

Aquatherm Technical Bulletin

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Aquatherm UV Protection

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Prolonged exposure to UV radiation will discolor bare PP-R pipe and could weaken the polymer over time. In order to prevent this damage, suitable measures must be taken. As stated in the Aquatherm catalog, the ideal solution for installing PP-R in an exposed outdoor environment is to use the UV-protected versions of the Aquatherm pipes. However, due to changing circumstances or availability, some exterior installations are completed using standard Aquatherm pipe.

Once installed, there are several ways to protect the PP-R pipe. Physically, the pipe can simply be covered with insulation or a casing/housing of some sort. Care must be taken to ensure the pipe is not damaged by attachment of a casing/housing, and that the casing does not cause excessive temperatures on the pipe when exposed to sunlight. However, putting on a casing or housing is not ideal in many cases, due to piping layout and location. If the pipe is required to be insulated for energy conservation purposes, no further UV protection is necessary.

Another option is to paint the pipe, but due to the smooth surface, flexible nature of PP-R, and the normal expansion and contraction that can occur in an outdoor piping application, most forms of paint will not adhere well to the pipe. Therefore, it is important to select a primer which adheres well to the PP-R material and is able to withstand the thermal expansion/contraction of the pipe. PPG 97-680 (Multi-Prime® Low VOC QD Universal), PPG 94-258 (Multi-Prime® Fast Dry 2.8 VOC Universal Primer)¹ and Rust-Oleum's Painters Touch 2x Ultra Cover Satin Finish have been found to be satisfactory primers in these applications. These coatings are primers only and must be covered with an applicable UV protective, elastomeric paint. The Paint should be re-coated as necessary to maintain UV protection.²

In order for the coating to properly bond to the pipe, the exterior surface must² be roughed up using medium-grade sandpaper and then have the fines brushed away with a dry cloth or removed by power washing. Coating the fittings is not required, as the heavy-walled fittings are designed to withstand more UV exposure than the pipe. However, if the area is exposed to long daylight hours with direct sunlight, the extra precaution of protecting the fittings is advisable. There is no negative effect to coating the fittings.



References to products that are produced by other companies pertain only to the products evaluated at the time of the evaluation, and are not intended to be a guarantee of future performance. Aquatherm does not control or regulate the production methods or quality assurances of third party products. The coating manufacturer should be consulted for coating methods and applications for their products. The Aquatherm warranty does not apply to performance of coatings applied to the Aquatherm piping.

1. Revision 27 January 2017 – Added new PPG paint and Primer.
2. Revision 29 September 2017 – Added Rust-Oleum Primer and application requirements