



# Carbon 12K™

CARBON FIBER  
FOR MECHANICAL REINFORCEMENT SYSTEM  
DATA SHEET

## PRODUCT DESCRIPTION

Carbon 12K™ is one of the products incorporated in the TitanWrap™ mechanical reinforced family of products. Carbon 12K™ is used in the repair of existing structures and piping systems. The carbon fiber is combined with different proprietary family of epoxy resins used in TitanWrap™ line of products. Once the product is cured is very durable with high long-term strength, impervious to fuels and most chemicals and solvents. It permanently bonds to a wide variety of surfaces such as metals, composites, concrete, plastics, and wood. This product meets or exceeds the requirements of the standard ASME PCC-2 and is certified to ANSI/NSF Standard 61.

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## MAIN FEATURES

One of the biggest advantages over our system is their versatility since they can be applied in different environments and surfaces (+ under water) and in complex geometries, such as: T connections, elbows, straight sections, irregular surfaces, and limited spaces that require structural reinforcement. Permanently adheres to a wide variety of surfaces such as metals, composite materials, concrete, plastics, and wood.

The useful life of our systems exceeds 1.5 X the useful life of the ducts. Once cured, it is a material highly durable, impervious to fuels, most chemicals, and solvents.

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## SURFACE PREPARATION

This product is used with different epoxy systems of TitanWrap™ family of products, usually surface is prepared thoroughly to NACE/SSPC SP 11 or NACE/SSPC SP 2/3 by removing any sediment and creating an anchor profile of minimum 1.0 mils.

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## APPLICATION CONDITIONS

Carbon 12K™ 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.

Store at 60°F - 90°F in a dry place. Do not allow the product to freeze or cure prior to installation. Dispose of any leftover material by local regulation, please see MSDS of Part A and B for specific instructions.

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## 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 (warp direction), psi</i>	84,325
<i>Tensile Strength (fill direction), psi</i>	84,325
<i>Tensile Modulus (warp direction), msi</i>	7.45
<i>Tensile Modulus (fill direction), msi</i>	7.45
<i>Tensile load par ply (warp direction), pounds per inch of width</i>	3520
<i>Tensile load par ply (fill direction), pounds per inch of width</i>	3520
<i>Thickness, mils</i>	.062
<i>HOT, UF</i>	325
<i>CTE, in line QF</i>	5.7e-6
<i>Tg QF</i>	285
<i>Bond strength to steel, psi</i>	1200 (est.)

## 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.

## 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.*