



The company has a fully fledged R&D and Application Development Centre (ADC) and its testing facilities are accredited by Germanischer Lloyd (GL).

Epotec resin systems are well established in the industry and used by leading manufacturers. The product portfolio includes A wide range of Epoxy Products based on Bisphenol A, Bisphenol F, Multifunctional Epoxy Phenolic Novolac, Reactive diluents, Cycloaliphatic epoxies, Epoxy blends, water based epoxies and curing agents are offered for various applications in Protective coatings, Powder coatings, and Civil Engineering. The company's state of the art manufacturing facilities are located in Thailand and is accredited with ISO 9001, ISO 14001 and OHSAS 18001 systems. More than 75% of the production is exported across all continents. The head office is located in Bangkok, Thailand with Sales & Marketing offices in US, Europe, India and the Middle East, a wide distribution network spread across the globe.

The company offers high level of technical expertise to work jointly with the end users to troubleshoot and in improving, customizing the product performance based on the processing conditions in manufacturing.

Manufacturing	Research Center	Sales Offices
Thailand India	Thailand India Germany	Thailand India USA Europe Middle East

Aditya Birla Chemicals (Thailand) Ltd.

Aditya Birla Chemicals (Thailand) Limited (Epoxy Division) is largest manufacturer of epoxy resin and systems in the ASEAN region. Its Epotec® epoxy resins and systems are exported to all continents and the product portfolio extends to all segments of epoxy applications. Its Application Development Centre (ADC) has been recently accredited by Germanischer Lloyd (GL) bringing it in the pool of top testing laboratories for composite materials. It has also won the prestigious JEC Asia Innovation award 2012 in the Materials category



Our Innovative R&D Team

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Aditya Birla Chemicals (Thailand) Ltd.
888/167, 16th floor Mahatun Plaza, Ploenchit Road, Lumpini, Pathumwan, Bangkok -10330.
Tel Nos. : +66- (2) -2535031-33, Fax Nos.: +66-(2)-2453-5030
For more information, please visit us at www.epotec.info

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Innovating epoxies for a better world

Coatings & Construction Applications Epotec Epoxy Systems



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Epotec® Epoxy Products For Coatings & Civil Applications

Unmodified Bisphenol-A Resins

Epotec Grade	EEW ¹	Viscosity ²	Color ³	Features
YD127	180 - 188	8,000 - 11,000	0.5	Standard grade, low viscosity.
YD128	185 - 194	11,000 - 14,000	0.5	General purpose resin.

¹ Epoxy Equivalent Weight (gm/eq), ² Brookfield Viscosity @ 25 °C (cP), ³ Gardner Colour Scale (Maximum)

Reactive Diluents Modified Resins

Epotec Grade	EEW ¹	Viscosity ²	Color ³	Features
YD510	185 - 200	1,500 - 2,000	0.5	Aliphatic reactive diluent modified, good mechanical and impact properties.
YD515	195 - 210	600 - 900	0.5	Aliphatic reactive diluent modified, low viscosity, better flexibility and impact strength.
YD522	180 - 190	500 - 700	0.5	Aromatic reactive diluent modified.

¹ Epoxy Equivalent Weight (gm/eq), ² Brookfield Viscosity @ 25 °C (cP), ³ Gardner Colour Scale (Maximum)

Solvent- Cut Resins

Epotec Grade	EEW ¹	Viscosity ²	Color ³	%NV	Features
YD011X75	450 - 500	8,000 - 13,000	0.5	74 - 76	General purpose resin.
YD134X90	240 - 260	10,000 - 20,000	0.5	89 - 91	Low VOC coatings, high chemical resistance.
YD901EK80	460 - 500	4,000 - 8,000	1	79 - 81	Type 1 solid resin solution in MEK for faster drying coatings Note: X - Xylene

¹ Epoxy Equivalent Weight (gm/eq), ² Brookfield Viscosity @ 25 °C (cP), ³ Gardner Colour Scale (Maximum)

Unmodified Bisphenol-F Resins

Epotec Grade	EEW ¹	Viscosity ²	Color ³	Features
YDF170	160 - 180	2,000 – 5,000	3	Low viscosity, better chemical resistance & flexibility
YDF171	170-180	5,000 – 7,000	1	Bisphenol-F resin for high solid coatings, adhesives and laminates
YDF172	165-175	3,000-5,000	1	Non-crystallization type
YDF173	167-175	7,000-11,000	1	Higher functionality (-2). Better chemical resistance

¹ Epoxy Equivalent Weight (gm/eq), ² Brookfield Viscosity @ 25 °C (cP), ³ Gardner Colour Scale (Maximum)



Epotec Curing Agents

TYPE	Epotec Grade	Amine Value ¹	Viscosity ²	Colour ³	Pot Life ⁵⁴	A.H.E.W ⁵	Mix Ratio ⁶	TFST	Features
Modified Aliphatic Amines	TH 7211	300 - 330	35 - 80	2	80 - 120	76	100 : 40	9 - 12	Low viscosity and good color makes it ideal as a pot life enhancer for other curing agents.
	TH 7222N	440 - 470	450 - 700	8	20 - 35	112	100 : 60	3 - 5	Short pot life, faster setting
	TH 7301	260 - 285	250 - 380	0.2	30 - 45	115	100 : 60	6 - 8	Universal - Excellent colour stability. Provide high gloss surfaces with good chemical resistance.
	TH 7310	320 - 350	2,000 - 3,500	1	20 - 30	110	100 : 58	5 - 7	Performance similar to TH 7301
Mannich Bases	TH 7320	235 - 270	300 - 700	1	30 - 45	95	100 : 50	5 - 8	Lower phr
	TH 7801	280 - 325	100 - 300	4	23 - 30	102	100 : 55	4 - 7	High reactivity at low temperature. Can be cured in presence of high humidity. Provides excellent chemical resistant surfaces for industrial application.
	TH 7903	760 - 800	1,200 - 2,100	10	10 - 18	50	100 : 26	1 - 3	High reactivity, fast setting, high hardness, good compressive strength. Can cure at low temperature and in high humidity
	TH 7905	350 - 390	400 - 600	5	15 - 20	75	100 : 40	1 - 2	Pheno free version. Better colour, fast setting, low viscosity. Can tolerate higher moisture in the substrate
Phenalkamines	TH 7940	480 - 560	2,000 - 3,000	17	30 - 45	80	100 : 40	2 - 5	Excellent salt water resistance, good adhesion, good corrosion resistance, very good mechanical properties, non-critical mix ratio
	TH 7941	310 - 350	20,000 - 50,000	17	65 - 90	140	100 : 70	6 - 9	Excellent salt water resistance, good adhesion, good corrosion resistance, very good mechanical properties, cure under cold and damp condition
	TH 7941S10	220 - 280	200 - 700	17	100 - 150	150	100 : 80	6 - 8	Solvent based version of Epotec TH 7941 containing 25 % aromatic solvent.
	THW 4502		20,000 - 55,000	Translucent emulsion	180 - 200	265	100 : 130 - 150	6 - 8	Long pot life, good gloss, cure at thickness of < 500 mic, can emulsify liquid epoxy, excellent hardness
Waterborne	THW 4503		5,500 - 6,500	Amber liquid	50 - 75	150	100 : 80	6 - 7	High strength, low colour, easy to spread and dilute with water, can emulsify liquid epoxy, easy to clean
	THW 4504		1,500 - 2,500	Pale yellow colour	55 - 70	204	100 : 110	3 - 5	High strength, low colour, easy to spread and dilute with water, can emulsify liquid epoxy, easy to clean
	THW 4505		15,000 - 25,000	14	75 - 110	204	100 : 110	3 - 4	Can be used with waterborne epoxy resin, good adhesion to metal, gives good gloss even at high PVC
	TH 7515	230 - 250	3,200 - 4,200 @ 750C	8	4	190 - 200	90 - 100	8 - 12	High viscosity, semi-solid, imparts good toughness and adhesion properties
	TH 7525	330 - 360	40,000 - 50,000	9	2	100 - 120	55 - 65	5 - 8	Medium viscosity, compatible with wide range of solvents, offer good flexibility
	TH 7540	370 - 400	10,000 - 15,000	8	3	90 - 100	45 - 55	6 - 9	Medium to low viscosity, better chemical resistance than earlier grades
	TH 7560	410 - 450	500 - 1000	8	2	95	50	4 - 7	Low viscosity, higher reactivity

¹mg of KOH/g, ² Brookfield viscosity @ 250C, ³ Gardner Colour Scale, ⁴ Pot Life in minutes with Epotec YD 128 (EEW = 190) @ 250C, ⁵ Equivalent Weight per Active-H, ⁶ Parts per hundred of Resin, ⁷ Gel Time in minutes @ 250C, ⁸ Thin Film Set Time @ 250C, ⁹ 75 µ thick film.



Epotec® Epoxy Systems for Civil Engineering Applications

System	Mix ratio ¹	Mix Viscosity ²	Gel time ³	TFS ⁴	Feature
YD 515 : TH 7301	100 : 60	500	35	5	Good gloss, hardness combined with good chemical resistance
BYD 7201 : TH7201	100 : 33	10,000	20	3	Excellent chemical resistance to most of the strong acids, alkalies and solvents. Very minimal impact of alkalies, acids can cause discolouration when exposed. Can resist conc. H2SO4
YD 522 : TH 7212	100 : 25	400	35	2.5	Ultra low viscosity. Easier to penetrate deep in small, narrow cracks. Excellent bonding to concrete. Faster setting
YD 522 : TH 7903	100 : 25	8,000	15	2	Fast setting. Very good hardness, high compressive strength
YD 128 : THW 4502	100 : 140	-	180	6	Water dilutable. Glossy to semi-glossy finish. Excellent hardness. Suitable for low film thickness (< 0.5 mm)
YD 522 : THW 4503	100 : 80	2,000	60	6.5	Water dilutable. Good bonding to varied substrates. High compressive strength
YD 522 : TH 7209	100 : 25	400	20	10	Good gloss, colour and hardness
YD 520 : TH 7227	100 : 11	500	10	9	Good adhesion, good penetration in smaller cracks
YD 522 : TH7302	100 : 50	500	30	6	Fast strength build-up
YD 524 : TH 7324	□□□50	1200	120	-	Resin system used for impregnation of reinforcing fibres (Carbon and Glass fabrics). Composite system for Concrete repair.
YD 524 : TH 7924	100 : 32	1200	14 – 20	-	Resin system used for impregnation of reinforcing fibres (Carbon and Glass fabrics). Composite system used for Concrete repair. Cures at low Temperatures
YD 128 : TH 7325	100 : 43	3200	90	8	Used for formulating Zero VOC flooring and coatings. Low phr, Long pot-life, high gloss and very high blush resistance
YD 128 : TH 7222N	100 : 60	2500	20 – 35	3 – 5	Used for Self-levelling epoxy flooring, low cost hardener, high gloss, high hardness, good chemical resistance
YDFM 253 : TH 7332	100 : 38	400	120	-	Low viscosity high strength system used in high build systems for formulating water-wipeable tile grouts.
BYD 7201 : TH 7302	100 : 50	-2000	20	6 – 7	Excellent chemical resistance to most of the strong acids, alkalies and solvents. Very minimal impact of alkalies, acids can cause discolouration when exposed. Can resist conc. H2SO4
YD 128 : THW 4504	100 : 110	-	60	4	Waterbased system used for the formulation of breathable self-levelling flooring, which can be applied to green concrete. Can also be used for the formulation of anticorrosion primers
YD 128 : THW 4505	100 : 110	-	110	3 - 4	Water-based system used for the formulation of high-gloss epoxy top coats. Good appearance, fast strength development long pot-life

1 Part by weight, 2 Mix Viscosity @ 25°C (cP), 3 Gel Time in minutes @ 25°C, 4 Thin Film Set Time in hours .

Modified Bisphenol - A/F Type Resins

Epotec Grade	EEW ¹	Viscosity ²	Color ³	Features
YDFM253	190 - 200	700 – 1,100	0.5 max	A/F with mono-functional diluent.
YDFM269	170 - 185	7,000 – 9,000	0.5 max	A/F Blend.

¹ Epoxy Equivalent Weight (gm/eq), ² Brookfield Viscosity @ 25 °C (cP), ³ Gardner Colour Scale (Maximum)

Phenol Novolac Epoxy Resins

Epotec Grade	EEW ¹	Viscosity ²	Color ³	FN ⁴	Features
YDPN631	172 - 180	1,100 - 1,700	3	2.8	Improves chemical resistance, good retention of property at elevated temperature. Widely used for coating applications.
YDPN638	175 - 182	30,000 - 50,000	1	3.6	High mechanical, chemical and elevated temperature resistance properties.
YDPN638X80	175 – 182*	1,200 – 2,000	2	-	Solution of EPN in Xylene

¹ Epoxy Equivalent Weight (gm/eq), ² Brookfield Viscosity @ 25 °C (cP), ³ Gardner Colour Scale (Maximum), ⁴ Functionality Note: * on solids

Cycloaliphatic Epoxy Resins

Epotec Grade	EEW ¹	Viscosity ²	Color ³	HyCl ⁴	Features
YDH 3000	220 - 240	2,000 - 4,000	1	0.1	Low viscosity, good weather resistance.

Part by weight (pbw); Brookfield Viscosity @ 25°C; Gardner Colour Scale (Maximum) On solids up.

Reactive Diluents

Type	Epotec Grade	EEW ¹	Viscosity ²	Color ³	Features
Mono-Functional Aliphatic	RD 108	270 - 300	5 - 10	0.2	C12 - C14 glycidyl ether - good diluent and morphology, improved impact strength.
Di-Functional Aliphatic	RD 119LE	315 - 335	50 - 70	0.3	Polypropylene glycol diglycidyl ether – imparts flexibility, improves water dispersibility
Tri-Functional Aliphatic	RD 113	135 - 150	100 - 200	0.2	Trimethylol propane triglycidyl ether
Mono-Functional Aromatic	RD 104	155 - 170	6 - 12	0.5	Phenyl glycidyl ether - better diluent, retention of chemical resistance.
	RD 105	175 - 190	5 - 10	0.5	Cresyl glycidyl ether - overall excellent properties.

¹ Epoxy Equivalent Weight (gm/eq), ² Brookfield Viscosity @ 25 °C (cP), ³ Gardner Colour Scale (Maximum)



Epotec® Solid Epoxy Resins for Powder Coatings

Medium Molecular Weight (Standard Viscosity)

Epotec Grade	EEW ¹	Melt Viscosity ²	Color ³	S.P. ⁴	Features
YD903	725 - 800	3,800 - 6,000	0.5	90 - 96	Suitable for hybrid/pure epoxy powder coating.
YD903HE	860 - 930	7000 - 10,200	0.5	104 - 110	Suitable for hybrid/pure epoxy powder coating.
YD904	900 - 975	800 - 1,600 ⁵	0.5	96 - 107	Suitable for epoxy ester formulation.

¹ Epoxy Equivalent Weight (gm/eq), ² Brookfield Viscosity @ 150 °C (cP), ³ Gardner Colour Scale (Maximum), ⁴ Softening Point (°C) - Mettler Ball & Cup, ⁵ ICI Melt Viscosity @ 200 °C (cP)

Medium Molecular Weight (Low Viscosity) Resins

Epotec Grade	EEW ¹	Melt Viscosity ²	Color ³	S.P. ⁴	Features
YD013	820 - 880	3,600 - 5,000	0.5	88 - 98	Good flow and storage stability.
YD014	900 - 975	5,300 - 7,000	0.5	91 - 102	Medium molecular weight, better flexibility. Can be used for epoxy esters.

¹ Epoxy Equivalent Weight (gm/eq), ² Brookfield Viscosity @ 150 °C (cP), ³ Gardner Colour Scale (Maximum), ⁴ Softening Point (°C) - Mettler Ball & Cup

Modified Resins

Epotec Grade	EEW ¹	Melt Viscosity ²	Color ³	S.P. ⁴	Features
YD942	500 - 560	1,500 - 4,000	0.5	80 - 90	Modified resin for better chemical resistance rebar/pipe coatings.
YD972	750 - 850	2,500 - 5,000 ⁵	0.5	95 - 110	Modified resin for better chemical resistance rebar/pipe coatings.

¹ Epoxy Equivalent Weight (gm/eq), ² Brookfield Viscosity @ 150 °C (cP), ³ Gardner Colour Scale (Maximum), ⁴ Softening Point (°C) - Mettler Ball & Cup, ⁵ ICI Melt Viscosity @ 200 °C (cP)

Phenolic Curing Agents

Epotec Grade	EEW ¹	Melt Viscosity ²	Color ³	S.P. ⁴	Features
TH981	250 - 280	290 - 750	1	75 - 90	Phenolic curing agent to adjust the reactivity when using Epotec® Curing Agent TH982 / TH983.
TH982	250 - 290	290 - 470	1	75 - 90	Accelerated phenolic curing agent for chemical resistant coatings for re-bar and pipes.

¹ Epoxy Equivalent Weight (gm/eq), ² Brookfield Viscosity @ 150 °C (cP), ³ Gardner Colour Scale (Maximum), ⁴ Softening Point (°C) - Mettler Ball & Cup



Epotec® Solid Epoxy Resins for Can Coil Coatings

High Molecular Weight Solid Resins

Epotec Grade	EEW ¹	Melt Viscosity ²	Color ³	S.P. ⁴	Features
YD907	1,750 - 2,100	1,600 - 2,200	0.5	117 - 127	Type 7 resin for can & coil coating and printing inks with better flow.
YD909	2,500 - 2,800	5,000 - 8,000	0.5	130 - 145	Type 9 resin for can & coil coating with better flexibility.

¹ Epoxy Equivalent Weight (gm/eq), ² Brookfield Viscosity @ 150 °C (cP), ³ Gardner Colour Scale (Maximum), ⁴ Softening Point (°C) - Mettler Ball & Cup

Waterborne Epoxy Resins

Epotec Grade	EEW ¹	Viscosity ²	Color	% NV ³	% Co-Solvent	Features
TW 5001 (Aq. emulsion of LER)	195 - 220	300 - 3,500	Off-white/ milky emulsion	60	0	High reactive resin, good chemical resistance
TW5002 (Aq. dispersion of type 1)	485 - 555	7,000 - 17,000	Off-white/ milky emulsion	55	10 ⁴	High gloss, fast dry time.
TW5003H (Aq. dispersion of type 7)	1,800 - 2,100	7,000 - 17,000	Off-white/ milky emulsion	53	13 ⁵	Good adhesion to substrate, flexibility.

¹ Epoxy Equivalent Weight (gm/eq), ² Brookfield Viscosity @ 25 °C (cP), ³ % Non-Volatile (+/-2%), ⁴ Methoxy Propanol, ⁵ Propoxy Ethanol