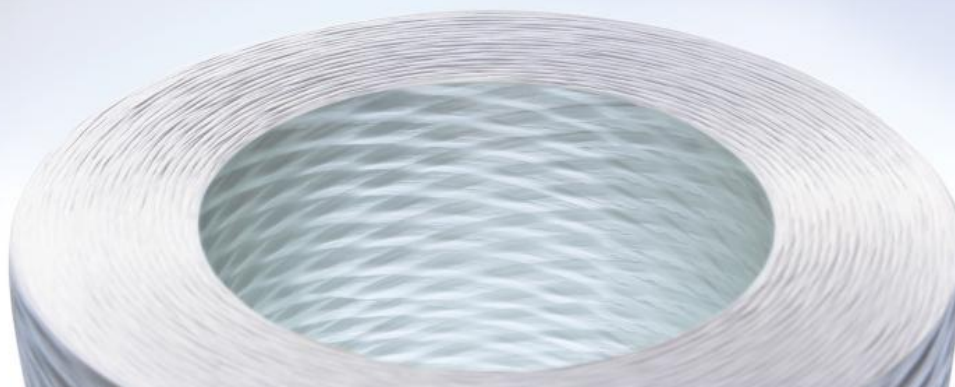


Wide Range of Type IV Composite LPG Cylinders Manufactured by Supreme in India Using Advantex® Glass from Owens Corning



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The Supreme Industries Ltd., one of India's largest plastics processors, has opened a state-of-the-art facility at Halol (Gujarat) for the manufacture of Type IV composite LPG cylinders featuring a high-density polyethylene (HDPE) body wrapped in an epoxy impregnated filament of strong Advantex® glass fiber roving.

CHALLENGES

Beyond superior handling and aesthetics over comparable steel cylinders, the composite solution also needed to lend itself to a highly automated and robotized manufacturing process. Supreme's Halol factory was designed for an annual capacity of up to 500,000 cylinders, meeting the needs of a rapidly growing demand for lightweight liquid petroleum gas (LPG) transportation and storage containers in Asia, with particular focus on household and automotive installations.

SOLUTIONS

The composite cylinders, commercialized under the brand name of Kavach™ ("armor"), are composed of an HDPE liner produced on a large Kautex KBS blow molding machine and then wrapped with resin soaked Advantex® 158B glass in a robotized filament winding station. An HDPE boss with a threaded brass insert for the gas valve is then automatically welded onto the body. Once cured, this design provides a strong, explosion, leakage and corrosion resistant cylinder body in line with all pertinent safety regulations. An injection molded PE outer case adds impact protection and color. The recess pattern of the case permits a clear view of the gas level in the translucent body.

"After evaluating various options, Owens Corning's Advantex® glass gave us the best combination of strength-to-weight and efficient processability for the reinforcement layer of our composite LPG cylinders," says SJ Taparia, Executive Director of The Supreme Industries Ltd. "The high and consistent quality of the glass fibers also helped us to speed up the process of obtaining all the regulatory approvals on time for the start-up of commercial production."

KAVACH™ PROJECT DATA

- Type IV composite LPG cylinders were designed and developed by Kautex Maschinenbau and manufactured in India
- Fully automated and robotized production, certified to ISO 9001, ISO 14001 and OHSAS 18001
- Up to 500,000 cylinders per year
- Composite body with inner liner in HDPE, wrapped in epoxy resin impregnated Advantex® glass rovings
- Six different sizes from 5 to 33.3 liters

Wide Range of Type IV Composite LPG Cylinders Manufactured by Supreme in India

USING ADVANTEX® GLASS FROM OWENS CORNING



TURNKEY FACILITY

The Type IV composite LPG cylinder facility of The Supreme Industries Ltd. at Halol in the State of Gujarat was commissioned as a turnkey factory with Kautex Maschinenbau (Germany) acting as general contractor for all processing equipment, including blow and injection molding machinery as well as six-axis handling robots.

Founded in 1942, Supreme is an acknowledged leader of India's plastics industry and operates 25 plants in the country for a wide range of different applications, from furniture and materials handling products to piping and films. The introduction of the Kavach™ LPG cylinders marks yet another step in the company's history of innovation and success.

BENEFITS

- Less than half the weight of conventional LPG steel cylinders
- Explosion proof and non-corroding
- Translucent composite body for visual gas level control
- UV stable outer case
- Enhanced aesthetics and ergonomics
- Stackable
- Recyclable
- Fully certified to ISO 11119-3 / EN 12245, PESO, KGS, KEBS and ESMA
- TPED π mark

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