



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 Lloyd (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 ▶ Research Center ▶ Sales Offices

Thailand India	Thailand India Germany	Thailand India USA Europe Middle East
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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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Wind Turbine Blades
Epotec Epoxy Systems



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Epotec Systems for Wind Turbine Blades

Epotec® Epoxy Systems for Wind Energy Applications are designed to meet stringent process and application requirements and offer a unique combination of performance and cost effectiveness. The Company offers a wide range of Germanischer Lloyd (GL) certified resins & systems with product portfolio consisting of Tooling Resin Systems, Gel Coats, Resin Infusion System, Resin Systems for Prepregs, Expandable Epoxy Systems, Adhesive Systems and Hand-Lay up Systems.

Features:

- Versatile to different processes and blade designs.
- Provide optimum combination of properties under static & dynamic loading conditions.
- Robust systems
- Designed to manage process and environmental variations.

Tooling Systems

Epotec® Tooling Systems allow manufacturing of customized tools for specific uses and include systems suitable for hand lamination as well as infusion process. Low curing shrinkage enables manufacturing of precise composite tools in most complex shapes quickly and easily. The tools offer low thermal expansion and provide excellent strength to weight ratio.

Epotec System	Mixing Ratio ¹	Mix viscosity ²	Tg ³	Features
YD595/TH7295	100:30	500 - 1000	115 - 125	Moderate reactivity and temperature resistance.
YD535LV/TH7353	100:25	350 - 400	130 - 140	Moderate reactivity, high temperature resistance..
YDL574/TH7363 (RI: <20m. molds)	100:30	250 - 300	115 - 125	Low viscosity, Moderate reactivity and temperature resistance.
YDL594/TH7365 (RI: >20 m. molds)	100:35	200 - 300	115 - 125	Low viscosity, Slow reactivity and moderate temperature resistance.

¹ Part by weight (pbw), ² Brookfield Viscosity @ 25°C, ³ Glass transition temperature°C

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 and temperature resistance.

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



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.

Because of changes in conditions and circumstances the Company reserves the right, subject to all applicable laws, at any time, at its discretion, and without notice, to discontinue or changes the specifications and the prices of their products, and to either permanently or temporarily withdraw any such products from the market without incurring any liability to any prospective purchaser or purchaser. It is the sole responsibility of the user to test our products for suitability in the intended use. Always consult an authorized Epotec representative for the latest information with respect to specification, prices, and availability.


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.



Adhesive 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 	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), ²Glass transition temperature

Hand-Lay up Resin Systems

Epotec® Resin and Curing Agent System for Hand - Lay Up Resins are designed to provide optimum initial mix viscosity which enables good wetting and fibre impregnation with minimal dripping on vertical & inclined surfaces. The choice of system can be made depending on the application and curing conditions. Faster curing hardeners are preferred for repair applications.

Epotec System	Mixing Ratio ¹	Mix viscosity ²	Tg ³	Features
YD535/TH7253 - 8 	100:35	800 - 1400	75 - 90	One resin-six hardener system with fast to slow reactivity
YD580C/TH7253C - 8C 	100:33	800 - 1400	75 - 90	One resin-six hardener system with fast to slow reactivity, designed for fast strength built-up & high mechanical stiffness

¹ Part by weight (pbw), ² Brookfield Viscosity @ 25°C (cP), ³ Glass Transition Temperature (°C).

Aditya Birla Chemicals (Thailand) Epoxy division - Application development centre (ADC) mechanical and analytical testing laboratory has been accredited by Germanischer Lloyd (GL).

The accreditation is 1st of its kind in Asia (tests can be conducted without presence of GL representative) and the recognition brings ADC in the pool of top testing laboratories for composite materials. As part of the accreditation process the ADC testing facilities were audited by the GL representative for high standards of testing expertise and professional competency. The ADC team had been working rigorously with GL to meet the standards and comply with the requirements for accreditation.

Approval from GL is mandatory for qualifying materials used in Wind turbine blades and this accreditation allows certification testing to be carried out in-house thus avoiding the need to subcontract the work to other approved test houses. The company has rich portfolio of products for wind energy applications and the accreditation will enable to expedite approval of new products as well as existing products with potential customers.

About Germanischer Lloyd (GL):

GL is a global certifying agency with its head office in Hamburg, Germany and works in three major businesses: ship classification, oil & gas and renewables. In case of the wind energy, a blade manufacturer has to certify the wind turbine blades made by GL prior to their installation and hence as part of the GL protocol any material used in making the blade also needs to be certified by GL.

