



Automotive solutions from Reliance Polymers
Making the road ahead smoother



Reliance Industries Limited

Reliance Industries (RIL), led by its Chairman & Managing Director, Mukesh D. Ambani, is India's largest private sector company on all major financial parameters with a sales turnover of USD 34 billion.

RIL is India's largest exporter with exports constituting nearly 56% of its revenues. It straddles various sectors like oil & gas, refining, petrochemicals, polymers, polyesters, chemical intermediaries, textiles, organised retail and SEZs. Since 2004, RIL is the first and only private sector company from India to feature in the Fortune Global 500 list of the 'World's Largest Corporations'. It ranks amongst the world's top 200 companies in terms of profits and is amongst the top 25 climbers.

Reliance Polymers

Reliance Polymers is one of the world's largest producers of polymers with a current capacity of 3.5 MMT per annum and massive expansion plans underway. It operates world-scale plants for Polypropylene (PP), Polyethylene (PE) and Polyvinyl Chloride (PVC), using state-of-the-art technology, setting global benchmarks in product quality and services.

A wide range of grades in each category provides avenues for diverse applications across agriculture, automotive, building & construction, healthcare, infrastructure, lifestyle and packaging. Superior technological strength, strong focus on R&D, IT-enabled services to support supply chain management and end-to-end solutions offered across the value chain bear testimony to its commitment to customer satisfaction.



Polypropylene



If it can be imagined, Reliance Polymers can help convert it into a business success. That's ideation. And Repol Polypropylene, with its versatility, does just that - providing new cost-effective applications, across various sectors, through innovation, customisation and material substitution.

As the 7th largest manufacturer of Polypropylene (PP) in the world, Reliance Polymers offers a wide range of Repol Homopolymer, Random and Impact Copolymer grades. With a capacity of over 1.8 MMT per annum and an expansion plan of 900 KT by 2009, the scope for new applications is infinite.

Polyethylene



If it is essential for life, Reliance Polymers helps keep it safe. That's protection. And Relene Polyethylene with its variety of secure applications does just that - ensuring maximum protection of everything that matters. Reliance Polymers offers the entire range of Relene Polyethylene (PE) viz. High Density Polyethylene (HDPE), Linear Low-density Polyethylene (LLDPE) and Low Density Polyethylene (LDPE) with a combined capacity of 1.1 MMT per annum.

Relene HDPE is available in a wide range of densities and melt flows to match demanding applications like high-pressure pipes, telecom ducts, carrier bags, woven sacks, caps, closures, injection and blow moulded products.

Polyvinyl Chloride



If it's natural and invaluable, Reliance Polymers can help conserve it. That's preservation. And Reon Polyvinyl Chloride does just that - protecting our natural resources and life itself - by being the ideal substitute for traditional materials used in agriculture, construction and healthcare.

Reliance Polymers is India's largest manufacturer of suspension grade Polyvinyl Chloride (PVC), with a capacity of 625 KT per annum across a wide range of viscosities. State-of-the-art manufacturing technology ensures consistency in the resin quality.

Reliance Polymers' solutions for the Automotive Industry

Driving the future

Global automotive industry embraced plastics worldwide due to its inherent advantage of lighter weight, resistance to corrosion and design friendliness. Polyolefins, specially Polypropylene takes a leading role in replacing metal components for better functional properties and cost reduction. Polyolefins also satisfy the growing demand for environment friendly products, enhanced safety standards, increased comfort and better fuel economy.

Reliance Industries Limited is fully committed to the automotive industry with all its expertise in material selection of high performance composites available for interior, exterior and under-the-hood applications. Reliance Industries Limited is also rendering help to OEMs in localisation of resin and providing solutions for the replacement of costly engineering plastics and metals. At Reliance we take up these challenges to support our customers and end users.

Solutions for the Passenger Vehicle segment



Interior Systems – Dashboard and Cluster System

Quality finish, feel and aesthetics

- Centre of all aesthetic appeal, yet demands high functional performance
- High stiffness and impact balance
- Crash impact requirement
- Minimum possible thermal expansion, emission, fogging and odour



Repol PP for Dashboard and Cluster System:

- High MFI and good processability resulting in higher productivity
- Low rejection level
- Excellent stiffness-impact balance, a criterion required for crash impact test
- Low gloss and high-quality surface in any pre-designed texture

Interior Systems - Doors/Pillar Trims

Reliability, noise resolution merit and comfort



- Aesthetic appeal, sound-proof merit
- Colour consistency
- Reasonable stiffness and impact balance
- Minimum possible thermal expansion, emission and fogging

Repol PP for Doors/Pillar Trims:

- Good processability
- Reactor grades for direct moulding
- Low rejection level
- Good stiffness and impact balance
- Low gloss and high-quality surface in any pre-designed texture



Exterior Systems

Reliability, durability and paintability

- No-break impact properties and high stiffness are principal design criteria in new generation vehicles
- Smooth surface finish along with good processability
- Paintability and weatherability criteria to withstand extreme environments such as acidic, alkaline, highly humidic conditions, etc.
- Crash Impact requirement
- Minimum possible thermal expansion



The Repol PP solution for Exterior Systems:

- Good processability and high Mould Flow Index
- High Spiral Flow characteristics
- Reactor grades with no Break Impact
- Low rejection level
- Low gloss and high-quality surface in any pre-designed texture
- Good paintability on compounded products



Reliance Polymers: A basket of polymers and grades to suit your every need

Reliance Polymers offers the entire range of polymers and speciality grades, each with its own speciality features that are designed to meet your every requirement:

Repol PP

- Excellent impact stiffness balance
- High thermal resistance
- High chemical resistance
- High melt flow
- Excellent processability

Relene PE

- Excellent flexibility
- Good ESCR
- Excellent chemical resistance
- Good barrier properties
- Excellent processability

Reon PVC

- Inherently flame retardant
- Both rigid and flexible applications
- Cost effective and economical
- Good paintability on compounded products

Polypropylene Components



The opportunities to include high-performance polymers into your vehicles are endless. Here are just a few of the automotive components and parts that have been made using polymers from Reliance Polymers.

Polymer	Passenger Vehicles	Two Wheelers	Commercial Vehicles
Repol PP	<p>Exterior Systems Front & Rear Bumper, Radiator Grill, Mirror Housing, Body Side Moulding, Cowl Grills, Head Lamp Housing</p> <p>Interior Systems Dashboard and Cluster parts, Steering Wheel, Console, Pillar Trims (A,B,C,D), Door Trims, Rear Qtr. Trim, Body Trim parts, Glove Box Assembly, Dashboard Ornament Parts, Arm Rest, Rocker Panels</p> <p>Under-the-Hood Systems Water washer tank, Battery Casing & Lid, Radiator Fan, Break Fluid Reservoir, Air Filter Housing, Coolant Tank</p>	<ul style="list-style-type: none"> Fender Rear Seat Base Air Filter Assembly Utility Box Assembly Battery Casing and Lid Helmet Box Floor Panel Handle Cover Rear Cowl L,R,C Handle Inner Leg Shield Rear Side Panels Shroud Inner Cooling Fan Chain Cover & Extension 	<ul style="list-style-type: none"> Front Panel Bumper Fascia Dashboard Radiator Grill Driver Cabin Panels Door Trim Head Lamp Housing Air Filter Assembly Front Shield and Mudguard (3-Wheelers) Coolant Tank Engine Shield Radiator Fan & Shroud Battery Casing and Lid Bus Seat (IM)
Relene PE	<ul style="list-style-type: none"> AC Duct Demist Ducts Oil Tank Front Scuff Plate Resonator Air Venting Armrest Mud Flap Fender Liner 	<ul style="list-style-type: none"> Fuel Tank (Blow Moulded) 	<ul style="list-style-type: none"> Tractor Fuel Tank Bus Seat Air Duct Engine Shield Wheel Arch
Reon PVC	<ul style="list-style-type: none"> Horn Pad Fuel Tube Upholstery and Roofing Weather Strip Soft Skin on Interior Panels Wiring Harness 	<ul style="list-style-type: none"> Handle Grip Seat Cover Air Duct 	<ul style="list-style-type: none"> Mud Flap Seat Cover Wiring Harness



Reliance Polymers – The 360° advantage

The 360° Partnership is a commitment by Reliance Polymers to its customers. A customer-focused initiative for growth that takes care of the value chain from 'Molecule to Marketplace'. In this industry, it plays a vital role in product development, development of next-generation materials and vendor development. Reliance Polymers brings together people, knowledge, technology partnerships and innovation to support development.

Taking polymers further through innovation

Today, Reliance Polymers is India's leading name in polymers and a force to reckon with, globally. Thanks to its knowledge base, deep understanding of the polymers business and markets and of course, its people. With a highly specialised and dedicated team comprising polymer technologists, engineers and sector specialists working to your advantage, the opportunities are truly endless.

The Polymer Research & Technology Centre (PRTC) at Mumbai is a centre of excellence that is committed to the development of advanced technologies, new products and applications, leading to creation of Intellectual Property. PRTC collaborates with several national and international research agencies.

The PRTC is supported in its endeavours by Materials & Engineering Research, R&D groups at Mumbai, Hazira and Vadodara and the Product Application & Technology group. Not to mention the pilot plant for PP at Hazira and for polyolefins at Vadodara that support all R&D and new product testing initiatives.

On the anvil is also a specialised Automotive Design Cell for design support using Unigraphics, CATIA and Mould Flow Analysis, to further help automobile majors and OEMs to meet their objective of replacing metal with plastics.

Reliance Innovation Leadership Centre

A first-of-its-kind initiative from Reliance Industries, the Innovation Leadership Centre - based in Pune - is an effort that drive the implementation of innovation strategies in operations and in the Research and Technology domains. The guiding council of the Centre will have some of the world's leading thinkers and Nobel Laureates in the field of science, technology and innovation practitioners as its members helping propel RIL to the forefront of global business leadership.



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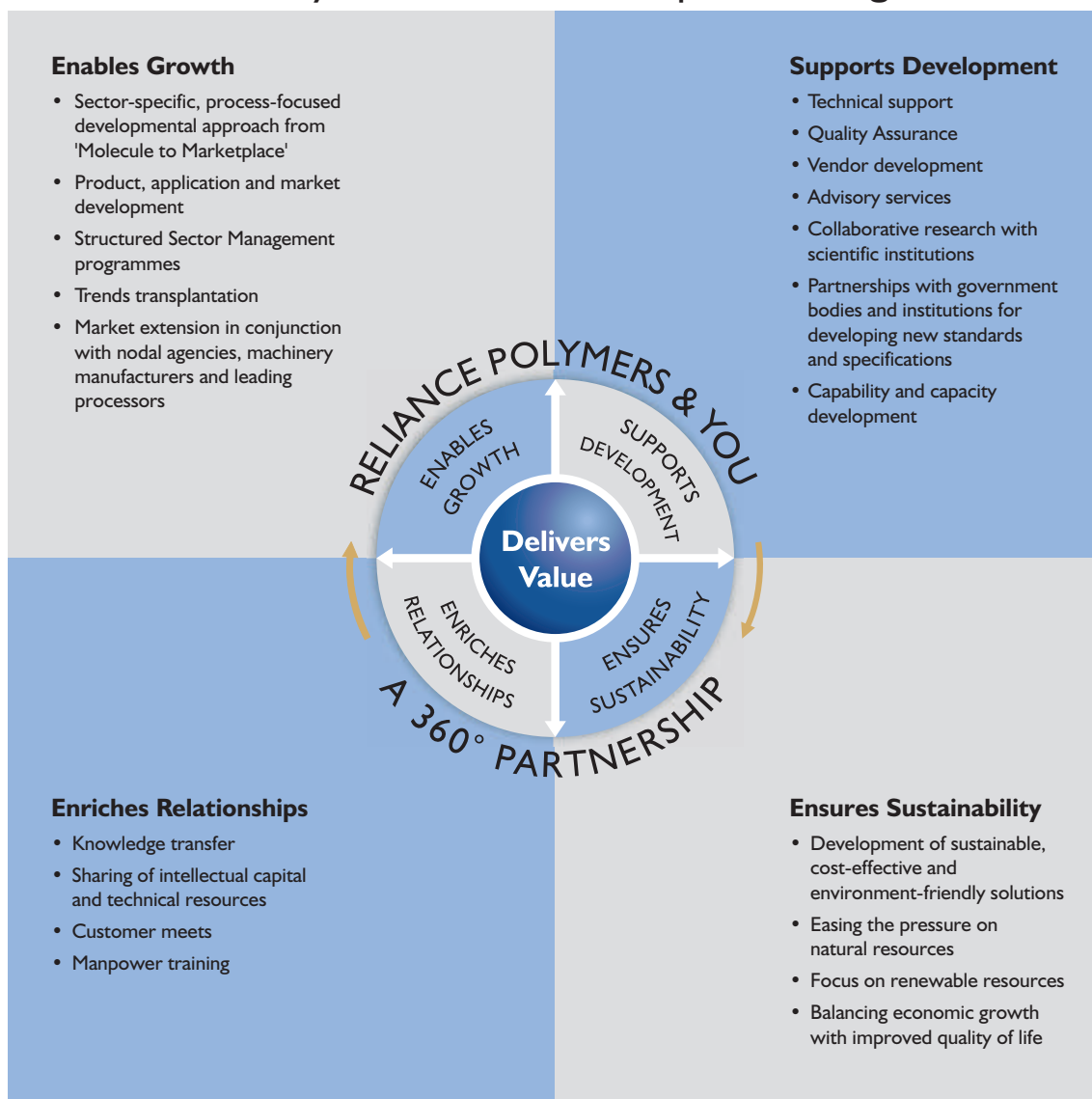
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Reliance Polymers 360° Partnership. Delivering Value.



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