



Aditya Birla Chemicals (Thailand) Ltd. (Epoxy Division)

EPOTEC TH 7304**Description**

EPOTEC TH 7304 is a low viscosity modified cycloaliphatic amine epoxy curing agent.

Applications

- High solid coatings
- Decorative and self leveling floorings
- Chemical resistant mortars and linings

Advantages

- Very low color and good color stability
- High gloss
- Low viscosity
- Good resistant to variety of chemicals
- High reactivity compared to EPOTEC TH 7301

Typical properties

Property	Test method	Unit	Specification
Appearance	Visual	-	Colorless to light yellow liquid
Color	ASTM-D-1544 (89) TEC-AS-P-006	Gardner	Max. 3.0
Amine value	TEC-AS-C-058	mgKOH/g	285 - 305
Viscosity* @ 25 °C	JIS-K-7233 (86)	cPs	450 - 750

* Brookfield viscosity

Typical application properties

Property	Test method	Unit	Specification	
			YD 128**	YD 510***
Mixing ratio	-	By Weight	100 : 60	100 : 58
Mixed viscosity* @ 25 °C	JIS-K-7233 (86)	cPs	2,200 - 2,600	1,200 - 1,600
Gel time (150 gram mix) @ 25 °C	Techne GT-3 Gelation timer	Minutes	30 - 42	40 - 50
Thin film set time @ 25 °C	-	Hours	5 - 6	6 - 7

* Brookfield viscosity

**YD 128: Standard Epoxy resin with EEW = 190 g/eq

***YD 510: Reactive diluent modified epoxy resin

Typical performance properties*

Property	Test method	Unit	Specification	
			YD 128	YD 510
Glass transition temperature	ASTM-D-3418 (82)	°C	48 - 55	40 - 45
Tensile strength	ASTM-D-638 (86)	Kg/cm ²	450 - 560	380 - 490
Tensile elongation	ASTM-D-638 (86)	%	2 - 4	6 - 8
Flexural strength	ASTM-D-790 (86)	Kg/cm ²	845 - 1,050	630 - 770
Compressive strength @ yield	ASTM-D-695 (85)	Kg/cm ²	630 - 845	500 - 770
Hardness	ASTM-D-2240 (86)	Shore D	80 - 81	81 - 82

* Sample cured with standard Bisphenol-A epoxy resin YD 128, (EEW = 190 g/eq) and YD 510 @ 25 °C (77 °F) for 7 days.

Chemical resistance¹

Chemical resistance of TH 7304 has been studied with various epoxy resins and % weight gain/loss of respective resin/hardener systems are tabulated as below.

Chemical	YD 128 ²		YDF 170 ³		YDPN 661 ⁴	
	3 day	28 day	3 day	28 day	3 day	28 day
Water	0.47	1.45	0.55	1.65	0.50	1.60
Methanol	7.01	-2.30	13.03	D	11.80	1.20
Ethanol	4.0	10.50	3.60	9.35	2.90	8.50
Toluene	0.35	2.75	0.05	0.65	4.90	0.50
Xylene	0.04	0.16	0.01	0.09	-0.02	0.05
Butyl celloslove	1.70	5.25	1.02	3.35	0.75	2.80
Methyl ethyl ketone	D	D	15.65	D	18.00	13.50
10% lactic acid	1.75	5.35	1.50	4.85	1.70	5.00
10% acetic acid	2.95	8.20	2.30	6.45	2.80	3.60
50% sulfuric acid	0.05	0.10	0.06	0.09	0.20	0.30
50% sodium hydroxide	-0.01	-0.03	-0.01	-0.01	-0.03	-0.04
10% sodium hypochlorite	0.48	1.39	0.53	1.45	0.49	1.25

1 Test method ASTM-D-543. Curing schedule 25 °C/24hrs and 100 °C/2hrs

2 Standard Bisphenol A epoxy resin, EEW 186 g/eq

3 Standard Bisphenol F epoxy resin, EEW 170 g/eq

4 Multifunctional epoxy resin with functionality 2.8

Storage

Storage life at least 12 months from the date of manufacture when stored in original sealed container. Store the material in good ventilated, dry and cool place. Store the material away from sources of heat, ignition and direct sunlight.

Handling

Please refer to MSDS for safe handling of EPOTEC TH 7304.

Disclaimer

All recommendations for use of our products whether given by us in writing, verbally or to be implied from the results of tests carried out by us are based on the current state of our knowledge. Although, the information contained in this sheet is accurate, no liability can be accepted in respect of such information. We warranty only that our product will meet the designated specifications and make no other warranty either express or implied, including any warranty of merchantability or fitness for a particular purpose as the conditions of application are beyond our control.

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