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Little Rock, August 28, 2020

Subject: SeaDrain® White vs. Acoustic Mineral Filled PP for Marine Applications

To Whom It May Concern:

SeaDrain White is a pure polypropylene (PP) homopolymer without acoustic mineral filler. This allows for greater strength, durability and 28% less weight than an acoustic mineral filled multilayer PP. The mineral filled PP was originally designed for land based building applications, where the maximum allowable decibel levels of the piping systems are minimal (< 30dB), and as a direct competitor to metals and denser plastic pipes, such as, PVC and ABS that would otherwise require acoustic insulation to meet this requirement.

This differs as compared to marine applications, where the ambient decibel levels are often greater than *45dB in passenger compartments. This is important to note because 95% of perceivable volume change happens below 45dB. While laboratory tests conducted by independent consultant TVVL concluded that noise levels up to 62dB could be achieved in pure PP horizontal and vertical drain piping. The requirements for acoustic decibel reductions (Rw) between piping systems and cabin compartments is *30-45dB depending on cabin location. Therefore the greatest transmitted noise level would be approximately 32dB. Significantly less than the ambient noise of the passenger compartments.

In conclusion, during operation, any noise that could be transmitted through the SeaDrain White pipe would not be perceivable in cabin/passenger compartments. However, the cost of installing an acoustic mineral filled multilayer PP pipe for your Black and Gray water systems would have a net weight increase of approximately 16,750kg in pipe and fittings.

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

*Published by ABS (Guide for passenger comfort on ships)