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SUSTAINABLE RESINS

Polyplex 473E

Recycled PET Resins – Paving the way for more sustainable composite applications



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Revolutionize sustainability with Recycled PET Resin Solutions

This Brochure:

The purpose of this brochure is to present the outcome of our efforts within the pillar of renewable sourcing offering a range of resins containing renewable raw materials. In a time when environmental consciousness and resource conservation are paramount, recycled PET offers a compelling alternative that combines innovation, economic viability and ecological responsibility. Explore the remarkable journey of PET, from its initial use as packaging material to its reincarnation as high-quality resin, paving the way towards a greener future.

Sustainability:

A fivefold focus for a new tomorrow - the pillars of our sustainability program. these pillars form the basis of allnex’s sustainability program, which covers all aspects from product development, raw material sourcing and manufacturing to supply chain management and customer service. The pillars stand for the circularity that is at the core of all our considerations, defining both how we plan and execute our activities.



- Circular Economy**
We diligently explore options to limit the consumption of resources, keep them in use as long as possible, and eventually recover and recycle them at the end of service life.
- Renewable Sourcing**
We aim at minimal use of finite resources and strive to reduce climate impacts by looking at renewable alternatives for raw materials and the energy we use.
- Energy Efficiency**
We design our product and manufacturing process in a way that enables maximum efficiency in energy utilization across the product lifecycle.
- Safer Materials**
We are committed to making the substitution of potentially harmful chemicals by safer options one of our guiding considerations.
- Emissions Reduction**
We work to reduce the emissions of volatile organic solvents across the product lifecycle to protect people and the environment.

What are Recycled PET (Polyethylene Terephthalate) Resins

rPET (Recycled PET) based unsaturated polyester resins are Terephthalic Unsaturated Polyesters produced using RPET as a starting raw material – instead of Terephthalic Acid as used in the conventional polymer production.

Terephthalic Unsaturated polyesters are generally formulated to provide superior water & chemical resistance and superior physical and mechanical strength properties – compared to typical orthophthalic and isophthalic unsaturated polyesters.

PET Resin Objective

rPET (Recycled PET) flake is sourced from a local recycled plastics supplier in Australia aligning this project with the allnex sustainability objectives.

There is potential for a significant increase in the volume of PET conversion in the manufacture of these resins in Australia. Every drum of Polyplex 473E resin will contain the equivalent of approximately 2770 recycled plastic bottles, reducing waste and promoting environmental sustainability.

Our aim is to initially consume at least 100MT of waste PET per annum typically from recycled water and other plastic bottles converting into a more sustainable, Terephthalic UPE resin for structural composite applications.

COMPOSITES PRODUCT GUIDE

Polyplex 473E is an unsaturated polyester resin produced by using recycled PET (Polyethylene terephthalate) as a starting raw material and has been formulated on approximately 23% PET content.

Polyplex 473E variants have been specially developed for use in vacuum infusion moulding composite applications. Variants contain black or white pigment, and are pre-promoted for ambient temperature curing using MEKP catalyst.

Product	Renewable PET Content (wt%)	Viscosity @ 25°C	Geltime (minutes)	Heat Distortion Temperature °C
Polyplex 473E 25	25	180 - 220	20-25	98
Polyplex 473E Black 25	23	180 - 220	20 - 25	98
Polyplex 473E White 25	21	180 - 220	20 - 25	98

For more information please request a Technical Data Sheet, contact your allnex Sales Representative or call our Customer Service Team on 1800 789 607.