



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 widely for electrical casting applications. The product portfolio also includes novel and patented systems for casting, impregnation, potting and encapsulation.

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

The company has well developed range of products for electrical applications which includes epoxy systems for Indoor and Outdoor applications suitable for vacuum casting and auto pressure gelation processes.

Manufacturing **Research Center** **Sales Offices**

Thailand India	Thailand India Germany	Thailand India USA Europe Middle East
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Our Innovative R&D Team

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

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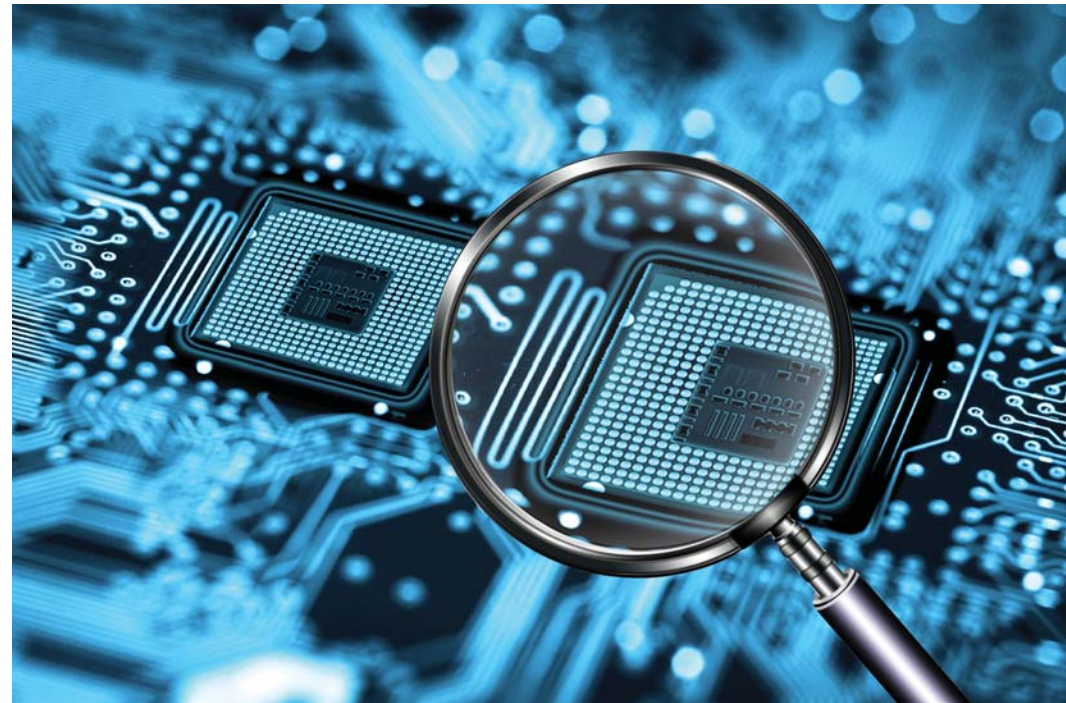
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Innovating epoxies for a better world

Electrical & Electronics Applications

Epotec Epoxy Systems



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Resin ¹	YDC 6001	YDC 6003	YDC 6003	YDC 6004	YDC 6005	YDC 6015	YDC 6030	YDC 6034	YDH 184	YDH 184	YDH 184M1	YDH 184 *	YDC 6018	YDC 6001
Curing Agent ¹	TH 7656/30	TH 7662 / 80	TH 7658 / 80	TH 7652 P1 / 80	TH 7651 / 85	TH 7652 P1 / 80	TH 7670 / 82	TH 7269/10	TH 7351 / 90	TH 7356 / 90	TH 7356P / 80	TH 7674/ 95	TH 8251 / 18	TH 7656/30
Accelerator¹	-	-	-	TA 7852 / 1	TA 7851 / 0.5 - 1.5	-	TA 7854 / 0.5 - 2	-	TA 7851 / 0.5 - 3	-	-	TA 7851 / 0.5-2.0	-	-
Flexibilizer¹	-	-	-	TP01 / 10	20(optional)	TP01 / 0 - 8	-	-	-	-	-	-	-	-
Filler (silica flour 300 mesh)¹	200	270	270	400	385	320 - 350	270	Optional	300	270	270	300	Prefilled	200
Filler loading (pbw1 filler)	61	60	60	65	65	65	60	Optional	61	61	61	61	-	61
Curing condition	Hot Cure	Hot Cure	Hot Cure	Hot Cure	Hot Cure	Hot Cure	Hot Cure	Ambient Cure	Hot Cure	Hot Cure	Hot Cure	Hot cure	Ambient Cure	Hot Cure
Processing technique	CVC	CVC, PG, APG	CVC, PG, APG	CVC	CVC, APG	CVC, PG, APG	CVC, APG	CVC	CVC, PG, APG	CVC, PG, APG	CVC, PG, APG	CVC, PG, APG	CVC	CVC
Processing temperature²	120 - 140	Ambient - 80	Ambient - 80	Ambient - 80	60 - 80	Ambient - 80	60 - 80	Ambient	40 - 80	40 - 80	40 - 80	80 - 160	RT	120 - 140
Initial viscosity of mix³	1,900/ 120 500/ 140	70,000 / 40 1,500/ 80	40,000/ 40 1,000/ 80	1,500/ 80	10,000/ 60	10,000/60 1,500/ 80	1,700/ 60	500 – 800/ 25	1,000/ 80	100/ 80	6,400/ 25 3,000/ 40 700/ 60	1000/ 80		1,900/ 120 500/ 140
Pot life of mix (< 5 kg)⁴	6/120	15 / 40 2 / 80	15 / 40 2 / 80	14 / 40 1.5 / 80	24 – 48/ 25	24 – 48 / 25	24 – 28/ 25	1.5 – 2.0 / 25 (100g mix)	1 / 80	4/ 140 1 / 80	4 / 60 1 / 80	1 / 80	0.5 / 25	6 / 120
Gel time⁵	780/ 110 330/ 130 150/ 150	270 / 80 15 / 120 8 / 140	285/ 80 14/ 120 8 / 140	100 / 80 35 / 100 15 / 120	15 – 25/ 180 4 – 8 / 140	20 / 120	80 – 90 / 120 25 – 30 / 140		4 / 140 3 / 150 2 / 160	4 / 140 3 / 150 2 / 160	11 / 120 5 / 140	10 – 15 / 100		780 / 110 330 / 130 150 / 150
Minimum cure time⁴	16 / 140	6 / 80 + 10 / 130	6 / 80 + 10 / 130	3 / 120	10 / 140	10 / 140	6 / 80 + 10 / 130	8 / 60	6 / 80 + 10 / 140	6 / 80 + 10 / 140	6 / 80 + 10 / 140	4 – 6 / 80	24 / RT	16 / 140
Minimum post cure time⁴	-	16 / 140	16 / 140	-	-	-	-	-	-	-	-	8 - 10 / 140	-	-

NOTE: CVC - Conventional Vacuum Casting, PG - Pressure Gelation, APG - Automatic Pressure Gelation, ¹ Part by weight (pbw), ² temperature in °C, ³ Viscosity measure in mPa s/°C, ⁴ Time in h/ °C, ⁵ Gel time measured in min/°C

Properties of Casting	Method	YDC 6001	YDC 6003	YDC 6003	YDC 6004	YDC 6005	YDC 6006	YDC 6015	YDC 6034	YDH 184	YDH 184M1	YDH 184 *	YDC 6018	
Tensile strength³	ISO 527	85 - 95	70 - 80	75 - 85	70 - 80	75 - 85	35 - 45	75 - 85	35 - 45	90 - 100	70 - 90	70 - 90	7 - 12	
Elongation at break⁶	ISO 527	1.1 – 1.5	1.0 – 1.5	1.0 – 1.5	0.8 – 1.2	0.8 – 1.0	2 - 4	1.1 – 1.3	3 - 6	1.7 – 1.9	1.3 – 1.5	1.7 – 1.9	1.5	
Flexural strength³	ISO 178	135 - 145	110 - 130	110 - 120	115 - 125	125 - 135	90 - 100	135 - 155	70 - 80	150 - 165	150 - 170	125 - 145	15 - 20	
Impact strength⁴	ISO / R 179	15 - 22	7 - 10	11 - 13	10 - 15	15 - 20	7 - 10	-	10 - 15	8 - 9	-	10 - 12	-	
Elastic modulus in tension³	ISO / R 527	10,000 – 11,000	9,000 – 11,000	9,000 – 11,000	12,000 – 14,000	11,500 – 13,500	15,500 – 16,000	-	2,000 – 2,500	10,000 – 11,000	10,500 – 12,000	10,000 – 11,000	1,400 – 1,800	
Deflection temperature (HDT)⁵	ISO / R 75	110 - 120	105 - 120	95 - 105	80 - 90	95 – 105	65 - 70	100 - 110	80 - 90	95 - 105	72 - 80	95 - 105	55 - 65	
Glass transition point⁵	DSC	115	110 - 125	100 - 110	90 - 100	> 70	55 - 65	100 - 110	85 - 95	100 - 110	75 - 80	100 - 115	60 - 70	
Water absorption¹ (23°C / 10 days)	ISO / R 62	0.15 – 0.25	0.10 – 0.15	0.1 – 0.2	0.1 – 0.2	0.08 – 0.12	0.4	-	0.1 – 0.2	0.1 – 0.2	0.1 – 0.2	0.10 – 0.20	0.1 – 0.4 (24 hrs)	
Tan δ at 50 Hz (23°C)⁶	IEC 60250	1.5	2.5	3	2 - 3	1 - 2	0.32 – 0.37	2 - 3	2 - 3	2	2	2	1 - 2	
Arc resistance⁷	ASTM D-495	180 - 190	182 - 186	182 - 186	185 - 195	> 180	180	180 - 190	180 - 190	185 - 190	185 - 190	185 - 190	-	
Tracking resistance (CTI)⁸	IEC 60112	> 400	> 600	> 600	> 600	> 600	400	> 600	> 600	> 600	> 600	> 600	> 600	
Electrical strength² (23°C / 50 Hz)	IEC 60243 - 1	22 - 24	18 - 20	18 - 20	18 - 22	18 - 22	18 - 22	18 - 22	17 - 21	18 - 22	19 - 21	18 - 20	19 - 22	6 - 8

¹ 60 X 10 X 4 mm test specimens (% w/w), ² 20 seconds value for 2 mm sheet in kV/mm, ³ Strength measure in N/mm², ⁴ Impact strength measured in kJ / mm², ⁵ Temperature in °C, ⁶ measured in %, ⁷ Arc resistance in seconds, ⁸ Tracking resistance in volts.