



Introducing 'Fit N Forget'
Storage Tanks

RELX
COMPOSITES

FRP STORAGE TANKS
FOR FUEL / WATER

INTRODUCTION

Reliance Composite Solutions, a leader in the field of composites in India, provides high-quality engineered advanced composite solutions under the brand RelX™. We manufacture glass reinforced polymer (GRP) and other fibre reinforced polymer (FRP) composites for applications across a wide range of market segments such as Mass Transport, Infrastructure, Industrial, Telecommunications & Power Transmission and Renewable Energy. Our operations include design, manufacturing, commissioning and executing state-of-the-art, tailor-made composite solutions.

Our composites are made at one of the world's most integrated production sites in Vadodara, Gujarat. This allows us to become a one-stop shop for all advanced composite materials needs across the value chain. RelX™ composite materials encourage infinite possibilities of creation. They are strong, lightweight, resistant to corrosion, resistant to flammability, smoke & toxicity. Therefore, RelX™ composites are proven to offer a distinct edge over conventional materials such as steel, aluminium, wood, etc. and are considered as future-oriented advanced materials.



Reliance Composite Solutions – Vadodara, Gujarat

RELX™ FRP TANKS

Our durable and environmentally sustainable Underground FRP storage tanks are used in the Oil & Gas industry for safely storing petroleum products and can also be used for storing non-potable water.

Some other applications of our storage tanks are mentioned below:

Above Ground

- Chlor-Alkali Industry
- Treatment Plants (ETP / STP)
- Chemical Storage (Process Industry)

Underground

- Fuel Storage
- Fire Protection Water
- Septic Systems

Our product portfolio includes both single and double wall FRP Underground storage tanks ranging from 20 KL to 54 KL capacities.

Product Portfolio

Tank Configuration	Tank capacity	Tank ID	Total length	Empty Weight
Double Wall	(KL)	(mm)	of Tank (mm)	of Tank (Kg)
	20	2400	5488	1900
	30	2400	7834	2500
	45	2400	11368	3300
	45 Partition	2400	11529	4700
	50	3000	8539	4300
	54	2500	12230	6200
	54 Partition	2500	12230	7400
Single Wall	30	2400	7650	1950
	40	2400	10050	2350

We offer customized tank solutions as well, apart from the standard tank configurations for both Above Ground & Underground Applications



WHY RELX™ TANKS

- They are designed for both single wall and double wall configurations. Double wall tanks are equipped with the latest and most advanced vacuum type of interstitial space monitoring system for leak detection.
- RelXTM FRP tanks are environment-friendly as they immediately detect any leakage and prevent contamination of the surrounding water table from seepage of petroleum products.
- RelXTM double wall tanks are also designed for single or multiple compartments offering flexibility to customers to store different petroleum products simultaneously.
- Using fiberglass reinforced polymer instead of traditional material prevents internal corrosion caused by storage of petroleum products, while keeping the tanks lightweight
- These tanks can be easily installed and commissioned, and can remain in service for a long time duration.



Filament
Winding
Shed



HFW machine
for shell pipe
reduction



Extraction
machine
for shell pipe
extraction



Shell pipe
mandrel/mould

MANUFACTURING PROCESS

ReIX™ FRP tanks are manufactured using Helical Filament Winding process which enables the strength to distribute in desired directions thereby optimizing the orthotropic nature of composites. We have a highly qualified team to design the product as per the customers' requirement. We take multiple steps to ensure high accuracy and precision in our product quality.

- Design calculations and drawings are validated to ensure minimum 25 years of life
- Design calculation by developing Excel calculations for Underground Storage Tank as per EN 13121-3
- FE analysis of Underground storage tank for stress for various loading conditions
- Extensive testing and correlating the data with calculations and FEM
- Testing and validation as per UL 1316 and as per additional testing requirement of the customer
- Material accelerated testing to confirm minimum 25 years life
- Design incorporates advance accessories like Plum Bob

GLOBAL STANDARDS FOLLOWED

तार-: "विस्फोटक", नागपुर
Telegram: 'EXPLOSIVES', Nagpur
Website: <http://peso.gov.in>
Email: explosives@explosives.gov.in

दूरभाष / Telephone: 0712 2510248

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कार्यालयीन उद्देश्य के सभी पत्रादि
"मूख्य विस्फोटक नियंत्रक" के पदनाम से
शेडे जाए उनके व्यक्तिगत नाम से नहीं।
All communications intended for
this Office should be addressed to the
'Chief Controller of Explosives' and
NOT to him by name.



संख्या /No. P-6(5)Reliance/2019
दिनांक /Nagpur, dated: 10/07/2019

To, ✓
M/s. Reliance Industries Limited,
(Vadodara Composites Division)
Village Asej, Vadodara-Halol Expressway,
Taluka Vadhodiya, Gujarat-391510.

Sub: Approval for Manufacture of 30 KL & 40 KL FRP underground Storage Tanks conforming to EN 13121-3:2016 specification; type testing as per UL 1316 for use in petroleum retail outlets at your workshop situated at Village Asej, Vadodara-Halol Expressway, Taluka Vadhodiya, Distt. Vadodara, Gujarat.



Our FRP tanks are designed for various pressure loads like

- Soil load
- Truck load
- Vacuum load
- Internal pressure and hydrostatic pressure loadings

This is ensured by following multiple national and international design and testing standards such as **EN13121-3 and UL-1316.**

Our manufacturing facility has in-house testing capabilities as per UL-1316 including Live load testing which ensures high quality products.

- ▶ ISO 9001-2015 Certified Manufacturing Facility
- ▶ BIS Certification for IS 12709 – Potable Water
- ▶ BIS Certification for IS 14402– Other than Potable Water
- ▶ PESO License for manufacturing of Single Wall UGST of 30 KL and 40 KL capacities.
- ▶ IMS Implementation at RCS for ISO 45001 & 14001 is in process



Instron-100KN



Tinius Olsen- 50 KN



Impact Tester (Zwick Roell-25J)



RV Viscometer (Brookfields)



Test pits



Testing equipment



Bath (Immersion Cintex)



Hot Air Oven



Muffle Furnace



Water bath (Cintex)



Manufacturing
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