

GYLON® 3545 TUFF-RAIL®

Revolutionary railcar manway gaskets

Manufactured from 100% pure PTFE and utilizing our proprietary GYLON® process, the 3545 TUFF-RAIL® gasket is specifically designed to help address those difficult installation and sealing requirements of manways. Formulated to compress and conform, the 3545 TUFF-RAIL® is easily installed with excellent load retention, maintaining a tight seal even during heavy vibration and thermal cycling. The patent pending technology incorporates raised ribs to insure the gasket performs under the limited bolt load and the narrow seating surface of the nozzle.

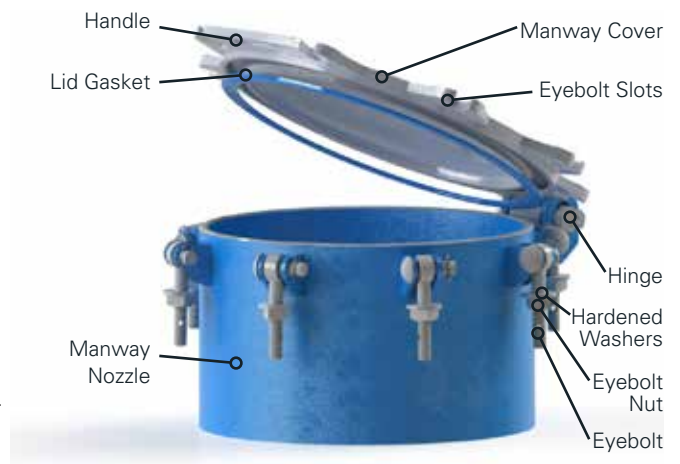
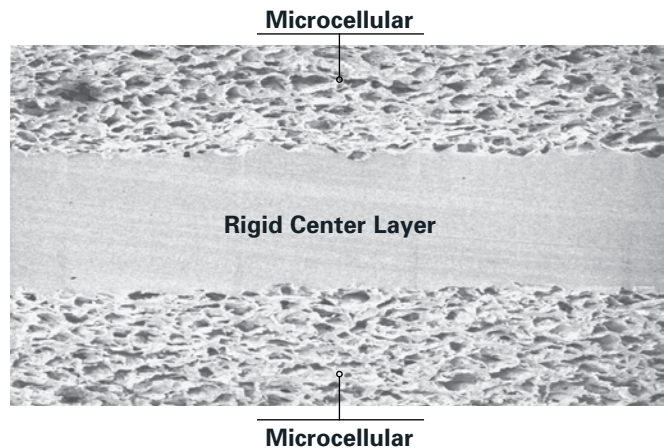
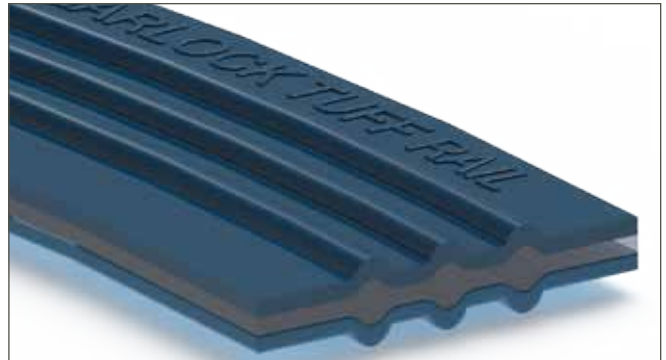
VALUES & BENEFITS

- » Manufactured with 100% pure PTFE for universal chemical resistance
- » Proprietary GYLON® 3545 and raised sealing ribs offer excellent creep resistance and long term bolt load retention
- » Highly compressible for low load sealing on less than ideal flange surfaces
- » Tough, reliable and reusable—ideal for heavy vibration, thermal cycling, and over-torquing
- » Engineered to a single size to fit the most common manways simplifying inventory (AAR-1, UTC-1, TRN-1)
- » Unlimited shelf life and high crush resistance - issues commonly associated with rubber gaskets
- » The TUFF-RAIL® patent pending technology relies on unique materials & advanced design for superior performance

SPECIFICATIONS

Temperatures	-450°F (-268°C) to +500°F (260°C)
Composition	100% Microcellular PTFE with rigid PTFE center layer
Creep Relaxation (ASTM F38) %	15*
Compressibility (ASTM F36) %	60-70
Recovery (ASTM F36) %	>15

*NOTE:
Tested on 1/32" thick 3545 sheet material as recommended per ASTM F104.



GYLON® 3545 TUFF-RAIL®

TESTING

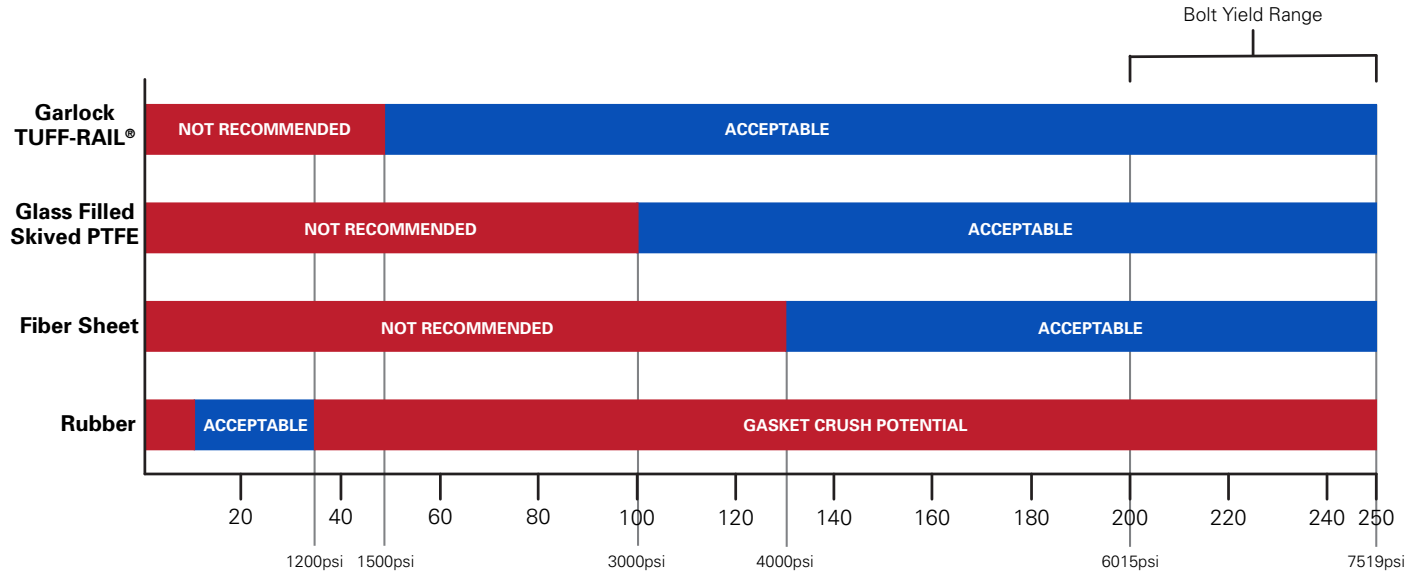
MANWAY LEAK TESTING - TORQUE REQUIRED TO PASS

49 CFR 180.605 PNEUMATIC

- » [8] Bolt AAR-1 Manway
- » Using A307, 7/8" bolts
- » Big Blue Leak Detection Fluid
- » 30 psig Visible Leak Test

NOTE:

- » Testing indicates effective range of bolt torque that passes 49 CFR visible leak test
- » Garlock TUFF-RAIL® operates successfully over a wider range of loading conditions and chemicals
- » Garlock TUFF-RAIL® passes at ~30% less load than glass filled skived



INSTALLATION & DIMENSIONAL INFORMATION

TUFF-RAIL® Recommended Bolt Load				
A307 Lubricated				
	7/8" 6 bolt	7/8" 8 bolt	1" 6 bolt	1" 8 bolt
Torque	133 ft. lbs.	133 ft. lbs.	200 ft. lbs.	200 ft. lbs.
Stress	3000 psi	4000 psi	4000 psi	5225 psi

Garlock Part Number	Inside Diameter	Outside Diameter	Thickness Rib to Rib
36045TR-0001	19.50" (+/- .005")	21.50" (+/- .005")	.220" (+/- .005")

NOTES:

- » Recommendations based on AAR-1, UTC-1, TRN-1 Manways
- » Torque values are based on 60-85% of bolt yield strengths and a maximum gasket stress of 15,000psi
- » Lubricating bolts is always recommended
- » Other manway gasket materials and configurations are available upon request



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