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Little Rock, January 28, 2020

Subject: SeaDrain White Compliance with Design Parameters

To Whom It May Concern:

SeaDrain White from Georg Fischer has been certified by NSF per the ASTM F1412 Standard for Polyolefin Drainage Systems. This standard includes the designation of materials, dimensional pipe tolerances, chemical resistance, fused joints, mechanical joints, testing and product marking. This is the primary US standard for drainage systems and contains a pull test that has been validated by NSF. As seen below, a comparison of the stringent requirements of ASTM F1412 as compared to ISO 13254.

	ISO 13254:2010 (E)	ASTM F1412-16 Fusion	ASTM F1412-16 Mechanical Joint
Accelerated Pressure Test	0.5 bar (7.3 psi) > 1 min.		
Long-Term Pressure Test	0.5 bar (7.3 psi) > 15 min.	50 psi (3.5 bar) > 5 min.	14.5 psi (1.0 bar) > 24 hr.
Axial Pullout Test			50 lbf (220 N) > 60 sec.

Additionally, with feedback from the marine market, Georg Fischer also included additional internal requirements for pressure of both Electrofusion and Fast-Lock of greater than 100psi (6 bar)* and neg. -1.0 bar vacuum for a duration of 72 hrs. with less than 1% leak.

*This test is completed while the system is unrestrained (no pipe hangers).

For further information regarding this topic, please don't hesitate to contact me.

Best regards,

Georg Fischer Harvel LLC

Michael Beutler
Senior Product Manager, Marine