The company has a full 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 Wind Blade manufacturers. The product portfolio also includes novel and patented systems for infusion process which enables productivity improvement in manufacturing and epoxy foam systems which possess the potential of replacing existing core materials used in the manufacturing of wind blades.

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

The company has wide range of Germanischer Llyod (GL) certified products for wind blade applications which includes epoxy systems for Tooling / molds, Gel coat, Prepreg, Infusion, Laminating resins for repair applications, Structural Adhesive and Expandable Epoxy Foam.

Manufacturing	Laboratories	Sales Offices
Thailand	Thailand	Thailand
India (Sep 2013)	India	India
		Europe
		USA
		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 across 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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Version: March 2014

epotec®

Innovating epoxies for a better world

Composite Applications

Epotec Epoxy Systems

www.epotec.info

Epotec Systems for Composite Applications

Epotec® Epoxy Systems for composite applications are developed to suit the composite processing technique and the end application requirements. The product portfolio includes epoxy systems for- , Pultrusion & Filament winding, Laminating resins for RTM, Hand lay-up & Infusion, Resins for making Prepegs, Expandable epoxy systems, Structural adhesive, Flexible epoxy systems and Surface Gel Coats.

Prepeg Systems

Epotec® Prepreg Resin systems are solvent free systems which provide long shelf life at room temperature. These systems are suitable for wide variety of reinforcements and components of different dimensions.

Epotec System	Mixing Ratio[1]	Shelf life[2]	Tg[3]	Features
YD143	-	> 60	130 - 140	Single component, long shelf life at ambient conditions.
YD565/TH7252	100:20	>15	115 - 125	Low mix viscosity, solvent free system.
YD570/TH7252	100:20	>30	115 - 125	Moderate shelf life , solvent free system.

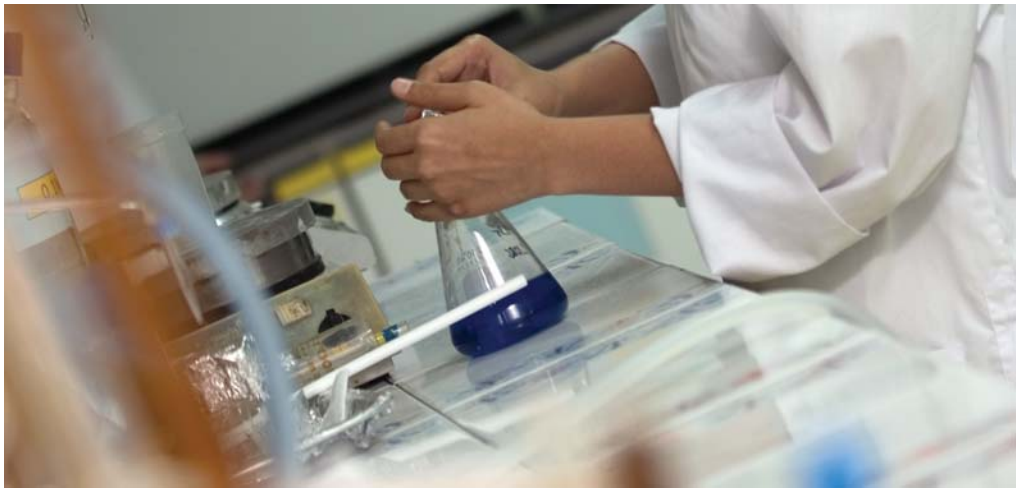
[1] Part by weight (pbw), [2] in days @ 25°C [3] Glass Transition Temperature (°C),

Filament Winding and Pultrusion Systems

Epotec® Epoxy Systems for Filament Winding and Pultrusion are designed to provide ease of impregnation and fibre wetting. The systems include ambient as well as elevated temperature curing systems providing moderate to high thermal resistance.

Epotec® System	Mix ratio[1]	Mix Viscosity[2]	Pot life[3]	Tg[4]	Features
YDL 535 / TH 7354	100 : 35	500 - 1,000	8 - 10	145 - 155	Low viscosity, long pot life system suitable to cure at ambient temperature, post curing above 120°C is required.
YDL 549 / TH 7664	100 : 90	400 - 800	> 8	115 - 125	Elevated temperature curing system designed for fast productivity. Provides excellent performance in cyclic loading conditions.
YDL 582 / TH 7255	100 : 35	500 - 750	25 - 35[5]	80 - 90	Low viscosity, fast, ambient cure system for small to medium components.
YDL 582 / TH 7256	100 : 35	500 - 650	80 - 100[5]	80 - 90	Ambient temperature cure, low viscosity system for small components with medium reactivity
YDL 582 / TH 7257	100 : 35	200 - 500	4.5 - 5.5	80 - 90	Ambient temperature cure, slow reactive system with very low viscosity for fairly large components.
YDL 598/ TH 7657/ TA 7852	100 : 85 : 0.2 - 1.0	700 - 1000	> 10	75 - 85	Halogen free fire retardant system designed to cure at elevated temperatures.
YDL 660 / TH 7455	100 : 25	1,500 - 3,500	> 16	170 - 200	Very slow reactive, ambient cure system for high glass transition temperature (Tg). Post curing required above 160°C.
YDL 670 / TH 7353	100 : 22	1,000 - 2,000	1 - 3	140 - 170	High temperature resistance, medium viscosity system for ambient curing, post curing above120°C is required to achieve full strength.
YDL 670 / TH 7354	100 : 35	500 - 1,000	8 - 10	140 - 170	Long pot life, high temperature resistant system. Post curing above 120°C is required to achieve full strength.
YDL 680 / TH 7652 / TA 7851	100 : 80 : 1 - 2	500 - 1,000	> 10	130 - 160	Low viscosity, long pot life, elevated temperature cure system for large components.
YDL 680 / TH 7661 / TA 7851	100: 90 : 0.5-3.0	1,000 - 2,500	> 10	160 - 180	Low viscosity, long pot life, elevated temperature cure system for large components, provides high thermal resistance.
YDL 690 / TH 7661 / TA 7852	100: 90 : 0.5-3.0	3,000 - 6,000[6]	> 16	220 - 240	Very slow reactive, ambient cure system with Tg > 200°C. Post curing above 200°C is required to achieve full strength.

[1] Part by weight (pbw), [2] Brookfield Viscosity @ 25°C (cP), [3] Pot life in hours, @ 25°C 100 grams mix, [4] Glass Transition Temperature (°C), [5] Pot life in minutes @ 25°C 100 grams mix, [6] Brookfield Viscosity @ 50°C (cP)



Disclaimer:

This flyer is designed to provide you with information to the Epotec range of products referred to, and should be read in conjunction with the latest Technical Data Sheets (TDS) and Material Safety Data Sheets (MSDS), and may not be construed as legally binding. Nothing contained herein constitutes an offer for the sale of any product. The Company makes no warranties, either expressed or implied, with respect to its product or the results of its use, or with respect to any information provided by the Company.
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Material safety, Handling and Storage Conditions:

Due to variety of material used in epoxy systems, please consult Epotec Technical Data Sheets (TDS) and Material Safety Data Sheets (MSDS). TDS and MSDS are available for all Epotec products upon request. Alternatively, visit www.epotec.info for detailed material safety, handling, and storage conditions.

Notes

RTM, Hand lay-up and Infusion Systems

Epotec® laminating resin Systems for Resin transfer molding (RTM), hand lay-up and Infusion include ambient as well as elevated cure systems designed for optimum processing viscosity and reactivity varying from few minutes to several hours at ambient temperature. The choice can be made depending on process conditions, geometry of the component and end use requirements.

Epotec ® System	Mix ratio[1]	Mix Viscosity[2]	Pot Life[3]	Tg[4]	Features
YD 535 / TH 7253 - 8 GL	100 : 35	800 - 1,400	8 (TH 7253) - > 10^5 (TH 7258)	75 - 90	One resin-six hardener system with fast to slow reactivity.
YD 580C / TH 7253C - 8C GL	100 : 33	800 -1,400	8 (TH 7253C) - > 10^5 (TH 7258C)	75 - 90	One resin-six hardener system with fast to slow reactivity, designed for fast strength built-up & high mechanical stiffness.
YD 535LV / TH 7253 - 8 GL	100 : 35	200 – 300 (TH7256-8)	8 (TH 7253) - > 10^5 (TH 7258)	75 - 85	One resin-six hardener system with fast to slow reactivity.
YD 585/TH7255 - 7E GL	100 : 32	200 - 300	40 - 400	75 - 85	One resin-two hardener system , fast hardener has low viscosity.
YD 535SP / TH 8257SP GL	100 : 34	200 - 300	> 10^5	75 - 85	Slow reacting system, faster strength built-up in comparison to systems of similar reactivity.
YD 535LC / TH 8258SP GL	100 : 32	220 - 280	> 10^5	80 - 90	Slow reacting system. Suitable for large to extra large components, enables defect reduction in manufacturing.
YDL 579 / TH 8270	100 : 38	500 - 700	80 - 120	110 - 130	Fast strength build-up with high thermal stability, excellent dynamic mechanical properties.
YDL 535 / TH 7295	100 : 30	800 - 1,500	120 - 140	120 - 140	Low viscosity, slow reactive system for high thermal resistance and mechanical property retention at elevated temperatures.
YDL 547 / TH 8278	100 : 25	600 - 1,000	90 - 130	80 - 90	Low viscosity ambient cure system for small components where high wetting and fast strength build-up is required.
YDL 586 / TH 8280 - 1	100 : 35	500 - 1,000	12 - 60	75 - 90	General purpose laminating system with one resin- two hardeners of different reactivity.
YDL 660 / TH 7255	100 : 35	1,000 - 1,400	30 - 50	90 - 110	Medium viscosity system for small components providing moderate thermal resistance.
YDL 583 / TH 8272 - 4	100 : 25	1,000 - 2,000	30 - 90	130 - 140	One resin- two hardener system designed for fast productivity in manufacturing auto-components by RTM process.
YDL 554 / TH 7369	100 : 39	500 - 750	75 - 85	65- 75	Clear, low colour laminating resin system with exceptional UV resistance.
YD 510 / TH 7284	100 : 27	500 - 1,000	45 - 55	70 - 80	Laminating system designed exclusively for solar panels.
YDL 660 / TH 7257	100 : 35	500 - 1,000	300-360	90 - 110	Low viscosity, slow reactive system for FRP components with high ultimate elongation.
YDL 670 / TH 7652 / TA 7851	100 : 80 : 1 - 2	500 - 1,000	> 10^5	130 - 160	Elevated temperature cure, low viscosity standard system for good mechanical and thermal properties.
YDL 670 / TH 7661 / TA 7851	100: 90 : 0.5-3.0	1,000 - 2,500	> 10^5	160 - 180	Elevated temperature cure, low viscosity system for excellent thermal resistance at elevated temperature.
YDL 680 / TH 7354	100 : 35	2,000 - 4,000	> 8^5	130 - 180	Medium viscosity, slow reactive, ambient cure system for excellent thermal resistance. Post curing above 140°C is required.
YD595/TH7295	100:30	500 - 1000	210 - 240	115 - 125	Laminating system for tooling& molds, provides moderate reactivity and temperature resistance.
YD535LV/TH7353	100:25	350 - 400	150 - 200	130 - 140	Laminating system for tooling& molds, provides moderate reacting and high temperature resistance.
YDL574/TH7363	100:30	250 - 300	180 - 220	115 - 125	Laminating system to make tools& molds by infusion process (<20m).
YDL594/TH7365	100:35	200 - 300	380 - 420	115 - 125	Laminating system to make tools& molds by infusion process (>20m).

[1] Part by weight (pbw), [2] Brookfield Viscosity @ 25°C (cP), [3] Pot life in minutes @ 25°C 100 grams mix, [4] Glass Transition Temperature (°C), [5] Pot life in hours @ 25°C 100 grams mix

Gel Coat Systems

Epotec® Surface / Gel Coat Systems are designed to provide optimum tack free time and excellent surface finish after curing process.

Epotec System	Mixing Ratio[1]	TFT[2]	Tg[3]	Features
YDGC 1651/TH 8266	100:45	2 - 3	65 - 75	Clear, moderate reactivity.
YDGC 1651 / TH 8267	100:45	4 - 5	65 - 75	Clear, slow reactivity.
YDGC 1652 / TH 8268 (pigmented)	100:15	1 - 2	125 - 135	Fast reactivity – designed for repair applications.
YDGC 1653 / TH 8269 (pigmented)	100:40	2 - 3	80 - 90	Cycloaliphatic, moderate reactivity & temperature resistance.

[1]Part by weight (pbw), [2]Tack Free Time @ 25°C in hours, [3]Glass transition temperature°C

Adhesive Epoxy Systems

Epotec® Epoxy Adhesive Systems are designed to join various similar and dissimilar substrates providing excellent adhesion over wide range of service conditions. Specialized characteristics such as thixotropy, high temperature non-sag/slump resistant make them useful for applications in windmill blades and other structural composite applications

Epotec System	Mixing Ratio[1]	Mix viscosity	Tg[2]	Features
YD1535G/TH7254G	100:45	Thixotropic paste	75- 85	Fast curing adhesive for repair applications.
YD1535G/TH7256G	100:45	Thixotropic paste	75- 85	Moderately reactive adhesive for small to medium size components.
YD1535G/TH7257G GL	100:45	Thixotropic paste	75- 85	Slow reacting toughened system for main shell bonding, designed for fast strength built -up.

[1] Part by weight (pbw), [2]Glass transition temperature°C

Expandable Epoxy Systems

Epotec® Expandable Epoxy systems are suitable for production of light weight, rigid and dimensionally stable components starting from prototypes to bulk production.

Epotec System	Mixing Ratio[1]	Foaming time[2]	Tg[3]	Cured Density (kg/m3)	Features
YD1107D130..D150/TH7152	100:25	15-20	100-110	130-150	Closed cell in-situ non CFC foam system with density 130-700kg/m^3
YD1100/TH7152	100:27	15-20	80-90	180-220	
YD1106250..D350/TH 7161	100:40	20-30	85-95	250-500	
YD1106D600/TH 7161	100:40	20-30	85-95	600-700	

[1]Part by weight (pbw),[2]100 gms mix @ 25°C in minutes,[3]Glass transition temperature°C

Flexible Epoxy Systems

Epotec® Flexible epoxy systems can be used for wide ranging applications such as decoratives- souvenir & labels, mold & patterns for RCC and PU components and to impart resilience to rigid structural components.

Epotec System	Mixing Ratio[1]	Mix viscosity[2]	Pot life[3]	Features
YD 135 / TH 7202	100:10	1,500 - 2,000	15 - 20	Fast curing system providing flexibility at lower thickness.
YD 135 / TH 8279	100:33	1,500 - 2,000	15 - 25	Low color, blush-free system with good flexibility.
YD 135 / TH 7273	100:33	3,000 - 4,000	10 - 15	Slow curing system with excellent flexibility at higher thickness.

[1] Part by weight (pbw), [2] Brookfield Viscosity @ 25°C (cP), [3] Pot life in minutes @ 25°C 100 grams mix