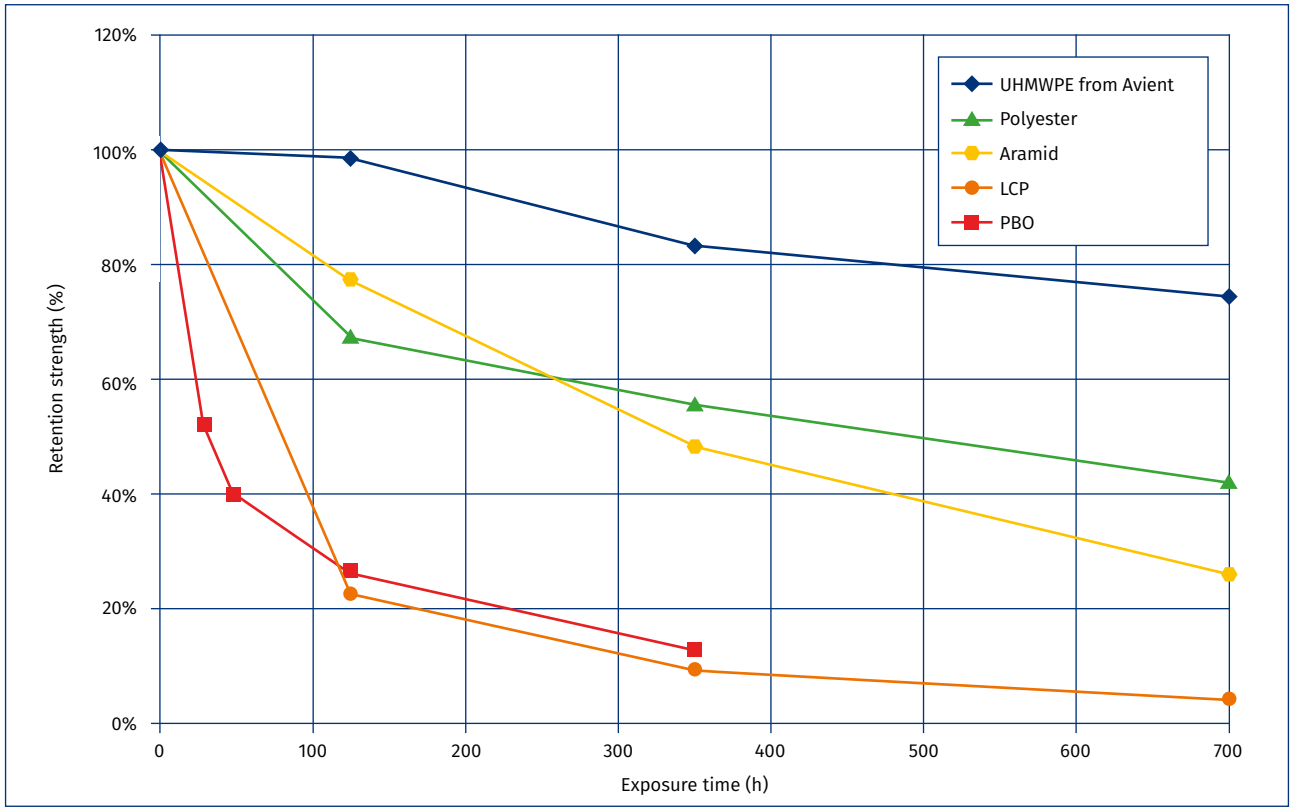
Ultra-Violet Exposure of UHMWPE Fiber from Avient

Good UV resistance of Dyneema® fiber

All polymers show a degradation of properties due to UV radiation. The rate is dependent upon the environment (e.g. sunlight intensity, temperature and humidity) and on the type of polymer. After UV exposure, UHMWPE fibers show a slight increase in modulus and a decrease in tenacity and elongation at break.
The direct irradiated fiber surface will degrade more than the non-irradiated core of the fiber. Therefore, the application thickness is of influence to UV resistance. Protection against UV radiation by use of coatings and jackets will extend the life time of the fiber/rope and is always advised in high UV radiation areas.
UV resistance is also synthetic fiber grade dependent. Degradation mechanisms differ between polymer types and the acceleration factors of the weatherometer are different.

Tensile Strength retained after Accelerated Weathering per ISO 4892-2



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