

Hot Curing

The Way To Automation & Quality



The HITE Series

Specially formulated for High Temperature cured products

C'POL Innovations
From



CREST COMPOSITES & PLASTICS PVT. LTD.

CREST COMPOSITES, one of India's most respected and leading companies in the arena of composites and polymer resin technology, offers a wide and diverse range of exclusive and high quality solutions for resin applications.

The company has an established presence, both in the country and abroad, and are known as innovators. With extensive R&D operations as one of its key areas, **CREST COMPOSITES** is ideally positioned to develop unique tailor made products and solutions to meet user specific requirements and provide them with higher value.

Based in Kheda, Gujarat, **CREST COMPOSITES** has, in the last decade, been a pioneer in the areas of providing innovative and customized solutions and has been the path breaker of many original and distinctive products. Its long list of delighted customers is in itself a testimony to the company's commitment to quality and surpassing clients' objectives and expectations.

Keeping pace with a rapidly advancing world, **CREST COMPOSITES** has technical collaborations with internationally reputed premier resin manufacturers to ensure they are always updated with the latest and best in resin technology.

CREST COMPOSITES has carved a unique niche for itself in the world of composite resins, not just by being diligent, but also, by being distinctively different.



HOT CURE RESINS & PROCESSES

Over the past few decades a majority of FRP composite products have been traditionally hand moulded. The main drawbacks of these processes were problems of non-uniform composite thickness, low composite strength, low production volumes, high manpower requirement, poor finish and high raw material cost.

These drawbacks are overcome by the use of a variety of Automated processes that are less manpower intensive and amenable to mass production. High temperature cure resins facilitate faster curing cycles and thus improve productivity. The different processing techniques used in the high temperature cure Automated processes are Pultrusion / SMC / DMC / BMC / Mouldtrusion etc.

CREST COMPOSITES offers the HITE Series, unique and exclusive resins for these processes that have established themselves as consistent high quality and high performance products.

PULTRUSION – Resin Selection

Pultrusion is a unique continuous process which facilitates the manufacture of FRP composites profiles that are superior to metal in many ways. **CREST COMPOSITES** offers an ideal range of resins specially formulated for the Pultrusion industry. These products have been successfully used by some of the eminent Pultruders of the country for over a decade now.

Unsaturated Isophthalate / Terephthalate Polyester Resins

Pultruded products manufactured using resin based on Isophthalate / Terephthalate Polyester have superior resistance to water and acids. Terephthalate resins have similar performance as Isophthalic acid based resins but are distinctive in their higher heat distortion temperature and improved gloss & finish.

The following HITE series Isophthalate / Terephthalate Polyester resins are ideal for pultrusion processes:

- **C'POL H311** – Pultrusion grade, Isophthalate resin.
- **C'POL H341** – Modified pultrusion grade Isophthalate resin with high HDT.
- **C'POL H211** – Pultrusion grade terephthalate resin with superior gloss.
- **C'POL H251** – Pultrusion grade terephthalate resin with high line speed and good mechanical properties.
- **C'POL H251M** – DCPD modified pultrusion resin with good electrical insulating properties.
- **C'POL H291** – High reactive terephthalate resin, recommended for Mouldtrusion.
- **C'POL H391** – High reactive Isophthalic resin, recommended for Mouldtrusion.

Detailed specifications of all products are available on request.

Vinyl Ester Resins

Crest Composites offers Vinyl Ester resins based on difunctional Bisphenol Epoxy for pultrusion processes. Due to the secondary hydroxyl group, these resins are slightly more difficult to process in comparison to UPB and require higher level of mould release agent & higher pulling force. Pultruded profiles using Vinyl Ester resin offers higher resistance to Acids and Alkalies at room and elevated temperatures and have better mechanical properties.

- **C'POL H701** – Pultrusion grade Vinyl Ester resin with good chemical resistance.
- **C'POL H741** – Pultrusion grade Vinyl Ester resin with high line speed and superior finish, recommended for large pultruded sections.
- **C'POL H771** – High reactive Vinyl Ester resin, recommended for Mouldtrusion.

Detailed specifications of all products are available on request.

Phenolic Resins

Phenolic resin resins are being successfully used in the pultrusion process. Owing to the high cross-linking density and aromatic content, phenolic resins have a high heat distortion temperature. The main advantage of Phenolic pultruded composites are outstanding fire resistance properties and superior performance at high temperatures.

The following **HITE series Phenolic resins** are ideal for pultrusion processes:

- **C'NOL H111** – Phenol formaldehyde resin for pultrusion application.

Detailed specifications of all products are available on request.

Isophthalate Resins

Structural parts of excellent strength, toughness and insulating property can be made with SMC & DMC composites based on Isophthalate polyester. Isophthalic resins with a very high level of unsaturation are typically used for high performance systems.

The following **HITE series resins** based on **Isophthalate** polyester are ideal for use in SMC / DMC applications:

- **C'POL H 381-01** – High reactive, medium viscosity resin with good electrical and mechanical properties.
- **C'POL H 381-02** – High reactive, medium viscosity resin exhibiting increased toughness, crack resistance and resilience.
- **C'POL H 381-03** – High HDT resin with good mechanical properties & good surface finish.

Detailed specifications of all products are available on request.



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Acrylic Resins

Crest Composites also offers acrylate resins for pultrusion application. The resin is specially designed to facilitate higher filler loading and very high line speed. Pultruded profiles using acrylate resins exhibit outstanding mechanical properties, superior surface finish and good chemical resistance properties. High filler loading will enable product economy and ability to impart flame retardancy using non-halogenated additives.

The following **HITE series Acrylate** resins are ideal for pultrusion processes:

- **C'POL H841** – Pultrusion grade acrylate resin.

Detailed specifications of all products are available on request.

Terephthalate Polyester

SMC / DMC products manufactured using Terephthalate Resins show good mechanical properties, thermal stability, chemical resistance and good finish.

The following **HITE series resins** based on **Terephthalate** polyester are ideal for use in SMC / DMC applications:

- **C'POL H281** – High reactive, medium viscosity resin with high HDT and excellent finish.

Detailed specifications of all products are available on request.

SMC / DMC – Resin Selection

Today Sheet Moulding Compound (**SMC**) & Dough Moulding Compound (**DMC**) processes are accepted as the best for manufacturing high quality, good finish and yet economical composites for the Automotive, Electrical and Construction industries.

The HITE range offers an array of high performance resins for SMC & DMC applications. The Resins are based on different chemistries to suit the performance requirements.



Vinyl Ester

For use in SMC process, vinyl ester resins are modified by introducing functionality into the vinyl ester molecules. This resin has a rapid B-Staging rate, better rheology, good glass wettability, excellent mechanical properties and retention of properties at high temperature.

These unique features make it particularly suitable for manufacture of under-the-bonnet automotive components and for the chemical industry.

The following HITE series Vinyl Ester resins are ideal for SMC / DMC applications:

- C'POL H 761 – Medium viscosity resin with good mechanical properties.
- C'POL H 781 – Medium viscosity Vinyl Ester resin with high HDT and outstanding performance at high temperature.

Detailed specifications of all products are available on request.

INNOVATION AND PRODUCT DEVELOPMENT – THE R&D FOCUS

Crest Composites has always been driven by a basic philosophy – to go beyond producing and selling run-of-the-mill products and to move up the value chain by providing innovative and customised solutions and answers to customer requirements.

Product development and solutions always being in the spotlight, **CREST COMPOSITES** has extensive **R&D operations** – one of the key areas of the Company. The state of the art R&D facilities with its team of committed and competent experts from the field of polymers and resins, form the hub of the Company's operations and focus on developing –

- Unique and novel products that would provide higher value to the user.
- With composites replacing metal parts in the Automobile industry, the emphasis is to formulate resins that can be used for composites and take care of parameters like strength and its retention at high temperature, surface finish and aesthetics, chemical resistance etc.
- The construction industry is moving towards Pultruded sections in place of steel members. A key objective is to develop resins that ensure composites with properties that would include strength, alkali resistance, flexural modulus, high life cycle etc.

With quality, speed and cost being of paramount importance, the future belongs to automation. Recognising this, CREST COMPOSITES has made automation & high temperature applications in the composite industry as one of its focus areas. With a background of extensive research and understanding customers' requirements, the company's HITE series of the C'POL range is specially formulated for high temperature curing for a diverse range of applications.



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