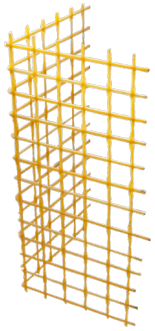
HERCUNET ANGLE STRUCTURAL MESH 8080



INDEX

1. Code registry

2. Use and laying

3. Further advice

4. Technical specification

The alkali-resistant GFRP (Glass Fiber Reinforced Polymer) ANGULAR CORNER IN HERCUNET - STRUCTURAL NET 8080 is part of the system named PROMETHEUS HT. holding ETA 23/0398 according to EAD 340392-00-0104 "CRM (COMPOSITE REINFORCED MORTAR) SYSTEMS FOR STRENGTHENING CONCRETE AND MASONRY STRUCTURES.

1. CODE REGISTRY

	DESCRIPTION
TRADE NAME	HERCUNET ANGLE - STRUCTURAL MESH 8080
PRODUCT CODE	RET03-40440/A
PRODUCT TYPE	Fiberglass corner piece with epoxy matrix for CRM systems. Component of the PRO-METHEUS HT system.
MESH SIZE [mm]	80 x 80
WEIGHT [g/m²]	550
PACKAGE [m]	0.4 x 0.4 x 2.0
STATUS	The PROMETHEUS HT system holds ETA 23/0398 according to EAD 340392-00-0104 "CRM (COMPOSITE REINFORCED MORTAR) SYSTEMS FOR STRENGTHENING CONCRETE AND MASONRY STRUCTURES.

1.1 ANGULAR GEOMETRIC FEATURES

PROPERTIES	VALUE	REFERENCE
ORDERED NOMINAL DIAMETER [mm]	3,90	EAD 340392-00-0104
NOMINAL SECTION PLOT [mm²]	9,90	
NOMINAL SECTION (graduated cylinder) TRAMA [mm²]	9,60	
NOMINAL SECTION (graduated cylinder) ORDERED [mm²]	12	
NOMINAL AREA REFERRED TO FIBER TRAMA [mm²]	7,20	CNR DT 203/2006
NOMINAL AREA REFERRED TO ORDITO FIBER [mm²]	5,70	
NO. BARS PER METER WEFT	12,5	
N° BARS PER METER ORDERED	12,5	
MESH MESH [mm]	40 x 40	

This data sheet supersedes and replaces all previous ones. The information contained herein is accurate to our present knowledge.
Dakota Group S.a.S. assumes no responsibility or liability with respect to the information given. Dakota Group S.a.S. reserves the right to change specifications and models without prior notice. Dakota Group S.a.S. - Via Don Cesare Scala, 55 - Brentino Belluno (VR) - Italy - www.dakota.eu - info@dakota.eu

HERCUNET ANGLE STRUCTURAL MESH 8080

1.2 MESH MECHANICAL CHARACTERISTICS

PROPERTIES	VALUE (minimum)		REFERENCE
	AVERAGE	CHARACTERISTIC	
TENSION RESISTANCE [MPa]	572	496	EAD 340392-00-0104
NODE TEAR RESISTANCE [kN]	0,99	0,74	
ELASTIC MODULATION, average value [GPa]	37		
BREAKAGE DEFORMATION, characteristic [%]	1,32		

1.3 PHYSICAL CHARACTERISTICS OF THE ANGULAR

PROPERTIES		VALUE	REFERENCE
FIBER CONTENT IN WEIGHT (average warp weft)		75%	internal method
TEMPERATURE LIMIT OF USE		from -15°C to 70°C	EAD 340392-00-0104
FIBER DENSITY [g/cm³]		2,50÷2,60	
DENSITY OF MATRIX [g/cm³]		1,15÷1,25	
GLASS TRANSITION TEMPERATURE OF THE COMPOSITE		>70°C	
Moisture resistance 1000 h (post conditioning property) [%]	Tensile strength (minimum)	88	
	Modulus of elasticity (minimum)	100	
Resistance to saline environments 1000 h (post conditioning property) [%]	Tensile strength (minimum)	94	
	Modulus of elasticity (minimum)	100	
Resistance to alkaline environments 1000 h (post-conditioning property) [%]	Tensile strength (minimum)	90	
	Modulus of elasticity (minimum)	101	
FIRE REACTION CLASS		F	

1.2 MECHANICAL CHARACTERISTICS OF THE MESH

PROPERTIES	VALUE (minimum)		REFERENCE
	AVERAGE	CHARACTERISTIC	
TENSILE STRAND TENSILE PROPERTIES [kN]	>3	> 2,50	EAD 340392-00-0104
STRAND TENSILE STRENGTH [kN]	4,78	3,90	
ANGULAR TENSION STRENGTH [kN/m]	119	97,5	

2. USE AND LAYING

2.1 USE

The GFRP ANGULAR HERCUNET - STRUCTURAL NET 8080 is part of the system called PROMETHEUS HT used for reinforcing masonry by means of the reinforced plastering technique as required by NTC18. The plating of masonry with the PROMETHEUS HT structural reinforcement system involves in combination with HERCUNET - STRUCTURAL NET, the use of GFRP, ELLEKON "L" connectors with improved adhesion and the use of GFRP angle profiles, ANGULAR HERCUNET - STRUCTURAL NET 8080.

In addition to masonry reinforcement, the PROMETHEUS HT system finds use in the consolidation of arches and vaults, floors and columns and pillars.

The system can be applied in conjunction with inorganic lime- or cement-based matrices that meet the requirements for structural applications in overall thicknesses generally between 30 and 50 mm plus any leveling layers. For anchoring connectors, use chemical anchors (epoxy or vinylester resin) qualified for structural grouting and anchoring. For better distribution of stresses between the connector and the mesh, use gussets made from the same mesh of size 16x16 cm or use the optimized CIRCLENET - PA DISSIPATOR.

This data sheet supersedes and replaces all previous ones. The information contained herein is accurate to our present knowledge.
Dakota Group S.a.S. assumes no responsibility or liability with respect to the information given. Dakota Group S.a.S. reserves the right to change specifications and models without prior notice. Dakota Group S.a.S. - Via Don Cesare Scala, 55 - Brentino Belluno (VR) - Italy - www.dakota.eu - info@dakota.eu

HERCUNET ANGLE STRUCTURAL MESH 8080

2.2 ADVANTAGES

Some advantages of HERCUNET nets:

- they do not rust;
- tested to withstand humid, alkaline and saline environments;
- easy to move and store on site;
- high tensile strength;
- compatible for use on masonry in conjunction with lime-based mortars.

2.3 LAYING

1. Remove plaster and any finishing and/or filling layers in the case of vaults by going to remove all inconsistent or detaching material. Perform any necessary intervention (sarcitura of lesions, scuci-cuci, partial reconstruction etc) in order to obtain a healthy and compact support. Perform masonry washing with low-pressure water.

2. Drill the holes for the subsequent placement of connectors in the number and according to the scheme provided in the project. In the case of reinforcement only on one side of the masonry, provide connectors with a length equal to ⅔ of the thickness of the masonry and drill holes with a diameter of about 12 mm. If reinforcement is planned on both sides, consider for each hole two connectors, one of which is approximately equal in length to the masonry thickness and the second such as to ensure an overlap with the first of not less than 10 cm. In the section where the two connectors overlap, enlarge the hole to 24 mm. Clean the holes with suction or blowing and place removable markers in them to prevent obstruction during the next steps.
Wet the masonry with low-pressure water and allow the water to be absorbed until a saturated substrate is obtained when the surface is dry (s.s.a. condition).

3. Apply by machine or by hand a first layer of mortar about 1.5 to 2 cm thick and smooth it out to have a planar surface. When fresh, put in place the mesh by adhering it with the help of a trowel to the rendering layer. In the case of adjacent mesh sheets, provide an overlap of at least 15 cm. Place corner elements where necessary.

4. Remove the previously placed removable signs, place the divider and insert the connectors after filling the holes with the chosen chemical anchor.

5. Within 24-36 hours after laying the first layer, make the second layer of 1.5 to 2 cm thickness going to completely cover the mesh and connectors. In the case of lime-based mortar, wait until the plaster is fully cured before proceeding with any finishing layers.

3. FURTHER ADVICE

3.1 STORAGE

Store indoors and dry at a storage temperature of -10°C to +50°C.

3.21 SAFETY INSTRUCTIONS

With reference to current European regulations (Reg. 1906/2007/EC - REACH) ANGULAR IN HERCUNET - STRUCTURAL NET 8080 is an article and does not require a Safety Data Sheet. The use of protective gloves and goggles is recommended during use. Follow the safety requirements provided in the workplace. PRODUCT FOR PROFESSIONAL USE

3.3 WARNINGS

The data given correspond to our current technical and application knowledge for an appropriate use of the product and are to be considered, in any case, indicative and general, therefore not binding for the same. We recommend the performance of a prior practical test in order to verify the suitability of the product with respect to its intended use, its purposes and its consumption. The purchaser is responsible for verifying the suitability of the products described in this document for its intended use and purposes. Always refer to updated versions of data sheets available at www.dakota.eu

4. TECHNICAL SPECIFICATION

Item	Description	U.M.	Price
RET03-40440/A	Reinforcement or consolidation of walls of any kind, including single-headed, by CRM (Composite Reinforced Mortar) plaster technique with application of preformed fiber-reinforced composite G.F.R.P. mesh. (Glass Fiber Reinforced Polymer) type HERCUNET - STRUCTURAL NET 4040 from Dakota or equivalent, consisting of AR (Alkali Resistant) glass fiber, mesh 40x40 mm, fiber content by weight 75%, tensile elastic modulus average value 44,000 N/mmq, tensile strength characteristic value 436 MPa, mesh tensile strength characteristic value > 97 KN/m, knot tensile strength characteristic value > 0.5 kN. Tensile strength and elastic modulus decay for wet, alkaline and saline environment < 15%. Including cleaning of the masonry elements, washing of the wall surface, execution of perforations in number of 4/sqm and supply and insertion of preformed "L" connectors made of G.F.R.P. type ELLEKON -CONNECTOR GFRP of Dakota or equivalent having an equivalent diameter of 8 mm, appropriate length in relation to the wall thickness, complete with load-sharing handkerchief type CIRCLENET - DISSIPATOR IN PA of Dakota or equivalent, applied to the wall with insertion for at least 2/3 of the wall thickness (for intervention on 2 sides, overlap between them of at least 10 cm) and solidified by styrene-free vinylester chemical anchor, the incidence of corner reinforcements in fiber-reinforced composite material G. F.R.P. (Glass Fiber Reinforced Polymer) type ANGULAR IN HERCUNET - STRUCTURAL NETWORK 8080, counted at the rate of about 20% with respect to the total area to be reinforced); application in thickness of 3 cm with a trowel finish of NHL 3.5 natural hydraulic lime-based mortar with compressive strength ≥ 15 MPa, max aggregate grain size 1.2 mm CE marked according to UNI EN 998-1 and 998-2 type BIO FORCE ONE by DAKOTA or equivalent; excluding the part the removal of existing plaster, including whatever else is necessary to give the work finished, counted to actual size on the exterior wall, application for wall thicknesses up to 60 cm.	pc.	-

This data sheet supersedes and replaces all previous ones. The information contained herein is accurate to our present knowledge.
Dakota Group S.a.S. assumes no responsibility or liability with respect to the information given. Dakota Group S.a.S. reserves the right to change specifications and models without prior notice. Dakota Group S.a.S. - Via Don Cesare Scala, 55 - Brentino Belluno (VR) - Italy - www.dakota.eu - info@dakota.eu