

Subproject Cryogenic Storage: Inner Tank Dome

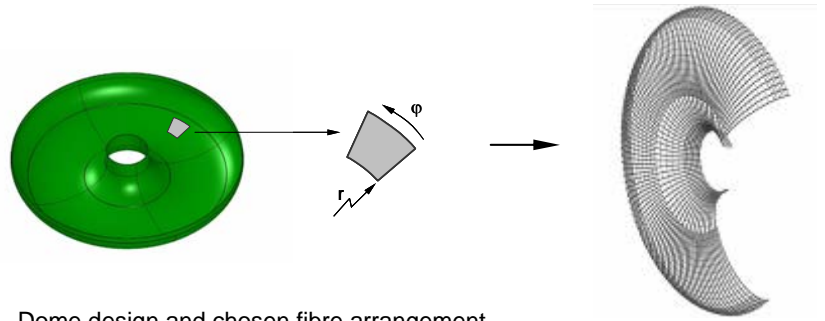
Objectives

- ❖ New design and manufacturing technologies for future composite tank components

Description

Part description:

- ❖ Optimised end cap design for maximum hydrogen capacity
- ❖ Polar-orthotropic reinforcement in radial and angular direction
- ❖ Stress-adapted thickness and fibre-ratio for lower weight
- ❖ Reduction of fibre waste due to innovative knitting technology
- ❖ Improvement of the drapability → reduction of crinkles
- ❖ 3-dimensional reinforcement for improved thermo-shock behaviour



Dome design and chosen fibre arrangement



Fibre preform and impregnated dome



Inner tank dome during and after the thermo-shock test with liquid nitrogen

Future Perspectives

- ❖ Serial development of free-form tank segments with minimum fibre waste and optimised lay-up

Partners

- ❖ Air Liquide
- ❖ Austrian Aerospace GmbH
- ❖ BMW Forschung und Technik GmbH
- ❖ Institut für Verbundwerkstoffe GmbH
- ❖ Linde AG
- ❖ MAGNA STEYR Fahrzeugtechnik AG & Co KG
- ❖ MT Aerospace AG
- ❖ Oerlikon Space AG
- ❖ Prochain e.V.
- ❖ Volvo Technology Corporation



Austrian Aerospace

BMW Group

Linde



MAGNA STEYR



MT AEROSPACE

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Website

www.storhy.net



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