



POLYMERS
TESTING
LABORATORY



first manufacturing site, Atul, India

LEGACY

Founded in 1947 by a legendary Indian, Mr Kasturbhai Lalbhai, Atul Ltd (Atul) is one of the first chemical companies of independent India. It is the first private sector company of the country to be inaugurated by the first Prime Minister, Pandit Jawaharlal Nehru.

PROFILE

Atul is an integrated chemical company manufacturing ~ 900 products and ~ 400 formulations from basic chemicals. The Company started its journey over seven decades ago and has many firsts to its credit from textile dyes to tissue culture raised date palm plants, as it serves about 4,000 customers belonging to 27 industries. It manages complex chemical processes in a responsible way and has established fruitful and time-tested collaborations with leading multinational companies of the world.

INDUSTRIES SERVED:

Agriculture	Composites	Construction	Cosmetic	Defence	Electrical and Electronics	Fragrance
Furniture	Glass	Home Care	Horticulture	Paint and Coatings	Paper	Personal Care
Pharmaceuticals	Rubber	Soap and Detergent	Sport and Leisure	Textile	Tyre	Wind Energy

POLYMERS BUSINESS

Atul is a pioneer in manufacturing epoxy resins in India. The Company is one of the largest manufacturers of epoxy resins and hardeners in the country. It has a portfolio of world-class products that find applications in aerospace, construction chemicals, defence, electrical and electronics, paint and coatings, sport goods, stone processing and handicrafts, etc.

With expertise of 50+ years in epoxy chemistry, Atul is a trusted partner of quality solutions for leading Indian and overseas clients. The Company possesses state-of-the-art manufacturing facilities, world-class laboratories and epoxy application expertise.

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POLYMERS TESTING LABORATORY

Testing laboratory is a necessity of Polymers Business to support the manufacturing activities and extend services to customers who consume polymeric products in various applications. A fully equipped state-of-the art polymers testing laboratory is located at Atul site. The facility is ISO 17025 accredited by National Accreditation Board for Testing and Calibration Laboratories and managed by a team of highly trained and qualified professionals. It is capable to provide end to end service including cast sheet and Fibre Reinforced Plastics (FRP) laminate preparation and specimen machining through computer numerical control. Laboratory test services are offered for engineering plastics and polymers used in adhesives, aerospace, automotive, construction, defence, electrical and electronics, handicrafts, paint and coatings, ship and boat building, sport and leisure, wind power, etc.

- Our services include testing for:**
- Thermoset resin and engineering plastics
 - FRP, construction and adhesives
 - Electrical castings, potting and encapsulation
 - Performance paint and coatings



Laboratory Management System (LMS)



Quality Management System (QMS)



Environmental Management System (EMS)

Thermoset resin and engineering plastics

Parameter	ISO method	ASTM method	Other method
Physical and reactivity test			
Brookfield viscosity	ISO 2555	ASTM D2196	-
Viscosity by rheometer	ISO 6721-10, ISO 3219	-	-
Viscosity by CAP 2000+	-	ASTM D4287	-
Density and specific gravity	ISO 1675, ISO 1183-1	ASTM D792	-
Water absorption	ISO 62, ISO 175	ASTM D570	-
Colour	-	ASTM D1209, ASTM D1544	-
pH	-	ASTM E70	-
Epoxy value	-	ASTM D1652	-
Amine value	-	ASTM D2073	-
Hydrolyzable chloride content	-	ASTM D1726	-
Moisture content by coulometer	-	ASTM D6869	-
Flash point test	ISO 2719	ASTM D93	-
Melting point	-	-	Inhouse method
Turbidity	-	ASTM D7726	-
Pot life	-	-	Inhouse method
Gel time	-	-	DIN 16945
Analytical test			
Assay Purity Free reactant content by GC	-	-	Inhouse method
Assay Purity Free reactant content by HPLC	-	-	Inhouse method
Molecular weight determination by GPC	-	-	Inhouse method
Mechanical test			
Tensile test	ISO 527-2	ASTM D638	-
Flexural test	ISO 178	ASTM D790	-
Compression test	ISO 604	ASTM D695	-
Izod impact test	ISO 180	ASTM D256	-
Charpy impact test	ISO 179	-	-
Lap shear test	ISO 4587	ASTM D1002	-
Hardness test	ISO 868	ASTM D2240	-
Fatigue Cyclic test	-	ASTM D7791	-
Thermal test			
Heat deflection temperature	ISO 75-2	ASTM D648	-
Glass transition temperature by DSC	ISO 11357-2	-	-
Enthalpy by DSC	ISO 11357-3	ASTM D3418	-
Dynamic mechanical analysis	ISO 6721-11	ASTM D5023, ASTM D5026	-
Thermal conductivity test	ISO 22007-2	ASTM D7984	-
Coefficient of linear thermal expansion	ISO 11359-2	ASTM E228	DIN 53752
Weathering exposure test			
Accelerated weathering	ISO 4892	ASTM G154	-



FRP, construction and adhesives

Parameter	ISO method	ASTM method	Other method
Mechanical test			
Tensile test	ISO 527-4, ISO 527-5	ASTM D638, ASTM D3039	-
Flexural test	ISO 14125	ASTM D790	-
Compression test	ISO 14126	ASTM D695, ASTM D6641	-
Izod impact test	ISO 180	ASTM D256	-
Charpy impact test	ISO 179	-	-
In plane shear test	ISO 14129	ASTM D3518	-
Inter laminar shear test	ISO 14130	ASTM D2344	-
Lap shear test	ISO 4587	-	DIN EN 1465
Peel strength	ISO 11339, ISO 4578	ASTM D1876, ASTM D3167	-
V-notched rail shear test	ASTM D7078	-	-
Hardness test	ISO 868	ASTM D2240	-
Pull of adhesion test	-	ASTM D4541, ASTM D7234	-
Fatigue Cyclic test	ISO 13003	ASTM D3479	-
Thermal test			
Heat deflection temperature	ISO 75-3	ASTM D648	-
Glass transition temperature by DSC	ISO 11357-2	-	-
Dynamic mechanical analysis	ISO 6721-11	ASTM D7028	-
Thermogravimetric analysis	ISO 11358	ASTM E1131	-
Glass content	ISO 1172	-	-
Thermal conductivity test	ISO 22007-2	ASTM D7984	-
Coefficient of linear thermal expansion	ISO 11359-2	ASTM E228	DIN 53752
Electrical test			
Dielectric constant	-	ASTM D150	-
Volume resistivity	-	ASTM D257	IEC 62631-3-1
Surface resistivity	-	ASTM D257	IEC 62631-3-2
Tracking index	-	ASTM D3638	-
Dielectric strength	-	ASTM D149	-
Dry arc resistance	-	ASTM D495	-
Physical test			
Density and specific gravity	ISO 1183-1	ASTM D792	-
Water absorption	ISO 62, ISO 175	ASTM D570	-
Weathering exposure test			
Accelerated weathering	ISO 4892	ASTM G154	-



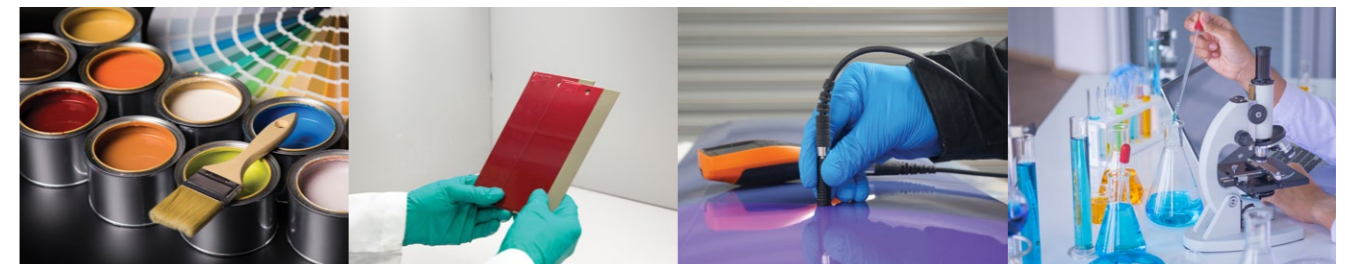
Electrical castings, potting and encapsulation

Parameter	ISO method	ASTM method	Other method
Mechanical test			
Tensile test	ISO 527-2	ASTM D638	-
Flexural test	ISO 178	ASTM D790	-
Compression test	ISO 604	ASTM D695	-
Izod impact test	ISO 180	ASTM D256	-
Charpy impact test	ISO 179	-	-
Hardness test	ISO 868	ASTM D2240	-
Fatigue Cyclic test	-	ASTM D7791	-
Thermal test			
Heat deflection temperature	ISO 75-2	ASTM D648	-
Glass transition temperature by DSC	ISO 11357-2	-	-
Enthalpy by DSC	ISO 11357-3	ASTM D3418	-
Dynamic mechanical analysis	ISO 6721-11	ASTM D5023, ASTM D5026	-
Thermogravimetric analysis	ISO 11358	ASTM E1131	-
Thermal conductivity test	ISO 22007-2	ASTM D7984	-
Coefficient of linear thermal expansion	ISO 11359-2	ASTM E228	DIN 53752
Electrical test			
Dielectric constant	-	ASTM D150	IEC 62631-2-1
Volume resistivity	-	ASTM D257	IEC 62631-3-1
Surface resistivity	-	ASTM D257	IEC 62631-3-2
Tracking index	-	ASTM D3638	IEC 60112
Dielectric strength	-	ASTM D149	IEC 60243-2
Dry arc resistance	-	ASTM D495	IEC 61621
Rheological test	-	-	-
Brookfield viscosity	ISO 2555	ASTM D2196	-
Complex viscosity by rheometer	ISO 6721-10	-	-
Viscosity by rheometer	ISO 3219	-	-
Physical and reactivity test			
Pot life	-	-	Inhouse method
Gel time	-	-	DIN 16945
Glass content	ISO 1172	ASTM D3171	-
Density and specific gravity	ISO 1675, ISO 1183-1	ASTM D792	-
Water absorption	ISO 62, ISO 175	ASTM D570	-
Weathering exposure test			
Accelerated weathering	ISO 4892	ASTM G154	-



Performance paints and coatings

Parameter	ISO method	ASTM method	Other method
Paint test			
Cathodic disbondment test	ISO 21809	ASTM G8, ASTM G42	-
Flexibility (conical mandrel) test	ISO 6860	ASTM D522	-
Humidity exposure test	-	ASTM D2247	-
Impact test	-	ASTM D2794	-
Neutral salt spray test	-	ASTM B117	-
Pull-off adhesion test	ISO 4624	ASTM D4541	-
Tensile test	-	ASTM D882	-
Cupping test	BS EN ISO 1520	-	-
Stormer viscosity	-	ASTM D562	-
Film hardness by pencil test	ISO 15184	ASTM D3363	-
Fineness of grind	ISO 1524	ASTM D1210	-
Coating thickness (dry film)	-	ASTM D7091	-
Anti-skid test	-	ASTM E303	EN 13036-4
Cross-cut adhesion test	ISO 2409	ASTM D3359	-
Sag resistance of paints	-	ASTM D4400	-
% Volume solids	-	ASTM D2697	-
Metallic zinc content	-	ASTM D6580	-
Immersion testing of industrial protective coating	-	ASTM D6943	-
Resistance of plastics to chemical reagents	-	ASTM D543	-
Surface resistivity	-	ASTM D257	IEC 62631-3-2
Tracking index	-	ASTM D3638	-
Dielectric strength	-	ASTM D149	-
Dry arc resistance	-	ASTM D495	-
Density and specific gravity	ISO 2811-1	ASTM D1475	-
Water absorption	ISO 62, ISO 175	ASTM D570	-
Accelerated weathering	ISO 4892	ASTM G154	-





INDIA

Head office

Atul 396 020, Gujarat
India
✉ contact@atul.co.in
☎ (+91 2632) 230000
🌐 www.atul.co.in
📌 www.facebook.com/AtulLtd

Registered office

Atul House
G I Patel Marg
Ahmedabad 380 014, Gujarat
India
✉ shareholders@atul.co.in
☎ (+91 79) 26461294

Mumbai office (Goregaon)

Floor 15, C wing
Lotus Corporate Park
Western Express Highway
Goregaon (East)
Mumbai 400 063, Maharashtra
India
✉ polymers@atul.co.in
☎ (+91 22) 62505200

Mumbai office (Dadar)

Atul House
310-B, Veer Savarkar Marg
Dadar (West)
Mumbai 400 028, Maharashtra
India
☎ (+91 22) 62559700

OUTSIDE INDIA

Atul Brasil Quimicos Ltda

Avenida Ipiranga, 318
Conjunto 1.001
Bloco A - Bairro República
São Paulo (SP), CEP 01046-010
Brazil
✉ contact@atulbrazil.com
☎ (+55) 11910091984

Atul China Ltd

Room number 806
Building 2E
686 Wuzhong Road
Shanghai 201103
China
✉ contact@atulchina.com
☎ (+86 21) 64753255

Atul Europe Ltd

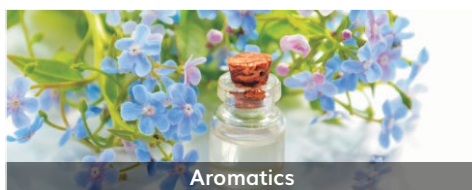
1 | B Dean Row Court
Summerfields Village Centre
Dean Row Road
Wilmslow SK9 2TB, Cheshire
United Kingdom
✉ contact@atuleurope.com
☎ (+44 1625) 539209

Atul Middle East FZ-LLC

Office number 43, Floor 3
Nucleotide Complex
Dubai Science Park, Emirates Road
Al Barsha South
Dubai PO Box 500767
United Arab Emirates
✉ contact@atuluae.com

Atul USA Inc

6917 Shannon Willow Road, # 400
Charlotte, NC 28226
United States of America
✉ contact@atulusa.com
☎ (+1 704) 540 8460



Aromatics



Bulk Chemicals and Intermediates



Colors



Crop Protection Bulk Actives



Crop Protection Retail



Floras



Pharmaceuticals and Intermediates



Polymers Performance Materials



Polymers Retail



Lalbhai Group

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