

ARMOFIX MTL

TWO-COMPONENT EPOXY RESIN FOR STRUCTURAL BONDING OF ARMOSHIELD CFK CARBON FIBRE STRIPS

DRACO

REFURBISHMENT
and PROTECTION
LINE

SPECIAL ADHESIVES AND
RESINS FOR COMPOSITE
STRENGTHENING SYSTEMS
(FRP)



ARMOFIX MTL is a two-component adhesive based on epoxy resins, selected fine-grain aggregates and thixotropic agents specifically designed for gluing ARMOSHIELD CFK pultruded carbon fibre strips.

ARMOFIX MTL exhibits strong adhesion to all building materials and can be used for bonding and structural reinforcement.

BENEFITS

The specific characteristics of the product are:

- ✓ **High adhesion** to building materials such as concrete, masonry, wood, steel, and natural stone.
- ✓ **High mechanical strength.**
- ✓ **Structural bonding:** **ARMOFIX MTL** is a thixotropic adhesive that penetrates very efficiently, and is thus ideal for structural bonding.
- ✓ **High resistance:** **ARMOFIX MTL** exhibits excellent resistance to water, salts, hydrocarbons, and aggressive acidic, alkaline and saline solutions.



WHERE TO USE

- ✓ Adhesive for bonding ARMOSHIELD CFK pultruded carbon fibre strips for structural reinforcement.
- ✓ Repair of degraded substrates by the rebuilding of joint edges and the sealing of cracks.

PREPARATION OF SUBSTRATE

The application cycle for structural strengthening with ARMOSHIELD CFK LAMELLE requires a thorough preparation of the substrate. The concrete must be roughened by sanding or vigorous brushing. Moreover, the surface must dry (< 4% moisture) and free of oil, grease or loose material. All dust must be removed. In the case of heavily damaged surfaces it is necessary to build up the missing volumes with FLUECO high strength mortar. For the reconstruction of sharp edges or repairs of cracks you can use ARMOFIX MTL.



PREPARATION OF PRODUCT

ARMOFIX MTL is made up of:

A - base formulate

B - hardener

Blend components A and B and with a spatula or with a low speed drill with paddle, or with a suitable mechanical agitator to obtain a uniform mixture. Avoid partial use of contents of the component packs as this could lead to incorrect proportions when mixing and impede hardening.



PRECAUTIONS IN HOT CLIMATES

- ▶ Store **ARMOFIX MTL** away from direct sunlight;
- ▶ carry out the work in the cooler hours of the day;
- ▶ do not work in ambient temperatures above 35°C.



PRECAUTIONS IN COLD CLIMATES

- ▶ Store **ARMOFIX MTL** in a frost-free environment;
- ▶ do not use the product at temperatures below 0° C; start work in the later hours of the morning;
- ▶ start work in the warmer hours of the day and with an ambient temperature of at least 8°C.

APPLICATION PROCEDURE

ARMOFIX MTX is applied using a spatula on a clean, dry surface within 24 hours of the application of ARMOPRIMER 100 at a temperature of between 8 and 35° C. Apply a first layer of ARMOFIX MTX resin adhesive in layers between 1 and 3 mm thick.

Then place the ARMOSHIELD CFK strips (cleaned in accordance with the indications in the technical data sheet) on the treated surface and apply strong pressure, using clamps if necessary.

PRECAUTIONS

Use rubber gloves and goggles both while working and while cleaning tools. Avoid contact of skin, eyes, etc. with the resin. In case of accidental contact, wash thoroughly with soap and water. Proper adhesion may be impeded if the substrate is damp.

CONSUMPTION

Consumption of **ARMOFIX MTX** is directly dependent on the project requirements. Generally we recommend approx. 1.50-1.70 kg of **ARMOFIX MTX** resin per mm of thickness to apply 1 m² of ARMOSHIELD CFK LAMELLE.

PACKAGING AND STORAGE

ARMOFIX MTL is available in pails:

- 2.5 kg + 2.5 kg = (A + B) 5 kg
- 5 kg + 5 kg = (A + B) 10 kg

If kept in its original packaging and properly stored under cover in a dry place, the product maintains its characteristics for a year.



PRODUCT CHARACTERISTICS

APPEARANCE	Paste
MIX RATIO	1 : 1
CONSISTENCY	thixotropic
SPECIFIC GRAVITY (A+B)	1.067 kg/l
SHELF LIFE	12 months
PACKAGING	2.5 kg + 2.5 kg pails 5 kg + 5 kg pails

APPLICATION DATA (20° C - 65% RH)

MIX COLOUR	Grey
TGA DSC (THERMOGRAVIMETRY) - UNI EN ISO 11358	67° C
POT LIFE - UNI EN ISO 9514	90'
OPEN TIME - UNI EN 12189	120'
WORKABILITY AT 20° C	80 min
SETTING TIME AT 20° C	approx. 4 - 5 hours
COMPLETE CURE	7 days
MIN. APPLICATION TEMPERATURE	From +8° C to + 35° C
THICKNESS OF APPLICATION	1 - 3 mm
CONSUMPTION	1.67 kg/m ² per mm of thickness

FINAL PERFORMANCE (+20° C - 65% RH)

CHARACTERISTICS	TEST METHOD	MINIMUM REQUIREMENTS IN COMPLIANCE WITH 1504-4	PRODUCT PERFORMANCE
COMPRESSIVE STRENGTH	UNI EN 12190	≥ 30 MPa	55 MPa
MODULUS OF ELASTICITY UNDER BENDING	UNI EN ISO 178	≥ 2000 N/mm ²	6100 MPa
SHEAR STRENGTH	UNI EN 12188	≥ 12 MPa	19.4 MPa
MODULUS OF ELASTICITY UNDER COMPRESSION	UNI EN 13412	≥ 2000 N/mm ²	6500 MPa
GLASS TRANSITION TEMPERATURE	UNI EN 12614	≥ 40 ° C	67°C
COEFFICIENT OF THERMAL EXPANSION	UNI EN 1770	≤ 100 × 10 ⁻⁶ per K	18 × 10 ⁻⁶ /K
LINEAR SHRINKAGE	UNI EN 12617-1	≤ 0.1%	0.04%
INJECTABILITY	UNI EN 12618-2	Cohesive failure of support on concrete substrate	Meets specifications
BONDING ON CONCRETE MC (0.40) EN 1766	UNI EN 12636	Cohesive failure of support on concrete substrate	Meets specifications
DURABILITY (TEMPERATURE - HUMIDITY CYCLES)	UNI EN 13733	Cohesive failure of support on concrete substrate	Meets specifications

TECHNICAL SPECIFICATIONS



Apply the thixotropic structural epoxy resin **ARMOFIX MTL** to concrete, iron, wood etc. for perfect structural bonding between the pultruded carbon fibre strips **ARMOSHIELD CFK** and the substrate elements. The product will guarantee optimum resistance to water, oils, petrol, aggressive acid and alkaline solutions and will be applied even in the presence of moisture and underwater. **ARMOFIX MTL** will be used in accordance with the recommendations of the manufacturer, **Draco Italiana SpA** who will provide technical assistance upon request.

Legal notice - SLCMP version dated 01.03.2017

In the technical specifications herein, Draco Italiana s.p.a. used the indicators therein specified, with the relevant standards.

Please check if this Sheet and the figures therein contained apply to the product batch you are interested in or if they have been overridden by any later release. If in doubt, check whether this Sheet matches the one applicable at the time of finalising the sales agreement, at www.draco-edilizia.it, and/or contact our Engineering Department.

No advice provided by our staff, either verbally or in writing at your request, about the potential applications of the Products shall be binding under the sales agreement or shall be considered an integral part of the agreement. Such advice is based on our experience and on the best available practical and/or scientific knowledge; as such, it shall not be binding or conditional on the buyer or user. Please try our products first to find out whether they are fit for your intended use or application; in any case, you shall be solely responsible for your choice.