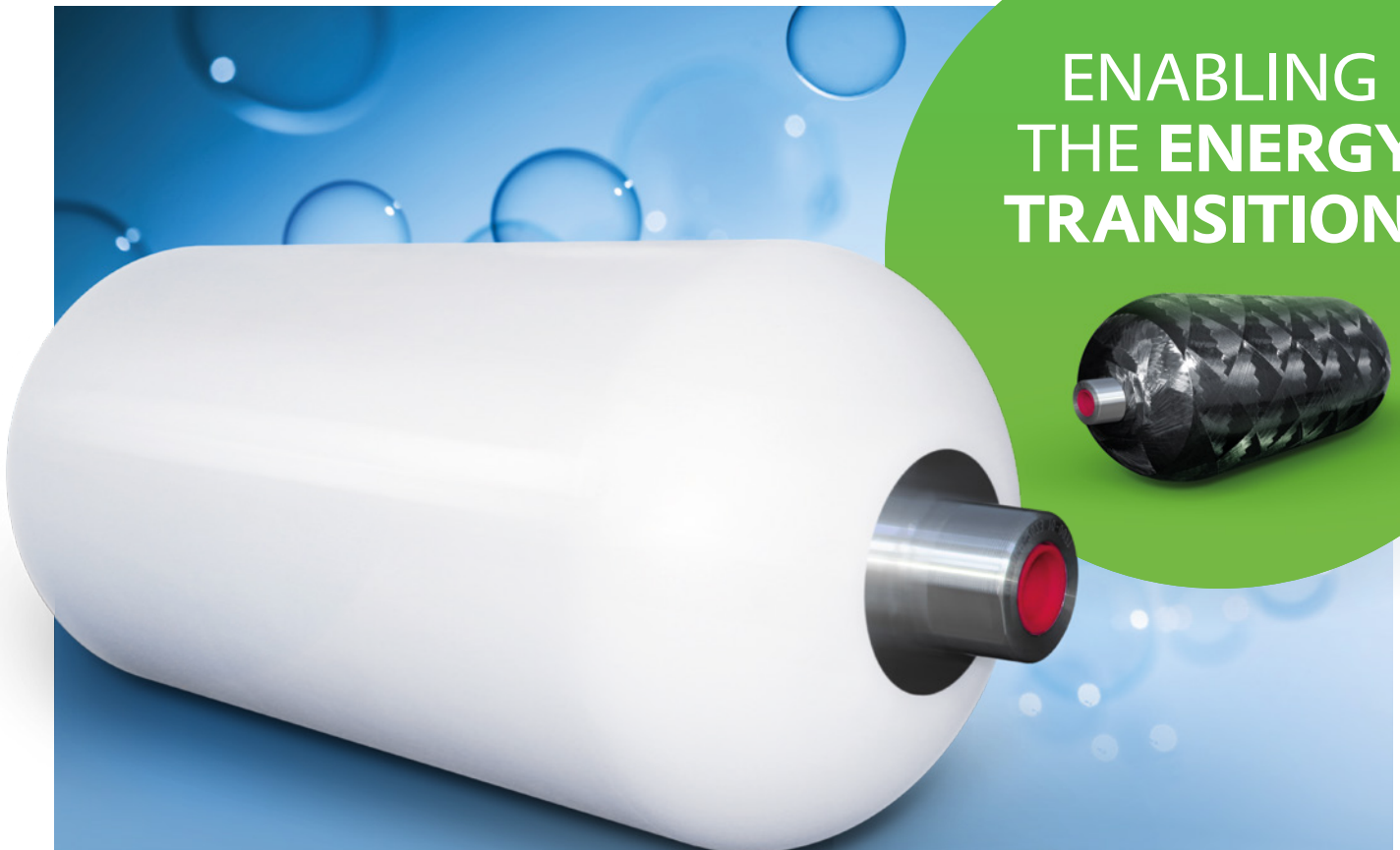


Product Information

VESTAMID® IN TYPE IV TANK LINERS FOR SAFE AND RELIABLE H₂ STORAGE

ENABLING
THE ENERGY
TRANSITION!



VESTAMID® is the ideal material for hydrogen storage applications due to its exceptional mechanical properties and excellent resistance to high-pressure gases. With VESTAMID®, large dimensions of 2m and larger are possible, making it a versatile choice for both mobility/utility and stationary tanks. VESTAMID® in a full system can easily withstand 700bar pressurized gas, making it the best choice for hydrogen storage. VESTAMID® can be processed by blowmolding, rotomolding and extrusion offering a maximum flexibility in manufacturing.

Evonik's VESTAMID® PA12 thermoplastic solutions provide a wide range of benefits and the right balance of performance and simplicity in processing:

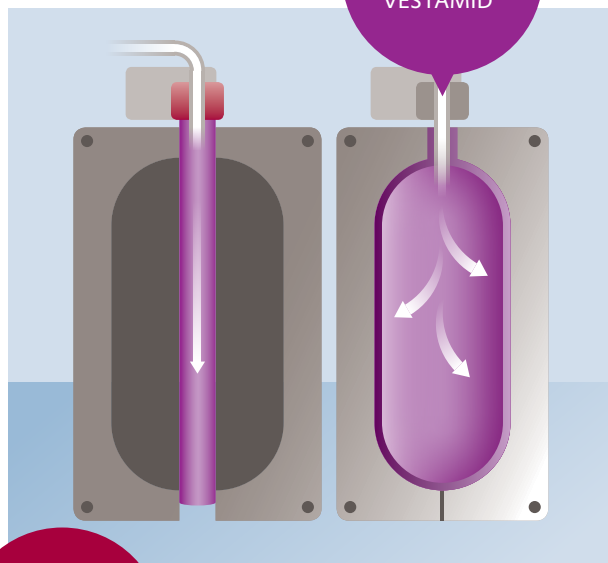
- very low moisture uptake
- exceptional dimensional and mechanical stability in humidity and wide temperature range
- easy adaption to standard Polyolefin equipment
- easy processability in either production method (full scale verified)
- high availability

For your next generation Hydrogen Type IV tank liner requirements specific grades offer:

- processability to large dimension liners
- non-plasticized to avoid contamination of H₂
- high quality surfaces
- exceptional low H₂ permeation (CSA ANSI compliant)
- high stiffness in composite winding without drying
- boss integration with industry established methods
- processability w/o vacuum or air possible (Rotomolding)
- no H₂ blistering

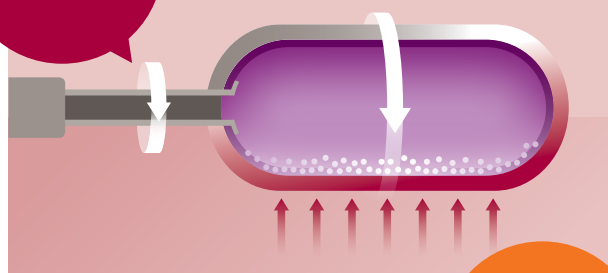
Blowmolding

VESTAMID®



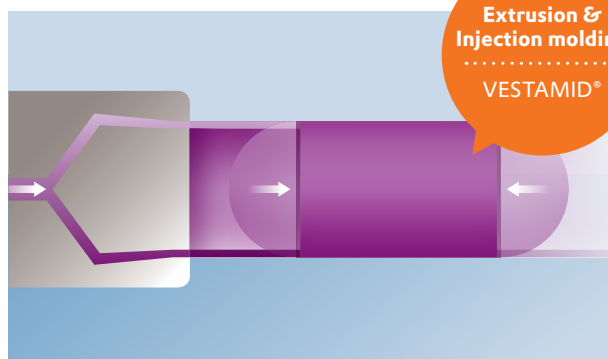
Rotomolding

VESTAMID®



Extrusion & Injection molding

VESTAMID®



VESTAMID® grades for

Standard	Properties	T/°C	Blowmolding	Rotomolding	Extrusion
ISO 179-1*	Impact strength [kJ/m²]	-40	16	> 4	14
		23	71	> 4	66
	Tensile modulus [MPa]	-40	1800	2200	1800
		23	1200	1300	1300
ISO 527-1*	Stress at yield [MPa]	80	270	440	345
		-40	69	79	70
		23	40	43	42
	Strain at yield [MPa]	80	17	25	20
		-40	8	7	8
		23	12	14	10
	Elongation at break [MPa]	80	25	18	24
		-40	70	8	60
		23	> 200	> 125	> 200
		80	> 200	> 200	> 200

* Test specimens: obtained from tank liner in humidity uptake equilibrium

H₂ Permeation: 10/10 at 70 and 700 bar for each grade acc. to CSA ANSI CHMC2

Humidity & water uptake: 0.9% / 1.6% according to ISO 62

DISCOVER OUR VESTAMID® PORTFOLIO



website



database

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