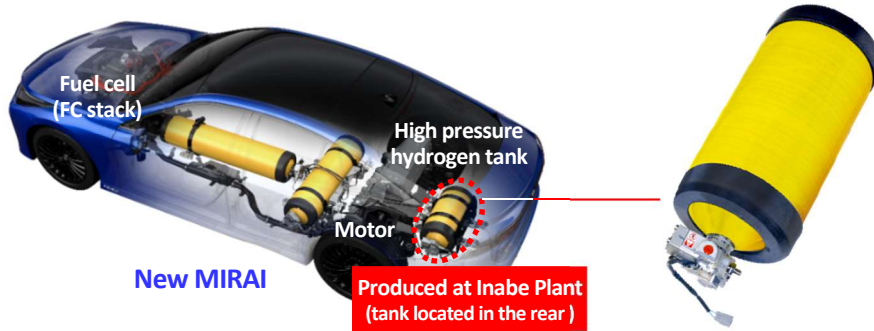
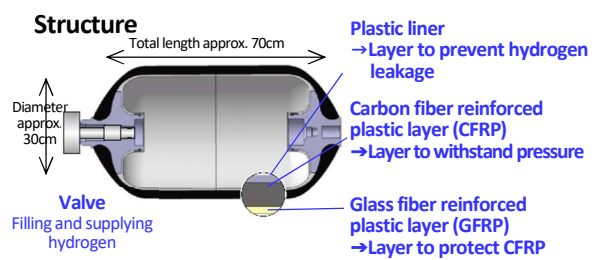


The High Pressure Hydrogen Tank Produced at Inabe Plant

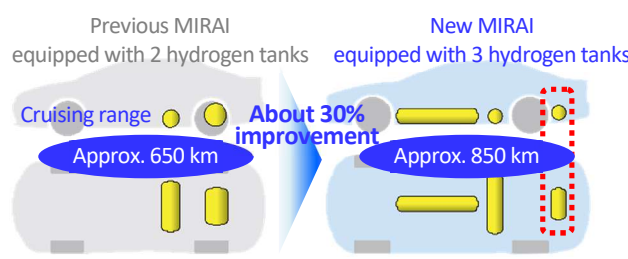
- ▼ A fuel cell vehicle (FCV) is the *ultimate eco-friendly car*, which runs on electrical power generated when hydrogen in its tank and oxygen in the air react chemically, discharging only water.
- ▼ High pressure hydrogen tanks, which efficiently hold hydrogen compressed at high pressure, are a *crucial component for FCVs* along with their fuel cells and motors.
- ▼ Toyota Gosei Inabe Plant (Inabe, Mie Pref., Japan) produces the third high pressure hydrogen tank used on the new MIRAI, which *contributes to the extension of its cruising range*. Toyota Motor Corporation continues to produce the other two.



- Highly airtight** Sealed with a special, highly airtight plastic liner that is impermeable to small hydrogen molecules and prevents leakage.
- High pressure resistance** The hydrogen in the tank is compressed at about 700 atm (70Mpa) for efficient storage. The strength of the tank is ensured by wrapping it with carbon fiber reinforced plastic (CFRP) and glass fiber reinforced plastic (GFRP) to withstand the high pressure.



About 30% improvement in cruising range



Toyota Gosei jointly developed the new tank with Toyota Motor Corporation. The pressure resistant layer is minimized and the internal volume is increased by improvements in the materials, design, and production technologies, raising the hydrogen storage efficiency* of the tank by about 10%.

* The ratio of the mass of stored hydrogen to the mass of the tank

Production process overview

Inabe Plant has the quality control system with a test facility and in-house certified inspectors.

Process	Overview	Diagram
Molding	Plastic is poured into a mold.	
Welding	After the end faces of the liners are heated to melt them, the liners are crimped together.	
Filament winding	Carbon fiber reinforced plastic (CFRP) and glass fiber reinforced plastic (GFRP) are wound around the liners.	
Hardening	CFRP and GFRP are hardened with hot air.	
Inspection	Tests for airtightness, pressure resistance and other inspections are performed.	