



FiberKey™

KEVLAR REFORCED FIBER
FOR MECHANICAL REINFORCEMENT SYSTEM
DATA SHEET

PRODUCT DESCRIPTION

FiberKey™ is a heat-resistant para-aramid synthetic fiber with a molecular structure of many inter-chain bonds that make it incredibly strong. Has many applications because of its high tensile strength-to-weight ratio.

FiberKey™ uses Kevlar®* one of the strongest and most versatile textiles, boasting a tensile strength-to-weight ratio so high, it is five times stronger than steel. Kevlar® is a synthetic material that is, to put it simply, a very strong woven plastic.

MAIN FEATURES

COMPOSITE REPAIRS: Provides permanent protection in the harshest conditions. It was formulated for the special conditions found on the internal and external surfaces of oilfield production tubulars, oil and gas separators or similar equipment. This equipment is critical to production and is often exposed to a fast-moving stream of crude hydrocarbon typically containing sulfur acids, brine and entrained sand. When this current encounter bends or surface irregularities such as sharp welds, it can cause rapid erosion leading to failure.

SURFACE PREPARATION

Remove all contaminants that interfere with good adhesion. Petroleum equipment must be degreased, free of hydrocarbons and waxes by high pressure water jetting, thorough solvent cleaning or any other appropriate means prior to steel preparation by abrasive blasting or needle scaling.

Cleanliness is of supreme importance and the profile surface should be a minimum of 2.5 mils (63 microns), but preferably 3.0 mils (76 microns) or higher.

APPLICATION CONDITIONS

FiberKey™ comes in different presentation for the TitanWrap™ mechanical reinforced family of products, is shipped in a special size kit depending on each application. Surface preparation shall be performed by preceding specification, and application of the product with the selected resin must be immediately after completion of the surface preparation. TitanWrap™ system requires that a specific application procedure be followed.

APPLICATION

Design guidelines, application notes and calculation of specific number of wraps for various applications are available upon request.



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TECHNICAL PROPERTIES

PROPERTIES	Values
<i>Tensile Strength, Ultimate psi</i>	435,000
<i>Tensile Strength, Ultimate (Epoxy impregnated), ASTM D 2343, psi</i>	525,000
<i>Elongation at Break</i>	2.4%
<i>Tensile Modulus, ksi</i>	16,300
<i>Tenacity, g/denier</i>	23.6
<i>Maximum Service Temperature, Air, C</i>	149-177 C
<i>Density, g/cc</i>	1.44
<i>Moisture Absorption at Equilibrium</i>	3.5%

ATTENTION: All data above is based on laboratory conditions, at room temperature. Field conditions can radically change the characteristics of this product. Higher temperatures may decrease product shelf life. Allow adequate time for application. Field testing is recommended prior to application.

SAFETY PRECAUTIONS

This is a hazardous material if misused. Read and understand the Material Safety Data Sheet (MSDS) before use.

TECHNICAL SERVICE

For any technical questions regarding the use of our products, let us support you by contacting our technical sales department.

* Kevlar® is a registered trademark of DuPont™.

WARRANTY DISCLAIMER.

TITANWRAP will not be in any case responsible for damages of any nature that may arise from improper use of the product. Before using it, the user must determine whether the product is suitable for its intended use, assuming all risk and liability that may arise from its use.

If it is proven that a product is defective due to material or manufacturing at the time of sale or does not meet the properties indicated in this technical sheet during the warranty period, the only responsibility of TITANWRAP will be to replace the buyer with the amount of product that appears defective. TITANWRAP does not assume any responsibility for any additional costs such as costs of manufacturing, removal, or re-application of the products. If TITANWRAP offers its client an express or implicit guarantee, or compensation that differs from those established in this technical sheet, said stipulation can only be altered by means of an agreement signed by the parties.