



SANHO CHEMICAL CO., LTD.

NO. 1, ZHONGSHAN S. RD., LUZHU DIST., KAOHSIUNG CITY, TAIWAN.
 TEL : 886-7-6962211~3 http : // www.sanho.com.tw
 FAX : 886-7-6976993 (Sales) E-mail : sanho@sanho.com.tw
 FAX : 886-7-6961782 (Export) E-mail : sanho@so-net.net.tw

TOHMIDE TXH-674B

TOHMIDE TXH-674B is a modified polyaminoamide waterborne hardener for liquid epoxy resin . TOHMIDETXH-674B provides fast drying rate under low temperature and have good adhesion strength and suitable toughness to various substrates . outstanding water diluted stability makes TOHMIDE TXH-674B very suitable application for primer . intermediate binder in civil engineering and storage tank .

1 SPECIFICATIONS

Appearance	: Viscosity amber liquid
Viscosity (mPa · s /25°C)	: 10,000 ~ 20,000
Colour (Gardner)	: 15 Max.
Amine value (JIS)	: 225 ± 15
Specific gravity(25/25°C)	: 1.11
Solid content(%)	: 68 ± 2
Solvent	: Water
A.H.E.W.	: 200
Flash point	: 228

2 RECOMMENDED MIXING RATIO

- (1) 80~120 parts by weight to 100 parts of liquid epoxy resin whose epoxy equivalent weight is about 190.
- (2) 17~25 parts by weight to 100 parts of liquid epoxy resin whose epoxy equivalent weight is about 945(Resin content:55%).

3 Water Dilution

3-1: Various viscosity verse solution appearance Clear

TOHMIDE TXH-674B diluted with water to various resin content , check viscosity and solution appearance under 25°C .

resin content (%)	70	60	50	40	30	20	10
viscosity mPa.s	13.4	7.3	3.3	0.98	0.14	0.013	0.004
solution appearance	Clear	Clear	Clear	Clear	Clear	Clear	Clear

3-2: Water dilution stability Clear

TOHMIDE TXH-674B diluted with water to resin content :20% , settle down 24hr later in different temperature check solution appearance .

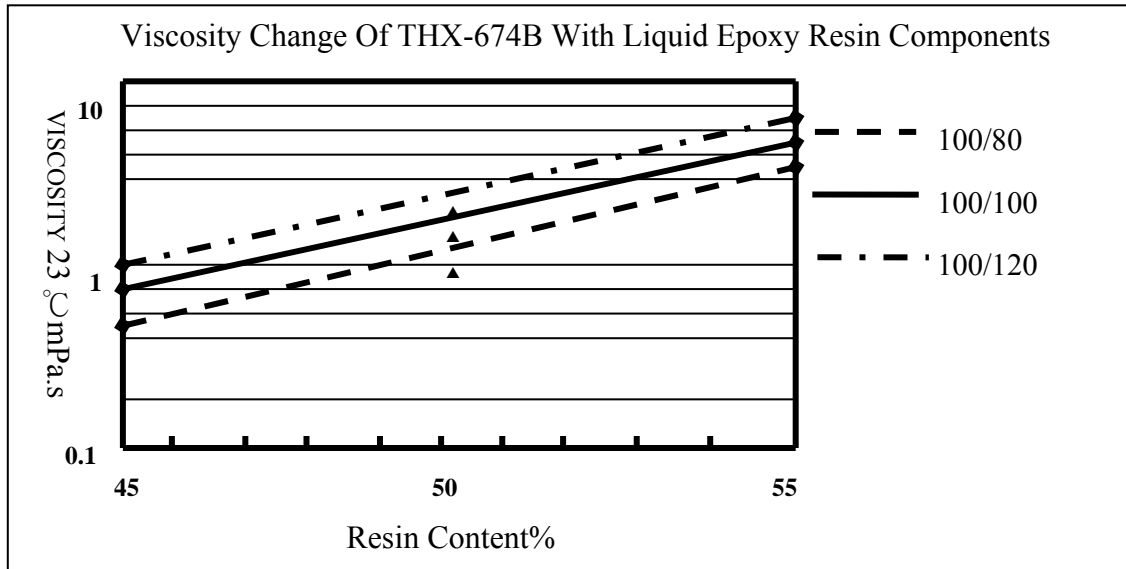
TOHMIDE TXH-674B / Water	100/250
50°C , 24HR	Clear
40°C , 24HR	Clear
23°C , 24HR	Clear
5°C , 24HR	Clear



SANHO CHEMICAL CO., LTD.

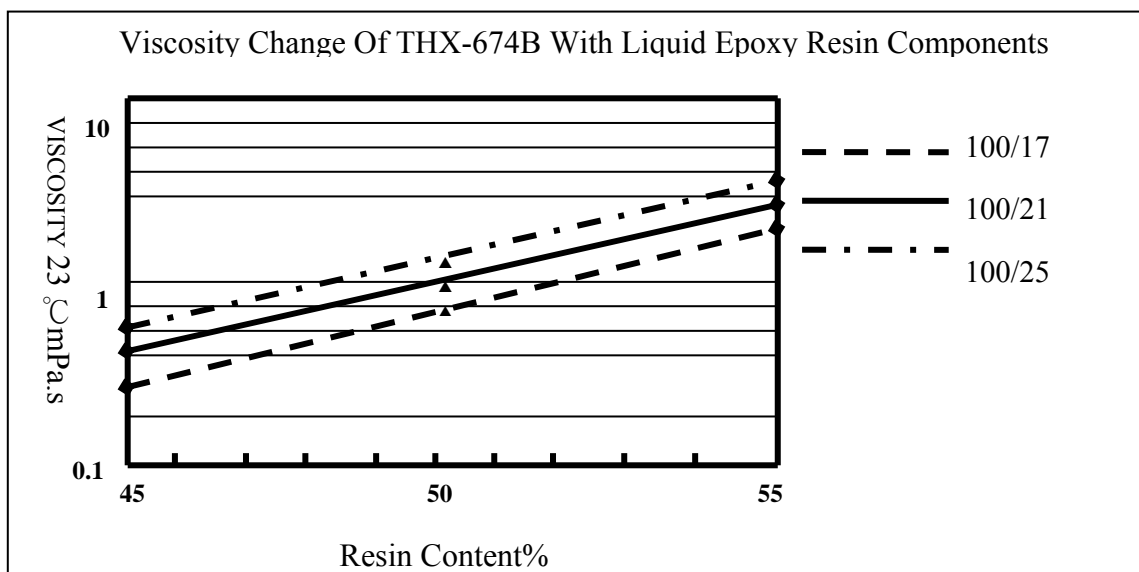
NO. 1, ZHONGSHAN S. RD., LUZHU DIST., KAOHSIUNG CITY, TAIWAN.
TEL : 886-7-6962211~3 http : // www.sanho.com.tw
FAX : 886-7-6976993 (Sales) E-mail : sanho@sanho.com.tw
FAX : 886-7-6961782 (Export) E-mail : sanho@so-net.net.tw

- 4 The Viscosity Of Epoxy Resin Components Liquid Epoxy Resin Components :**
4-1 : Mixing TOHMIDE TXH-674B(80、100、120 parts)with 100parts of Bisphenol-A type epoxy resin whose epoxy equivalent weight is 190 and diluted with water to various resin contents check the viscosity change at 23°C . The result as follow:



Solid Epoxy Resin Components :

- 4-2 : Mixing TOHMIDETXH-674B(17、21、25 parts)with 100parts of Bisphenol-A type epoxy resin (solid resin content:55%) whose epoxy equivalent weight is 945 and diluted with water to various resin contents check the viscosity change at 23°C . The result as follow:





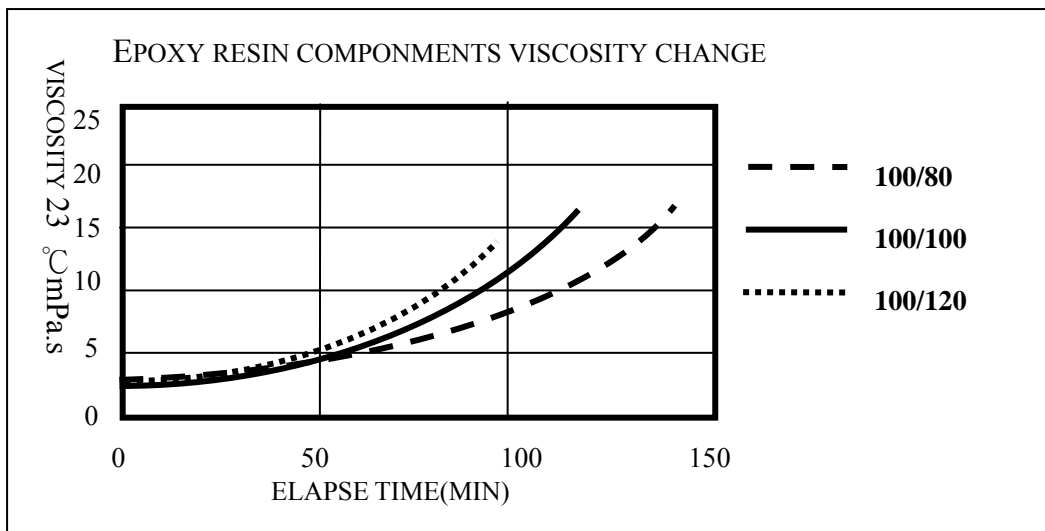
SANHO CHEMICAL CO., LTD.

NO. 1, ZHONGSHAN S. RD., LUZHU DIST., KAOHSIUNG CITY, TAIWAN.
TEL : 886-7-6962211~3 http : // www.sanho.com.tw
FAX : 886-7-6976993 (Sales) E-mail : sanho@sanho.com.tw
FAX : 886-7-6961782 (Export) E-mail : sanho@so-net.net.tw

5 THE VISCOSITY CHANGE (at 23°C) OF EPOXY RESIN COMPONENTS VARYING WITH ELAPSE OF TIME

5-1: Liquid epoxy resin

Mixing TOHMIDETXH-674B(80、100、120 parts) with 100 parts of Bisphenol-A type epoxy resin whose epoxy equivalent weights is 190 and dilution components with water makes viscosity within 1,000~2,000mPa.s at 23°C. The viscosity change varying with elapse of time were determined by E type viscometer. the results as follow.



5-2: Solid epoxy resin

Mixing TOHMIDE TXH-674B(17、21、25 parts) with 100 parts of Bisphenol-A type epoxy resin (solid resin content :55%) whose epoxy equivalent weights is 945 and dilution components with water makes viscosity within 1,000~2,000mPa.s at 23°C. The viscosity change varying with elapse of time were determined by E type viscometer. the results as follow.



6 DRYING PROPERTIES

6-1: Liquid epoxy resin components

Mixing TOHMIDE TXH-674B(80、100、120 parts)with 100parts of Bisphenol-A type epoxy resin whose epoxy equivalent weights is 190 and dilution components with water makes viscosity within 1,000~2,000mPa.s at 23°C. Applied 200um wet film with Bar coater on the glass plates check dry properties under 5°C,10°C with relative humidity 85°C and 23°C with relative humidity 50% with RCI Drying Recorder Water spotting test :24 hr later ,immerse glass plates into water . film surface quality were determined

(1)23°C .relative humidity 50%

Epoxy Resin / TXH-674B	100 / 80	100 / 100	100 / 120
Set to touch (Hours)	1.5	1.2	0.9
Tack free (Hours)	4.6	4.0	3.5
Dry through (Hours)	8.6	6.4	6.0
Surface quality(Hours)	Excellent	Excellent	Excellent
Water spotting	Non-spotting	Non-spotting	Non-spotting

(2)10°C .relative humidity 85%

Epoxy Resin / TXH-674B	100 / 80	100 / 100	100 / 120
Set to touch (Hours)	4.1	3.0	2.1
Tack free (Hours)	9.6	8.0	7.8
Dry through (Hours)	16.4	15.5	14.4
Surface quality(Hours)	Excellent	Excellent	Excellent
Water spotting	Non-spotting	Non-spotting	Non-spotting

(3)5°C .relative humidity 50%

Epoxy Resin / TXH-674B	100 / 80	100 / 100	100 / 120
Set to touch (Hours)	1.4	1.4	1.2
Tack free (Hours)	9.8	8.7	7.5
Dry through (Hours)	18.5	15.7	14.1
Surface quality(Hours)	Excellent	Excellent	Excellent
Water spotting	Non-spotting	Non-spotting	Non-spotting



SANHO CHEMICAL CO., LTD.

NO. 1, ZHONGSHAN S. RD., LUZHU DIST., KAOHSIUNG CITY, TAIWAN.
TEL : 886-7-6962211~3 [http : // www.sanho.com.tw](http://www.sanho.com.tw)
FAX : 886-7-6976993 (Sales) E-mail : sanho@sanho.com.tw
FAX : 886-7-6961782 (Export) E-mail : sanho@so-net.net.tw

6-2: Solid epoxy resin

Mixing TOHMIDE TXH-674B(17、21、25 parts)with 100parts of Bisphenol-A type epoxy resin (solid resin content :55%) whose epoxy equivalent weights is 945 and dilution components with water makes viscosity within 1,000~2,000mPa.s at 23°C . Applied 200um wet film with Bar coater on the glass plates check dry properties under 5、10°C with relative humidity 85°C and 23°C with relative humidity 50% with RCI Drying Recorder Water spotting test :24 hr later . immerse glass plates into water . film surface quality were determined .

(1)23°C .relative humidity 50%

Epoxy Resin / TXH-674B	100 / 17	100 / 21	100 / 25
Set to touch (Hours)	0.9	0.6	0.7
Tack free (Hours)	4.7	3.9	3.6
Dry through (Hours)	9.6	7.6	7.6
Surface quality(Hours)	Excellent	Excellent	Excellent
Water spotting	Non-spotting	Non-spotting	Non-spotting

(2)10°C .relative humidity 85%

Epoxy Resin / TXH-674B	100 / 17	100 / 21	100 / 25
Set to touch (Hours)	0.9	0.6	0.7
Tack free (Hours)	4.7	3.9	3.6
Dry through (Hours)	9.6	7.6	7.6
Surface quality(Hours)	Excellent	Excellent	Excellent
Water spotting	Non-spotting	Non-spotting	Non-spotting

(3)5°C .relative humidity 85%

Epoxy Resin / TXH-674B	100 / 17	100 / 21	100 / 25
Set to touch (Hours)	1.1	0.6	0.6
Tack free (Hours)	6.3	5.0	4.2
Dry through (Hours)	13.8	11.7	10.2
Surface quality(Hours)	Excellent	Excellent	Excellent
Water spotting	Non-spotting	Non-spotting	Non-spotting



SANHO CHEMICAL CO., LTD.

NO. 1, ZHONGSHAN S. RD., LUZHU DIST., KAOHSIUNG CITY, TAIWAN.
TEL : 886-7-6962211~3 [http : // www.sanho.com.tw](http://www.sanho.com.tw)
FAX : 886-7-6976993 (Sales) E-mail : sanho@sanho.com.tw
FAX : 886-7-6961782 (Export) E-mail : sanho@so-net.net.tw

7 CLEAR VARNISH TEST DATA

7-1 Resin content (TOHMIDE TXH-674B) in the mixture with epoxy resin, whose epoxy equivalent weight is 190, with dilution components with water with water makes viscosity within 1,000~2,000mPa.s .

Curing condition : 23°C of room temperature × 7 days. Relative humidity = 50% .

Dry film thickness : 100µm onto mild steel sheet .

Epoxy resin / TOHMIDE TXH-674B	100 / 80	100 / 100	100 / 120
Pencil Scratch Test(7 Day)	H	H	H
Impact Resistance (ψ 2 mm)	Pass	Pass	Pass
Impact Resistance (Du Pond, 1/2", 500g)	400	400	450

7-2 Resin content (TOHMIDE TXH-674B) in the mixture with epoxy resin, whose epoxy equivalent weight is 945 , with dilution components with water with water makes viscosity within 1,000~2,000mPa.s .

Curing condition : 23°C of room temperature × 7 days. Relative humidity = 50% .

Dry film thickness : 100µm onto mild steel sheet .

Epoxy resin / TOHMIDE TXH-674B	100 / 17	100 / 21	100 / 25
Pencil Scratch Test(7Day)	HB	HB	HB
Impact Resistance (ψ 2 mm)	Pass	Pass	Pass
Impact Resistance (Du Pond, 1/2", 500g)	400	500	500