

FID-ASLAN 500 CFRP TAPE®
 CARBON FIBER BARS WITH RECTANGULAR SECTION AND
 IMPROVED SURFACE BOND FOR STRUCTURAL
 STRENGTHENING



TECHNICAL GLOBAL SERVICES

AslanFRP

Geometrical and Mechanical properties of the FRP composite*

Dimensioni della barra [mm]	Area della barra A_f [mm ²]	Tensione caratteristica a trazione f_{tk} [MPa]	Modulo di Elasticità E_f [GPa]	Deformazione ϵ_{tk} [%]	Coefficiente di dilatazione termica [10 ⁻⁶ °C]		Contenuto in fibra di carbonio [%]	Peso Specifico [g/cm ³]	Durezza Barcol
					In direzione trasversale	In direzione longitudinale			
2x16	32,0	2068,0	131,00	1,7	74 -104	-9 - 0	60	1,9	min 60

* The properties of the composite have been determined according to the UNI and ASTM standards as indicated in the CNR-DT 200/2004 guidelines " Guide for the Design and Construction of Externally Bonded FRP Systems for Strengthening Existing Structures ". The ultimate tensile strength f_{tk} is determined by calculating the average value and subtracting three times the standard deviation.



MATERIAL CHARACTERISTICS

Description

FID-ASLAN 500 CFRP TAPE® are rectangular carbon fiber bars, formed by strands of carbon fiber, which, subject to tension, are impregnated with a thermosetting resin, so that the fibers are kept together and behave, therefore, as a unique product (pultrusion process). The final product is totally inert, corrosion and alkalis resistant and is also very strong (more or less 5 times stronger than a standard steel bar) thanks to TORAY T700 carbon fiber. In order to increase the superficial bond with either mortar or epoxy, the external part of the bars is deformed.

Ideal for:

- Increasing flexural and shear capacity of RC and PC members;
- Increasing flexural compressive and shear capacity of masonry made with brick or natural stone;
- Increasing flexural and shear capacity of timber members;
- Strengthening columns and walls by structural repointing;
- Reducing deformability caused by service loads.

Advantages:

- A strengthening system resistant to corrosion;
- Lightweight and durability;
- High tensile strength;
- Excellent bond with epoxy and mortar when used for structural anchorage.

APPLICATION INSTRUCTIONS

The use of FID-ASLAN 500 CFRP TAPE® is particularly indicated for the strengthening of RC-PC-Masonry-Tiber through the NSM Technology, or better known as **Near Surface Mount Bars**. This technology consist to fix in the groove and fill the bar with epoxy or mortar, by the following procedures:

1. *Surface preparation*
Clean the surface from dust, grease and other particles by brushing and sand blasting. Clean the reinforcements from eventual traces of rust and seal possible cracks. Where is needed the substrate shall be restored with tixotropic mortars.
2. *Groove cutting*
Cut the grooves having care to protect the substrate around them. Perform the cut of groove on the substrate using milling machine (the cut must be widen 3 times the bars thickness and deep 1,5 times), removing of material left in the groove and cleaning with compressed air.
3. *Groove injection with epoxy*
Injection of ¾ of the groove with epoxy resin or cementitious mortar.
4. *Bar installation into the groove*
5. *Final epoxy injection*
Total resin or mortar injection paying attention to eliminate eventual air bubbles that can prejudice the bond of the bar and also the stress transmitted between substrate and the FRP rebars.
6. *Finishing*

Registered Office FIDIA S.r.l. Via Gerardo Dottori, n.85 06132 S. Sisto PERUGIA
 Tel.+39-075-5271550 - Fax.+39-075-5298077
 Part. IVA 02140130549 C.C.I.A.A. 181644 Iscr. Trib. PG 28053

Head Office Via Y. Gagarin, n. 61/63 06070 San Mariano – PERUGIA Tel.+39-075-5170096 - Fax.+39-075-5177546
 Piazza Duomo, n.17 20121 Milano Tel.+39-02-72093424 – Fax.+39-02-45471830

Web-Site: www.fidiaglobalservice.com - E-mail: info@fidiaglobalservice.com

FID-ASLAN 500 CFRP TAPE®
CARBON FIBER BARS WITH RECTANGULAR SECTION AND
IMPROVED SURFACE BOND FOR STRUCTURAL
STRENGTHENING



TECHNICAL GLOBAL SERVICES

AslanFRP

PACKAGE-STORAGE

FID-ASLAN 500 CFRP TAPE® are available in special spool 76m long, easy to use and keep in a deposit quite similar an rollable meter.



Yard-storage: Keep covered and in a sheltered dry place. Avoid prolonged exposure to the sun, and possibly stored on pallets.

RECOMMENDATIONS

When handling the bar , always wear protective clothing and goggles and follow the instructions concerning the application of the material.

Skin-contact: is not required any special care except the use of proper gloves.

Eyes-contact: rinse abundantly for at least 15 minutes; in case of contact lenses use, remove and rinse for other 5/10 minutes. If there is still discomfort rely to medical care.

Ingestion: rinse your mouth with drinking water and induce the rejection. Then rely to medical care.

QUALITY & CERTIFICATION

Material supply is accompanied by a certificate of origin of the material from the producer and the certificate of characterization of the mechanical properties issued by an Italian laboratory approved by the Ministry of Infrastructure and Transport according to Art. 59 of D. P. R. 380/2001 construction material sector following the law .1086/71, with Decree n.38194 of 14/01/1992 and followings.

FID-ASLAN 500 CFRP TAPE are produced according to a unique and patented manufacturing system, that guarantees constant dimensions thanks to a system of continuous quality control during all the production phases.

EXAMPLES OF APPLICATIONS

To learn about structural projects using fiber glass bars visit the "Application" area at the following website: www.fidiaglobalservice.com.

Or visit the website of our partner Hughes Brothers Inc. at www.hughesbros.com section ASLAN FRP, and download examples of applications around the world.

LEGAL NOTES

The technical advice that Fidia S. r.l. Technical Global Services provides, orally or in writing, as assistance to the customer or installer on the basis of its experiences, corresponding to current scientific knowledge and practices, are not binding and do not demonstrate any legal or contractual obligation accessory with contract of sale. They do not exempt from liability buyer feel our products as regards their suitability for use. For the rest are valid our commercial conditions. Discrepancies that original content and/or use not involve any responsibility by the company's Fidia S. r.l.. The Client is obliged to check that this report, and the values are valid for the consignment of product of its interest and not be overcome, as replaced by subsequent editions and/or new formulations of the product. In doubt, please contact advance our Technical Office.

Registered Office FIDIA S.r.l. Via Gerardo Dottori, n.85 06132 S. Sisto PERUGIA
Tel.+39-075-5271550 - Fax.+39-075-5298077
Part. IVA 02140130549 C.C.I.A.A. 181644 Iscr. Trib. PG 28053

Head Office Via Y. Gagarin, n. 61/63 06070 San Mariano – PERUGIA Tel.+39-075-5170096 - Fax.+39-075-5177546
Piazza Duomo, n.17 20121 Milano Tel.+39-02-72093424 – Fax.+39-02-45471830

Web-Site: www.fidiaglobalservice.com - E-mail: info@fidiaglobalservice.com