

Ultra Violet Fiber Glass Reinforced Liners (UV FGR) VS Felt Liners

UV FGR Is Quicker

UV FGR takes about as long to set up and tear down as the Felt Liner, but the curing time is much quicker, up to 5.5' per minute on small diameters.

UV FGR is Stronger

UV FGR has 11 times more Flexural Strength (FS) than Felt.

UV FGR has 6 times more Flexural Modulus (FM) than Felt.

UV FGR Has More Longevity

In its 50th year UV FGR has 7.5 times more FS and 4 times more FM than Felt

UV FGR is Less Porous

In Standard Porosity Tests, the technician attempts to vacuum red dye through the cured out liner. If the red dye can be pulled through the pores of the cured out liner, the liner fails the test. If the red dye cannot be pulled through the pores of the cured out liner, the liner passes the test. The results are either pass or fail. For this test, the UV FGR liners have a pass rate of over 90% while Felt Liners have a 55% pass rate. The Porosity Test is an important predictor of how able a liner is to control Infiltration.

UV FGR Is Not Sensitive To Cold Spots Caused By Active Leaks

Because UV FGR liners do not use heat to activate the curing process, they are not sensitive to cold spots caused by active infiltration from the host pipe or services. Felt Liners often have soft spots in the liner wherever water from this infiltration disrupts the heating/curing process.

UV FGR Allows Better Quality Control

UV FGR process requires that the Installer inspect/view the inflated liner prior to applying the UV light source, whereas Felt Liners cured with heat do not (cooking blind).

UV FGR has a computer tracking program that compares proper curing procedures to the manufactures recommendations and prints out a report after each installation showing whether or not proper guidelines were met, whereas Felt Liners do not.

UV FGR Does Not Require Water

Felt Liners require water or steam as a catalyst to activate the curing process. UV FGR only requires Ultra Violet Light. Therefore, there is no need to acquire and transport large amounts of water. More importantly, there is no need to get rid of large amounts of styrene laced water after completion.

UV FGR Is More Environmentally Friendly

UV FGR has no toxic waste or by-products, whereas Felt Liners do (Styrene). UV FGR is an excellent choice for city's concerned about flushing styrene laced water into their sewer systems or disposing of styrene laced steam boiler water somewhere around the city.

Styrene has and will continue to become a problem for Felt Liners because it has the potential to contaminate waterways and treatments plants in negative ways.

UV FGR has no odor, whereas Felt Liners do.

Market Share In Europe

UV FGR, in just a few short years, has taken over 60% - 70% of the market share in Europe. This has occurred for many of the factors listed. However, the biggest factor has been the industry trend toward specifying higher strength liners and passing a Porosity Test for which the Felt Liners do not comply. It is anticipated that this will happen in the U.S., as well, eventually.