

GYLON® & GYLON EPIX®

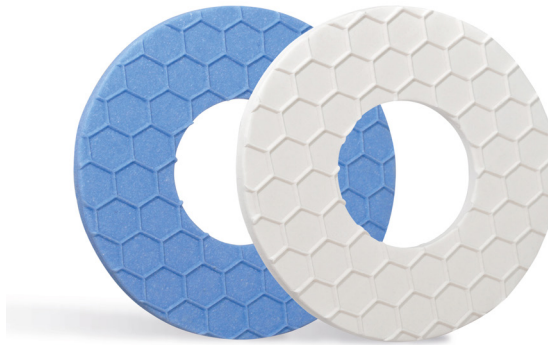
H₂ / Hydrogen

GYLON® is a calendered high-performance PTFE sealing material available with various modifications. Depending on the modification, different compressibility and recovery properties are given.

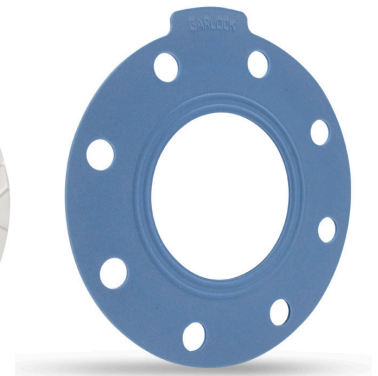
GYLON® and GYLON EPIX® Style 3504 & 3510 have been tested by the German technical Federal Institute for Materials Research and Testing (BAM) for hydrogen applications. The test report "Characterization of polymer materials before and after storage in hydrogen" showed very good test results and ideal properties of our GYLON® materials for sealing hydrogen applications.



GYLON® Style 3504 GYLON® Style 3510



GYLON EPIX® Style 3504 GYLON EPIX® Style 3510



STRESS SAVER® GYLON® 3504

Main Segments

» Chemical & Petrochemical Industry
» Food & Beverage
» Pharmaceutical
» Metal Industry
» Power Generation
» New Energies H ₂ / Hydrogen

Key Benefits

» Wide range of application & unloading capabilities ($Q_{Smin/L} = 3MPa^*$)
» Wide temperature range (-268°C to +260°C)
» Stopped cold flow
» High tolerated load ($Q_{Smax} 230 MPa^*$)
» High pressure & vacuum duties
» Excellent media resistancy **
» Available with inner-/outer eyelet
» Good electrical insulating properties
» Unlimited shelf-life
» Weather and UV resistant

Certificates / Declarations *

» FDA
» KTW
» BAM
» EC1935/2004 incl. EC10/2011
» TA – Luft incl. Blow-out Proof
» DIN EN 13555 characteristics
» Phthalate free
» Silicone free
» ADI free (EMEA 410/01)
» USP Class VI <87> <88>
» USP <281> <661>
» Hydrocheck (Belgaqua)

* Depending on product and application details
** See Garlock resistance table



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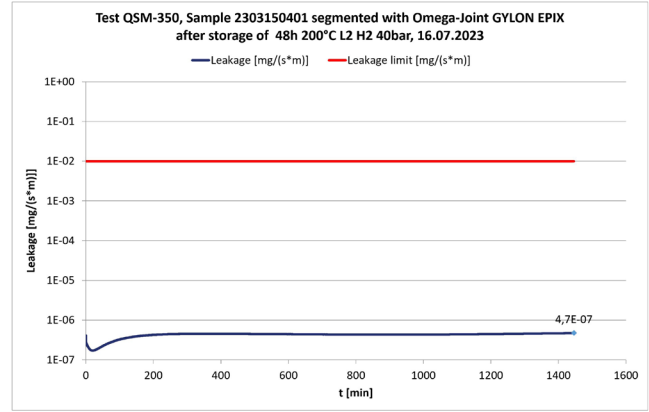
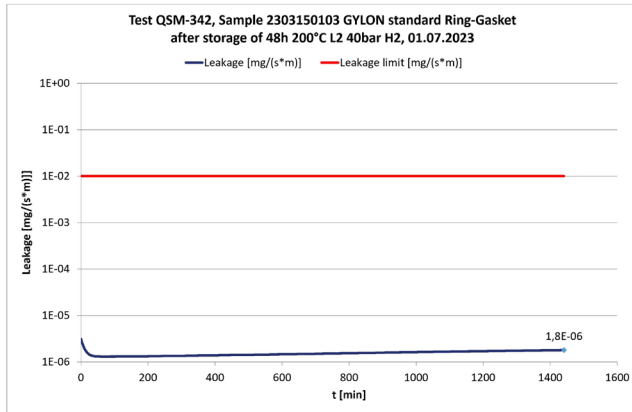
H₂ / Hydrogen

Sampling by the technical Federal Institute for Materials Research and Testing Berlin with excellent results after ageing in cryogenic (-253°C) and gaseous (+150°C) hydrogen (BAM file number 22048064_1: 01-2023).

→ **Changes are within the deviation of the sensors.**

Sampling of GAIST (FH Münster spin-off) for technical tightness after temperature aging under gaseous hydrogen (at +150°C) and cryogenic conditions (-196°C), performed with ring gaskets as well as with segmented gaskets.

→ **In pure H₂ environments, sealability levels of 1.8x 10E⁻⁰⁶ to 4.7x 10E⁻⁰⁷ [mg/(m*s)] are achieved.**



			Test Method	GYLON® Style 3510 2,0 mm	GYLON® Style 3504 2,0 mm	GYLON EPIX® Style 3510 2,4 mm	GYLON EPIX® Style 3504 2,4 mm	STRESS-SAVER® GYLON® 3504 3,8 mm	GYLON® Style 3501-E 2,0 mm
Max. load during installation Q _{Smax}	20°C	[MPa]	EN 13555	200	200	230	200	200	230
	150°C		EN 13555	160	80	140	100	80	180
	200°C		EN 13555	140	80	120	80	50	180
	250°C		EN 13555	100	60	100	60	50	140
Min. load during installation Q _{min} (L = 0,01)	10 bar	[MPa]	EN 13555	10	7	5	5	5	15
	20 bar		EN 13555	14	9	5	5	5	21
	40 bar		EN 13555	14	13	5	14	5	23
Min. load during operation Q _{Smin} (L = 0,01)	10, 20 bar	[MPa]	EN 13555	<5	<5	<3	<3	<3	<5
	40 bar		EN 13555	<7	<6	<5	<6	<5	<7
Max. sealability class	T = 20°C p = 40 bar	[MPa]	EN 13555	1,0 x 10 E ⁻⁰⁵	1,0 x 10 E ⁻⁰⁴	1,0 x 10 E ⁻⁰⁶	1,0 x 10 E ⁻⁰⁵	1,0 x 10 E ⁻⁰⁴	1,0 x 10 E ⁻⁰⁶

Note: Properties/applications shown throughout this brochure are typical. Your specific application should not be undertaken without independent study and evaluation for suitability. For specific application recommendations consult Garlock. Failure to select the proper sealing products could result in property damage and/or serious personal injury. Performance data published in this brochure has been developed from field testing, customer field reports and/or in-house testing. While the utmost care has been used in compiling this brochure, we assume no responsibility for errors. Specifications subject to change without notice. This edition cancels all previous issues. Subject to change without notice GARLOCK is a registered trademark for packings, seals, gaskets, and other products of Garlock. © Garlock Inc 2023. All rights reserved worldwide.

GARLOCK GMBH

an Enpro Company

Falkenweg 1, 41468 Neuss, Germany

+49 2131 349 0

garlockgmbh@garlock.com

www.garlockeurope.com

United States of America

Canada

Mexico

Germany

China

Singapore

Taiwan

Australia