



WHY FIBERTITE?

Proven Fiber Reinforcement. Proven Formula. Proven Longevity.

FiberTite® features the heaviest reinforcing fabric in the industry, has the proven amount of DuPont™ Elvaloy® Ketone Ethylene Ester (KEE) content and is the only membrane that exceeds the stringent ASTM D6754 standard for KEE. With a legacy of proven longevity and performance, **only FiberTite provides operational security for the world's most powerful brands.**

How does FiberTite stack up against PVC?

Conventional PVC roofing technology requires the use of low molecular weight liquid plastisol polymers applied to lightweight fabrics to create a flexible membrane. Over time, UV, heat and environmental contaminants draw the plastisol (plasticizer) to the surface of the membrane where it's washed away by wind and rain. This plasticizer migration reduces flexibility and leaves the membrane susceptible to damage from thermal shock, hail impact and foot traffic. Additional effects of plasticizer migration on the in-situ aging process can make the membrane difficult to repair and subsequently impossible to maintain. Finally, plasticizer migration can cause erosion of the overall PVC surface, reducing its waterproofing effectiveness over any reinforcement in place.

FiberTite Roofing Systems are engineered using KEE as the foundation and, when combined with some of the heaviest polyester fabrics in the industry, produce a high-performance roofing membrane that remains flexible and retains its physical attributes over time.

FiberTite® vs. PVC

	FiberTite	PVC-Based Roof Membranes
CHEMISTRY	<p>FiberTite was used as the benchmark membrane for the development of ASTM D6754 Standard Specification for KEE-Based Sheet Roofing. The standard provides that properly compounded KEE coatings that utilize a minimum 50% KEE polymer content and are applied to high-quality base fabrics can exceed the design service life expectations at 70% of the thickness required of conventional "PVC" roofing membranes.</p> <p>FiberTite's formula for success is rooted in a half-century of Seaman Corporation high-performance coated fabric technology and is specifically derived from a combination of the selected attributes from Seaman's world-renowned Shelter-Rite® architectural fabrics, where the fabric is the roof, and XR-5® Geomembrane fabrics, the product of choice when protecting the environment from hazardous waste is at stake.</p>	<p>Conventional PVC roofing membranes require a 20% to 25% liquid polymer content by weight to achieve flexibility. The disparity between the low molecular weight plastisol and the high molecular weight PVC resin creates flexibility but also a weak link.</p> <p>The historical Achilles' heel for PVC roofing membranes is plasticizer migration. Heat, UV and rain alone will draw these plasticizers out of the membrane over time. The resulting membrane roof system becomes less pliable and prone to damage from thermal shock, foot traffic, hail impact and wind. To compensate for the inevitable loss of plasticizers, PVC membranes tend to be thicker, providing a larger reservoir for the retention of plastisol and hopefully extending the time it takes for the plasticizers to migrate away.</p>
UV RESISTANCE	<p>Intense UV exposure can extract liquid plasticizers from conventional PVC membranes over time. KEE is a solid and permanent polymer, ensuring long-term resistance to harsh UV exposure.</p>	<p>UV exposure disrupts the ability of the liquid plastisol molecules to remain hinged to the PVC molecules. Eventually these chains break, and the plastisol exits the sheet.</p>

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CHEMICAL RESISTANCE ASTM Animal Fat, Compressor Oil, Jet Fuel A	<p>Chemical discharge and environmental fallout are detrimental to many roofing systems across the country. Exposure to contaminants accelerates the migration of liquid plasticizers from conventional PVC roofing membranes. KEE is not only flexible, it also has inherent chemical-resistant properties. Subsequently, FiberTite's KEE membranes provide superior resistance to a broad array of chemicals, including grease and fatty acids. Chemical exposures listed on the Warranty Request Form are automatically included into the terms of coverage.</p>	<p>Numerous chemicals, greases, fats and environmental contaminants accelerate the extraction of liquid plastisol, decreasing the longevity of the PVC roof system.</p> <p>Most PVC membrane manufacturers specifically exclude "exposure to chemicals" from their warranties.</p>
PUNCTURE RESISTANCE ASTM 4833	<p>Puncture generally applies to penetration by a blunt object. FiberTite maximizes puncture resistance by using the industry's heaviest fabrics to create an internal barrier to puncture within the membrane.</p>	<p>PVC membranes generally forgo the expense of using "fiber" as an internal puncture barrier in favor of using mass or thickness to provide the illusion of durability. Independent testing confirms that the thicker PVC membranes are no match for FiberTite's internal "fiber" barrier.</p>
TEAR STRENGTH ASTM 7511 Tongue Tear	<p>The "fiber" in FiberTite is engineered with a manufacturing capability that exceeds any alternative solution. They range from the 18 x 19 / 840 x 1,000 denier knitted fabric of our 36 mil FiberTite to our 46 x 44 / 1,000 x 1,000 denier woven fabric found in FiberTite XTreme. These fabrics create a proven fiber reinforcement.</p>	<p>Trading fiber for thickness to create the illusion of strength is prevalent among PVC membrane manufacturers.</p> <p>As they get thicker, they fail to exhibit proportional increase in tear strength. Even at .050-in, most fail to match FiberTite's test results.</p>
PONDING WATER DAMAGE RESISTANCE	<p>Although one of the fundamental purposes of a roof system is shedding water, sloping a roof to achieve 100% drainage is not always economically feasible. A structural evaluation should always be performed in cases where excessive ponding is anticipated.</p> <p>If ponding is unavoidable, the KEE backbone for the FiberTite compound resists attack from the algae, biomass and environmental contamination that can accumulate in ponding water. FiberTite Roofing System warranties contain no exclusions for ponding water.</p>	<p>Ponding water can have a threefold detrimental effect on conventional PVC roofing membranes. Ponding water will magnify UV to intensify its effects. The "water" is often a concentration of chemical discharge and environmental fallout throughout the roof system.</p> <p>The concentration of these chemicals can accelerate plasticizer migration. Eventually, algae can form, feeding on the plastisol and eventually the membrane itself. Many PVC roofing membrane manufacturers specifically exclude the effects of ponding water from their warranties.</p>
HAIL DAMAGE RESISTANCE	<p>Moderate hail, generally stones of an 1-3/4 inch or less in diameter, is a common occurrence and can be expected in many areas of the country. Hail is not specifically excluded in FiberTite Roofing System warranties.</p>	<p>Faced with the inevitable loss of plasticizers over time and the consequences thereof, most PVC roofing membrane manufacturers specifically exclude "all" hail from warranty coverage.</p>
WIND DAMAGE RESISTANCE	<p>Wind is inevitable, and FiberTite Roofing Systems are engineered to stay in place. Specially engineered systems are eligible for higher peak gust coverage up to 100 miles per hour.</p>	<p>Most PVC manufacturers begin their wind exclusions with "gales." Wind speeds as low as 39 mph can be considered "gale force."</p>

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EASE AND QUALITY OF REPAIR	Since the KEE backbone for the compound is naturally thermoplastic and permanent, FiberTite Roofing Systems retain their viability to be heat-welded throughout the life of the membrane.	As plasticizers migrate, PVC membranes can lose pliability and their subsequent ability to be effectively heat-welded.
COATING ADHESION ASTM 751	If the coating separates from the reinforcement, the system fails. FiberTite Roofing Systems have achieved an inherent synergy between the industry's heaviest base fabrics and the industry's most durable coating. A proprietary process actually bonds the KEE coating to the polyester fabric.	Adhesion is a primary indicator for the technical expertise for integrating the coating and the fabric into one high-performance unit. The greater the adhesion, the better the welds and the greater the membranes' resistance to possible delamination. Most PVC roofing membrane manufacturers have failed to master the art of integrating the coating and fabric into a truly monolithic membrane.
TENSILE STRENGTH ASTM D882	Thickness can promote a deceptive perception of strength. FiberTite Roofing Systems are engineered with strength at their core. Built with the heaviest and most tightly knit fabrics in the industry, is it any wonder that FiberTite Roofing Systems exhibit superior tensile/breaking strengths?	PVC membrane manufacturers tend to trade fiber for thickness to create the illusion of strength. Typically, the lower the fiber content, the lower the actual tensile values.
ASTM HIGH-TEMP DEAD LOAD Tear Strength at "Real World" Roof Temperature	Load strain evaluation can be a good indicator of a membrane's endurance against the long-term effects of cyclical wind uplift and thermal shock. ASTM D751 now includes a means for evaluating roofing membranes under a high-temperature dead load. FiberTite Roofing System membranes exhibit the benefits of a truly integrated fabric and coating system with unmatched dead load testing results.	Slippage, excessive elongation and actual pull-through of the fiber within the welds are indicators of the lack of true integration between the fiber and the coating.
FLAME RESISTANCE	FiberTite, similar to PVC roofing membranes, is self-extinguishing. However, compared to other single-ply systems, like modified bitumens, TPOs or EPDMs, FiberTite exceeds the competition when tested with UL 214 (Inactive). See the comparison and learn more at www.fibertite.com/fire .	Most PVC roofing membranes exhibit similar self-extinguishing characteristics to those of FiberTite.

Learn more at FiberTite.com