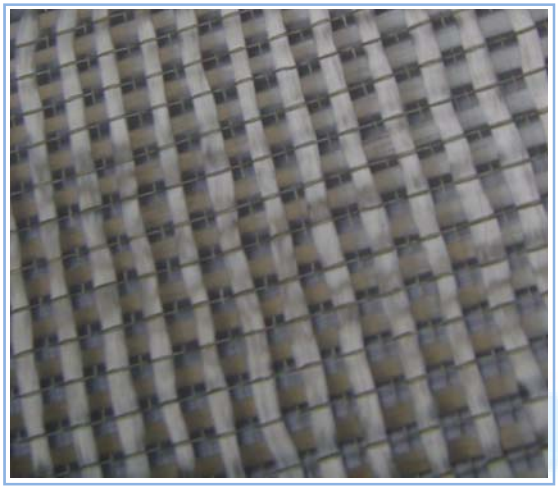
FIDGLASS GRID 300 HS73®

BIDIRECTIONAL GLASS FIBER SHEET FOR STRUCTURAL STRENGTHENING

FIDIA srl
Technical Global Services



Geometrical and Mechanical properties of the FRP composite*		
***Dry Fibre** (yarn properties)*		
Ultimate tensile strength, σ_{fibra}	2500	MPa
Young's Modulus, E_{fibra}	73	GPa
Ultimate tensile strain, ε_{fibra}	3,42	%
Density	2,50	g/cm^3
Fabric impregnated with resin (calculation values)		
Title of woven	1200	Tex
n° yarn/cm	1,30	yarn/cm
weight	312	g/m^2
Equivalent thickness of FRP, t_f	0,062	mm
Characteristic strength of FRP, f_{fk}	1400	MPa
Young's modulus of FRP, E_f	70	GPa
Characteristic ultimate tensile strain of FRP, ε_f	2,00	%
Updated 4 august 2010		

* Tthe 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 characteristics strength and deformation are calculated as the average minus two times the standard deviation.

MATERIAL CHARACTERISTICS

Description

FIDGLASS UNI 300 HT73 is a unidirectional glass fiber sheet, realized by thermo-welding, process which stops the unwinding of the fiber and which make the installation easier in-situ. It is used on masonry and timber elements for shear, for flexural strengthening.

Ideal for:

- Strengthening vaults, arches and systems-floors, masonry walls;
- Confining columns and piers to increase the compression strength;
- Strengthening due to load increase;
- Seismic mitigation;
- Mitigate design or post-construction defects;
- Strengthening structures which have been modified for architectural or configuration use;
- Control crack propagation and reduce deformations.

Advantages:

- Strengthening system highly is resistant to corrosion;
- High fatigue resistance;
- Ligthweigth and durable;
- Adaptable to complex shapes;
- Adaptable for confinement, shear and flexural strengthening;
- No increase in section of structural elements strengthened;

PACKAGES

Each job size, sheets can be supplied to meet design requirements in different widths and lengths. Standard widths available in stock are 100, 200, 300, 400, 500 mm and different lengths.

RECOMMENDATIONS

When managing the sheet, protective clothing and glasses must be worn and instructions regarding the installation of the materials must be followed carefully.

Inhalation: breath fresh air and rinse out your mouth.

Skin contact: no special measures are needed.

Contact with eyes: rinse for at least 15 minutes; in case of use of contact lenses they must be removed and rinsed for at least another 5/10 minutes; If still painful seek medical care.

Ingestion: rinse the mouth by drinking water and inducing vomit. Seek medical care.

Yard storage: Keep in a dry covered area which is far from sub-

APPLICATION EXAMPLES

To learn about structural projects using unidirectional glass fiber sheet visit the "Application" area at FIDIA website:

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.

Sede centrale e legale:
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Part. IVA 02140130549 C.C.I.A.A. 181644 Iscr. Trib. PG 28053 - Cap. Soc. € 26.000

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APPLICATION

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 crevices.

2. Leveling surface
Leveling the surface in order to eliminate eventual roughness and incoherent materials.

3. Primer application
Apply to the surface, with a brush or a roller, a layer of primer and wait until it cured. Level the surface with putty.

4. Application of the first layer of saturant resin
Apply a first layer of epoxy to impregnate the sheet.

5. Sheet installation
Till the epoxy layer is still "fresh", install the sheet previously cut of the required dimension paying attention to not form any bubble by manually smoothing or by passing with a roller.

6.Sheet impregnation
Roll several times the sheet ensuring a good level of impregnation eliminating any excess of resin.

7. Finishing
Apply a second layer of epoxy and finish by applying silica sand; proceed with the application of polyuretan paint or polyurea for protecting the reinforcement.

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