

HYDROGEN APPLICATIONS

Innovations and the need for safe and efficient processes are constantly driving development with increasingly challenging application parameters. For static and semi-dynamic H₂-applications, we supply O-rings and custom seals made of specially developed EPDM and low-temperature FKM materials. These have excellent properties in terms of material integrity and permeability.

APPLICATIONS: our H₂G-seals can be found in electrolysers, compressors, valves, connectors, sensors and pumps along the H₂ supply chain. All our selected materials are RGD compliant***.

Material	VB090LT3	VB090LE1	EB070ST0	EB090ST1
ASTM Code	FKM	FKM	EPDM	EPDM
Colour	●	●	●	●
Hardness [Sh. A]	90	90	70	90
Temp. [C°]**	-55/200	-50/200	-45/150	-50/150
Compr. Set [%]	25	21	18	16
Hours at Temp.	72h/175 °C	72h/175 °C	24h/90 °C	24h/90 °C
H ₂ -Perm.Coeff.*	3E+02	3E+02	18E+02	12E+02

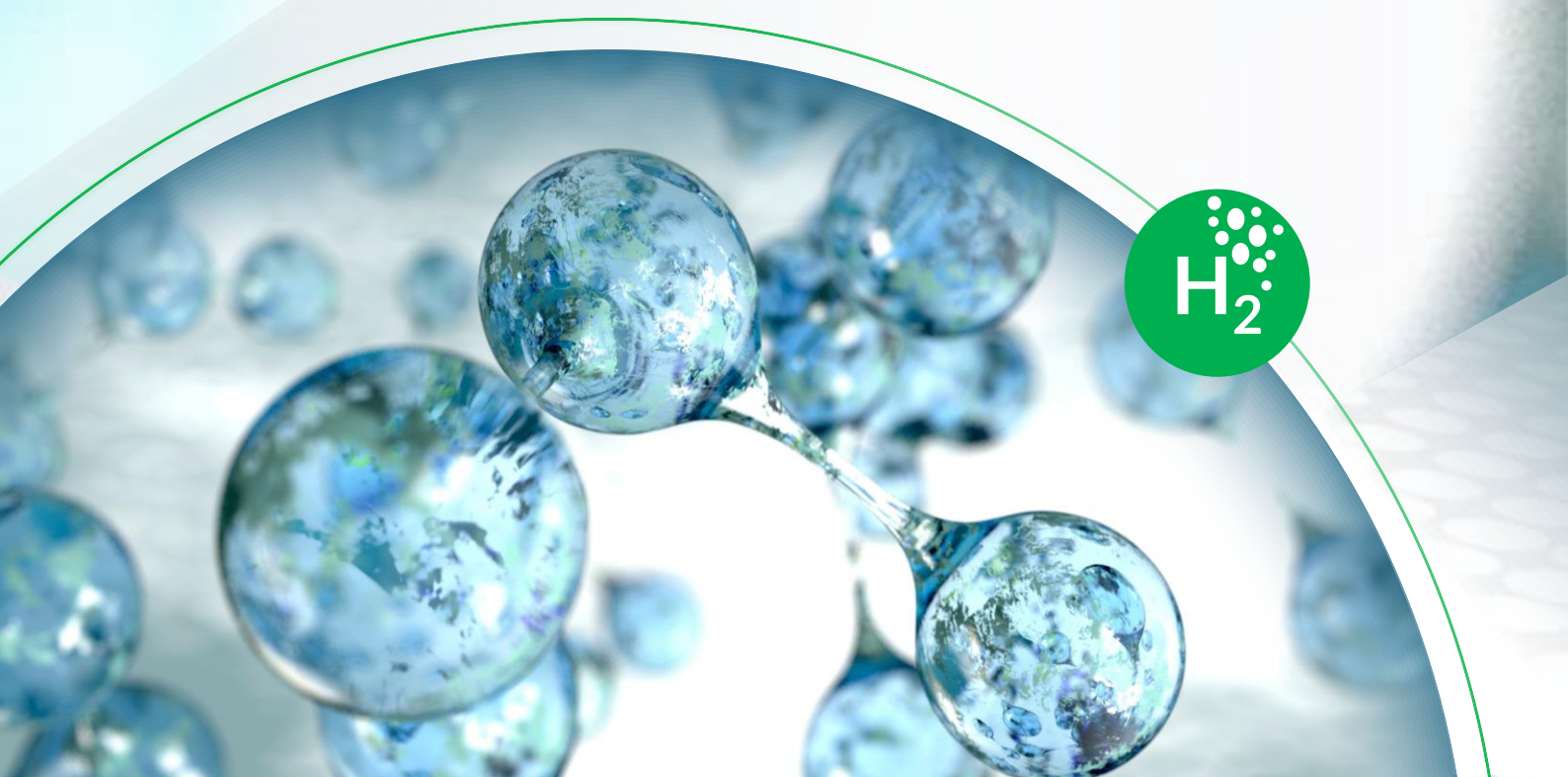
* Bei 23 °C [Ncm³ · mm · Tag⁻¹ · bar⁻¹ · m⁻²]

** Constant service

*** Except EB070ST0 (low pressure H₂-applications up to 20 bar)

DYNAMIC SEALS AND BACK-UP RINGS: H₂ applications often require the use of high-performance plastics. Depending on the application and temperature range, we offer different seal geometries and back-up rings made of UHMW-PE, PEEK and various PTFE compounds.

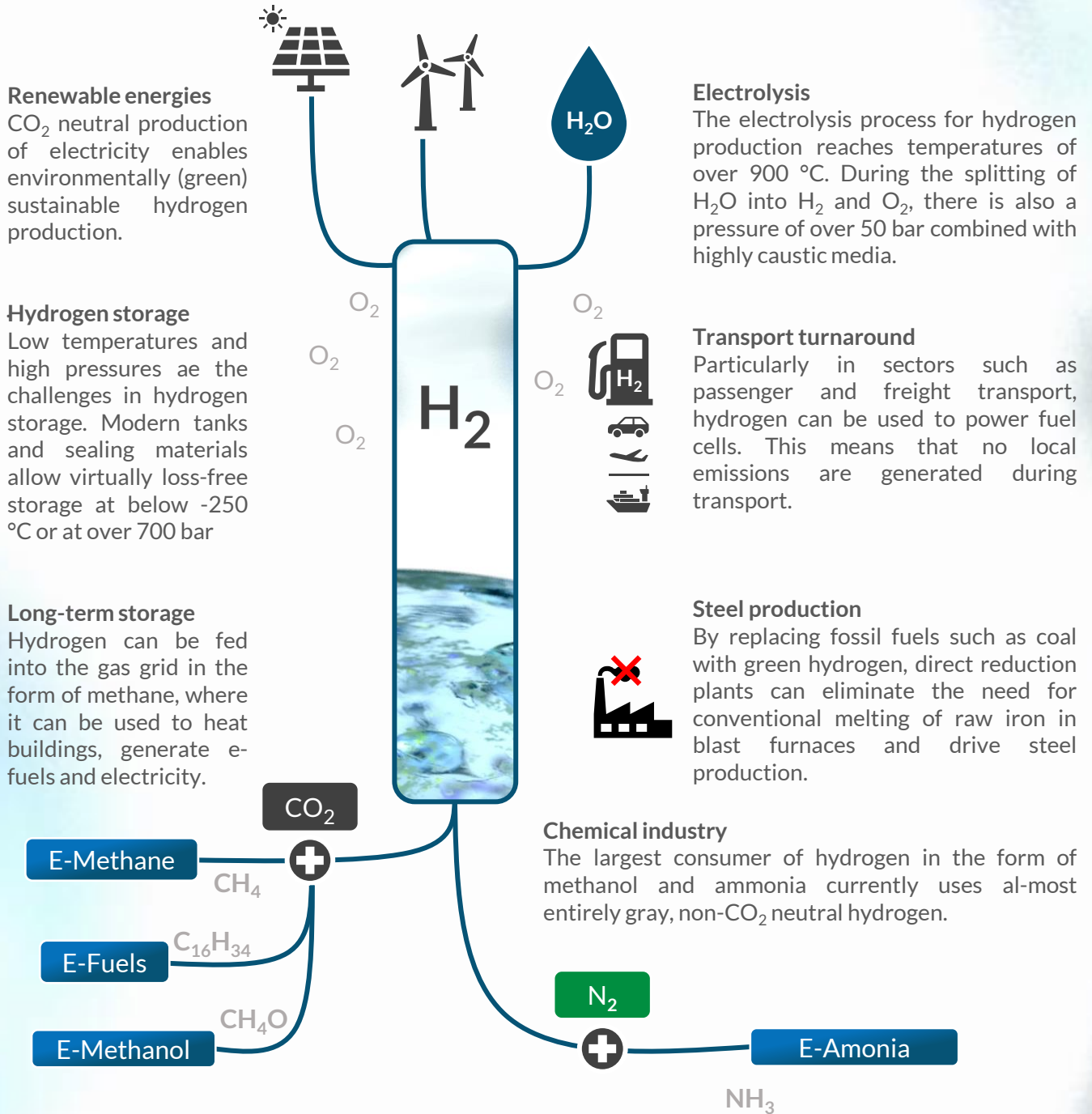
Material	UHMW-PEW	PEEKVIRY	PTFEVIRW	PTFE-CGB
ASTM Code	UHMW-PE	PEEK	PTFE virginal	PTFE CG
Colour	● ●	●	●	●
Temp. [C°]**	-150 / 90	-60 / 240	-180 / 260	-100 / 250
Tensile strength [MPA]	19	116	22	15
Coefficient of friction	0,15	0,1 - 0,3	0,06	0,12 - 0,14
Rapid Gas Decompression	Tested	●	n.a.	Tested





HYDROGEN: ENERGY IN TRANSITION

High-performance sealing systems in new cycles



H₂G - GITIS HYDROGEN SERIES

Sealing products from our H₂G series are already in use in applications such as valves, connectors and FCEV fueling.

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SEALING YOUR SUCCESS

