 65 ± 2
Viscosity (Gardner Holdt/25°C )	: Z ~ Z <sub>6</sub>
Amine value (JIS )	: 64 ± 5
Color (Gardner )	: 9 Max.
A.H.E.W.	: 750
Solvent (ratio)	: Xylene/Isobutanol=70/30

### 2. RECOMMENDED MIXING RATIO

130~170 parts by weight to 100 parts of epoxy resin whose epoxy equivalent weight is about 490.

90~120 parts by weight to 100 parts of 70% solution of epoxy resin (EEW is about 490) in xylene and isobutanol.

### 3. (1).Pot Life

Epoxy resin solution : Bisphenol-A type solid epoxy resin, whose epoxy equivalent weight is about 490, is dissolved with xylene where resin content is 70%.

Mixing Ratio : Epoxy resin solution / Kingmide 300-65 / Xylene ; = 100 / 110 / 75

Total mass : 200gr.

Pot life was measured by the time required for the initial viscosity of the mixtured resin of KINGMIDE 300-65 and epoxy resin to increase twice and three times



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rogressively.

Test temperature : 23°C

by Brookfield viscometer TYPE-M

Initial viscosity (mPa·s)	750
Time required to reach twice in its viscosity.	10.6 hours
Time required to reach three times in its viscosity	15.2 hours

## (2) Drying Characteristics :

Epoxy resin : employed the same dissolved epoxy resin as that of above (3)-1.

Then, the mixtured resin of Kingmide 300-65 and epoxy resin was dissolved with xylene, where resin contents is 60%.

Thereafter the mixtured resin was applied onto the test glass sheets.

23°C, by RCI Drying Recorder.

Mixing Ratio :	100 : 130	100 : 110	100 : 90
Epoxy resin solution : KINGMIDE 300-65			
Tack free (hours)	1.4	1.5	1.5
Set to touch (hours)	4.1	4.3	4.6
Dry through (hours)	18.0	21.0	24

## 4. CLEAR ENAMEL TEST

### (1) Epoxy resin : employed the same dissolved epoxy resin as that of above (3)-1.

Mixtured resin of Kingmide 300-65 and epoxy resin was applied onto cold rolled steel sheets by Bar Coater.

Curing condition = 23°C for 7 (seven) days.

Film thickness = dry film thickness : 50µm

Epoxy resin solution : KINGMIDE 300-65	100 : 130	100 : 110	100 : 90
Cross Cut (2 mm width)	25 / 25	25 / 25	25 / 25
Flexibility (2 mm core rod)	OK	OK	OK
Du Pont Impact Test (Back)*	OK	OK	OK
Pencil Scratch Test	B	B	HB

Remark : \*Du Pont Impact Test ;

Diameter of shock mould = 12.7 mm

Weight of shock mould = 500gr.

Height of falling down the mould = 50 cm.

### (2) Chemical resistance :

Mixing Ratio : Epoxy resin solution/ KINGMIDE 300-65	100/130	100/110	100/90
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Tap water , 40°C × 7 days. Cross cut (2 mm width)	Unabnormality		
	6/25	8/25	12/25
5% solution of salt water, 40°C, 7days Cross Cut (2 mm width)	9-S 5 / 25	9-M 8 / 25	9-M 20 / 25
Tap Water, 7 days	Unabnormality		
Tap Water, 30 days	Unabnormality		
5% solution of salt water, 7 days	9-VS	9-VS	9-VS
5% solution of salt water, 30 days	9-M	8-M	8-M
5% solution of sulfuric acid, 7 days	9-S	9-VS	9-VS
5% solution of sulfuric acid, 30 days	8-M	8-M	8-M
10% solution of caustic soda, 7 days	Unabnormality		
10% solution of caustic soda, 30 days	Unabnormality		
Salt Water Spray Test ( swelling width)	4 mm	4 mm	4~5 mm

Remarks : The figures listed herein are measured / determined according to the Standard Evaluation for Paint Film specified by Japan Paint Inspecting Association.

- \* Each figures indicate;
  - 0= Swelling over full area of the cured films.
  - 10= No swelling of the cured films.

- \*\* VS= very small degree of swelling.
- S= small degree of swelling.
- M= medium degree of swelling.