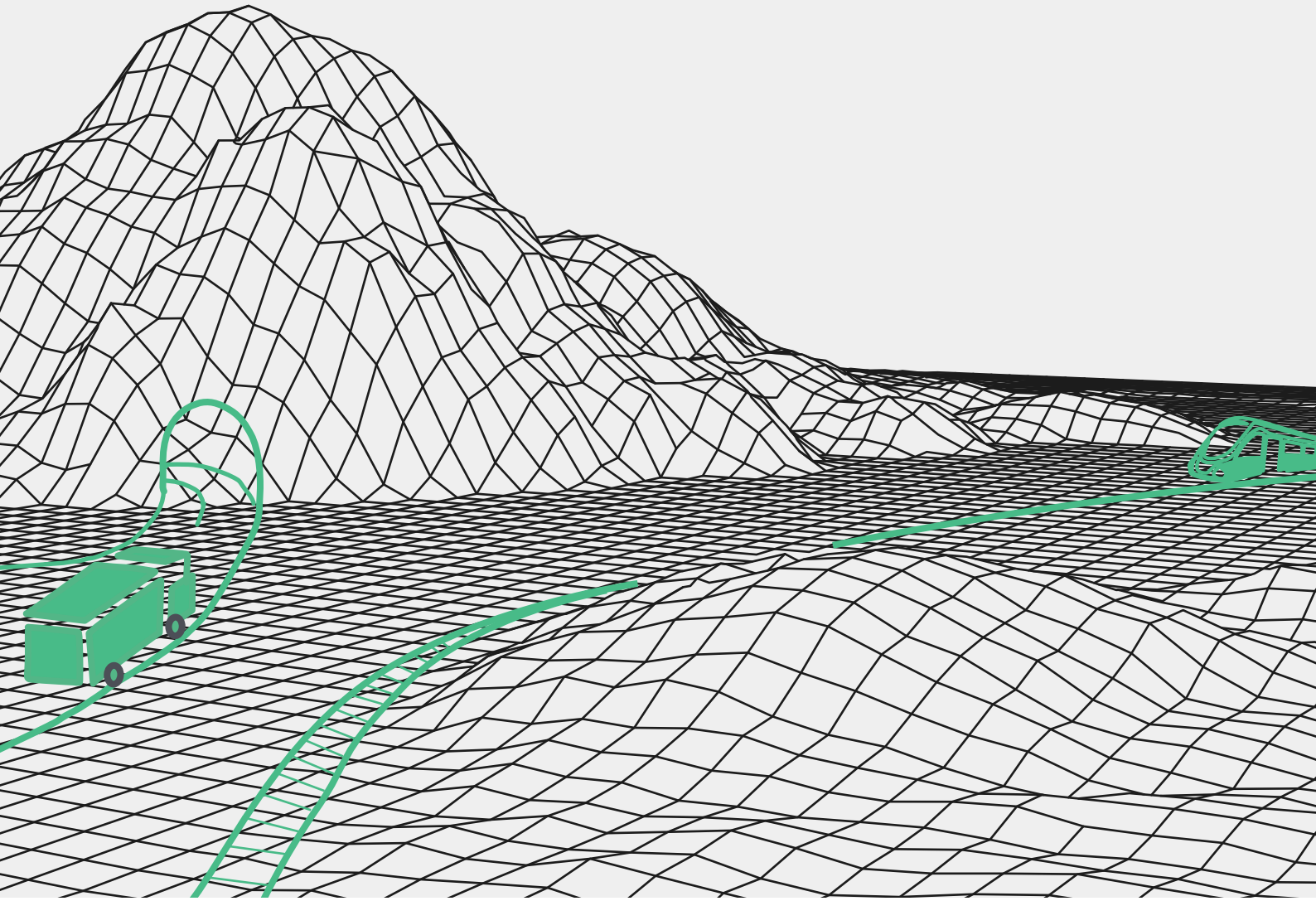
TeMa
Geo
Solutions

Geosynthetic products

FOR **GEOTECHNICAL** AND **ENVIRONMENTAL** APPLICATIONS



Company

Geo Solutions is the business unit of TeMa that develops technologies and products for protection, containment, reinforcement and drainage for large geotechnical and environmental works.

Research and development of highly effective solutions with a low environmental impact are the recognised mainstay of a company that offers its customers excellent high-tech products. Installation techniques are constantly analysed to find solutions that improve the efficiency of onsite works.

In our research laboratories, raw materials are tested, production standards are checked and product performance is continuously improved. We are represented in more than 60 countries worldwide and offer a customer service and technical support that which allows us to provide widespread support during the design, pre-sale and after-sale stages.

www.temageo.com

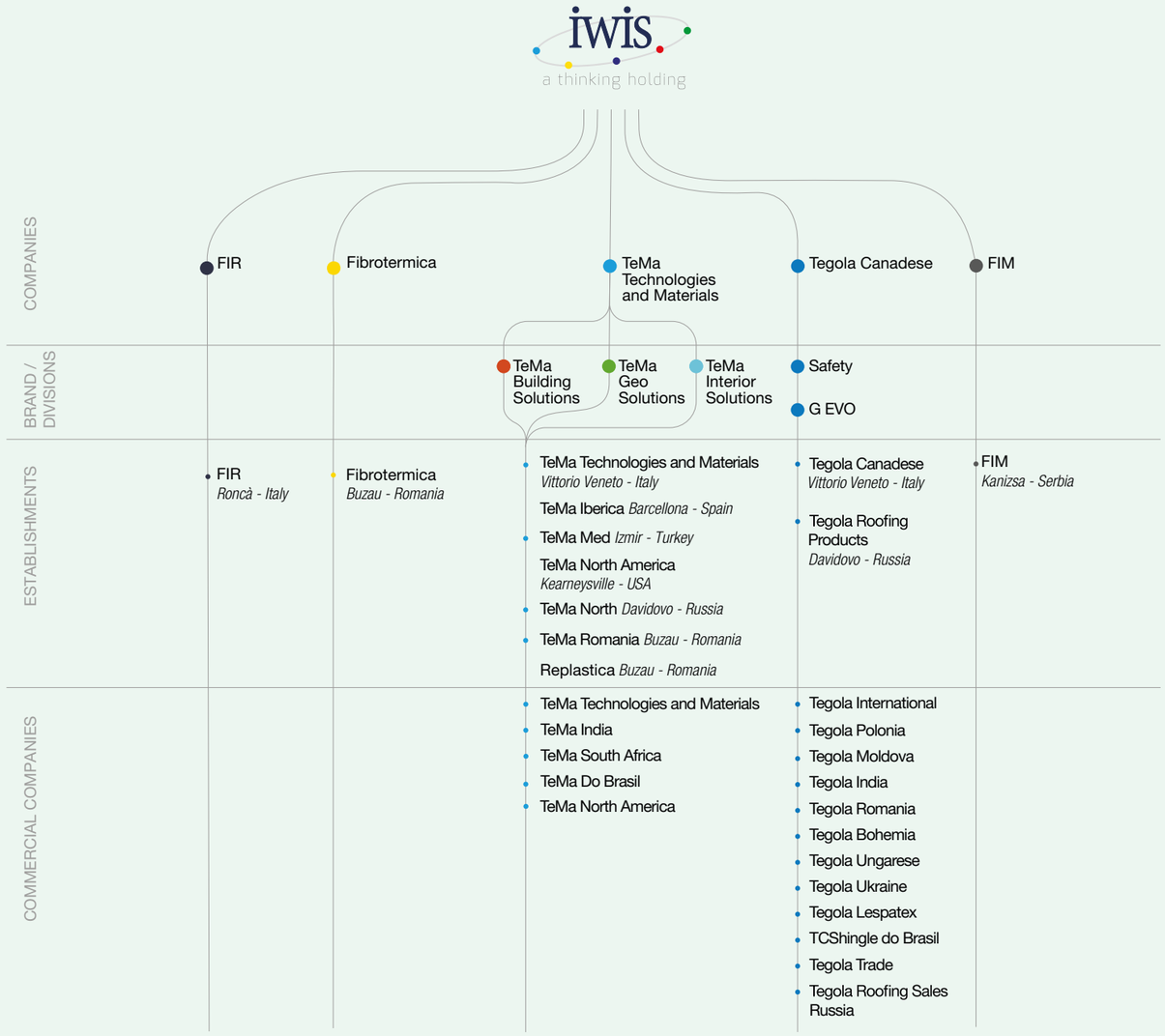
The Group

IWIS
Insulation Waterproofing Industrial Systems

IWIS is a "thinking holding company" established to efficiently manage its member companies and enhance all its various aspects: production, commerce, operations, logistics and R&D.

It is called a “thinking holding” because it is a group of companies that understands the critical thinking and ideas required to meet the diverse expectations and demands of an entire chain of professionals, retailers, installers and waterproofers.

With its product development clearly focused on research, IWIS offers products and systems that always make use of the latest technologies for construction and major works job sites.



Contents

Here are our solutions →

Geosynthetic products

PRODUCTS		FUNCTIONS								AREAS OF APPLICATION									
		Drainage	Erosion control	Filtration	Separation	Reinforce-ment	Waterproof-ing	Protection		Landfills	Earth works	Contam-inated sites	Roads, railways, airports	Drainage trenches	Dry slopes	Canals	Rocky slopes	Tunnels	Mines
DRAINAGE GEOCOMPOSITES																			
MONOFILAMENTS																			
Q-Drain® C	10	✓	-	✓	✓	-	-	✓		✓	✓	✓	✓	-	-	-	-	✓	✓
Q-Drain® ZW	10	✓	-	✓	✓	-	-	✓		✓	✓	✓	✓	-	-	-	-	✓	✓
Q-Drain® WP	10	✓	-	✓	✓	-	✓	✓		-	-	-	✓	-	-	-	-	✓	✓
Speedrain	12	✓	-	✓	✓	-	-	-		-	-	-	✓	✓	-	-	-	-	-
STUDDED MEMBRANES																			
MD	14	✓	-	-	-	-	-	✓		✓	✓	✓	✓	-	-	-	-	✓	✓
MD + Geotextile	14	✓	-	✓	✓	-	-	✓		✓	✓	✓	✓	-	-	-	-	✓	✓
Membrana Nera	16	✓	-	-	✓	-	-	✓		✓	✓	✓	✓	-	-	-	-	✓	✓
Membrana Nera Geo	16	✓	-	✓	✓	-	-	✓		✓	✓	✓	✓	-	-	-	-	✓	✓
HDD	18	✓	-	-	-	-	-	✓		✓	✓	✓	✓	-	-	-	-	✓	✓
HDD + Geotextile	18	✓	-	✓	✓	-	-	✓		✓	✓	✓	✓	-	-	-	-	✓	✓
Maxistud	20	✓	-	-	✓	-	-	✓		-	-	-	✓	-	-	-	-	✓	-
Maxistud Geo	20	✓	-	✓	✓	-	-	✓		-	-	-	✓	-	-	-	-	✓	✓
Maxistud T2	20	✓	-	-	✓	-	-	✓		-	-	-	✓	-	-	-	-	✓	✓
GEONETS																			
T-Drain	22	✓	-	✓	✓	-	-	✓		✓	✓	✓	✓	-	-	-	-	✓	✓
GEOMATS																			
K-Mat®	24	✓	✓	-	-	-	-	-		✓	✓	✓	-	-	-	✓	-	-	✓
K-Mat® Grass	24	-	✓	-	-	-	-	-		✓	-	-	-	-	✓	-	-	-	-
K-Mat® WP	24	✓	✓	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-
K-Mat® RF Metal	26	-	✓	-	-	-	-	-		-	✓	-	-	-	✓	✓	✓	-	-
BIO-MATS																			
Ecovernet® J	28	-	✓	-	-	-	-	-		✓	✓	✓	-	-	✓	✓	-	-	-
Ecovermat®	30	-	✓	-	-	-	-	-		✓	✓	✓	-	-	✓	✓	-	-	-
GEOGRIDS																			
X-Grid® PET	32	-	-	-	✓	✓	-	-		✓	✓	✓	✓	-	-	-	-	-	✓
X-Grid® FG	32	-	-	-	✓	✓	-	-		-	-	-	✓	-	-	-	-	✓	-
X-Grid® PET C AM	32	-	✓	-	-	✓	-	-		✓	-	✓	-	-	✓	✓	✓	✓	✓
WELDED WIRE MESH																			
Formworks	34	Product type: Containment								-	✓	-	-	-	-	-	-	-	-

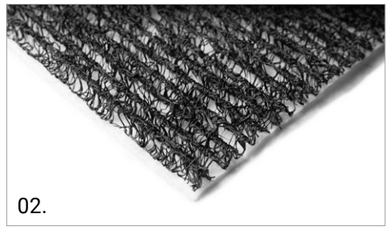
Q-DRAIN®

CE EPD INTERNATIONAL EPD SYSTEM

DRAINAGE - FILTRATION
SEPARATION - PROTECTION

Q-DRAIN® is a drainage geocomposite obtained from extruded PP monofilaments, bonded with one or two filter elements (non-woven geotextiles). The C range is bicuspid (pyramidal), ideal for giving the product thicknesses of up to 20 mm. The ZW range, instead, has a parallel channel configuration, thus giving the product its high resistance to compressive strength. The drainage composite can also be bonded with a single non-woven geotextile (TG version). A PE membrane (available in various thicknesses) can be provided on request.

01.



02.

03.

01. Q-Drain® C / **02.** Q-Drain® ZW / **03.** Q-Drain® WP

MODELS	C range and ZW range Mat + 2 PP NW geotextiles Mat + 1 PP NW geotextile Mat + 1 PP NW geotextile + 1 wateproofing membrane
THICKNESSES	C range: 20 - 15 mm ZW range: 8 - 5 mm

FUNCTION

DRAINAGE

FILTRATION

SEPARATION

PROTECTION

AREA OF APPLICATION

LANDFILLS

EARTH WORKS

CONTAMINATED SITES

ROADS RAILWAYS AIRPORTS

TUNNELS

MINES

SPEEDRAIN

CE EPD INTERNATIONAL EPD SYSTEM

DRAINAGE - FILTRATION SEPARATION

Speedrain is a drainage geocomposite obtained from extruded PP monofilaments arranged in "pyramids" thermocoupled to two PP non-woven geotextiles acting as a filter. The arrangement of the monofilament core is called bicuspid, and the geotextiles terminate in a pocket where a drainage pipe can be housed to facilitate the discharge of the intercepted liquids.

Speedrain is frequently used in vineyards, as well as trenches and roads.

MODELS	Monofilaments + 2 PP NW geotextiles
THICKNESSES	10 mm

FUNCTION

DRAINAGE

FILTRATION

SEPARATION

AREA OF APPLICATION

DRAINAGE TRENCHES

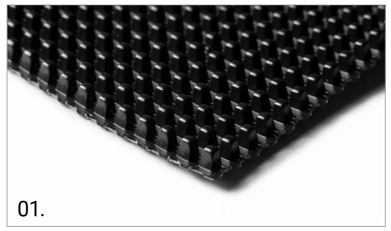
ROADS RAILWAYS AIRPORTS

MD

CE EPD INTERNATIONAL EPD SYSTEM

DRAINAGE - FILTRATION
SEPARATION - PROTECTION

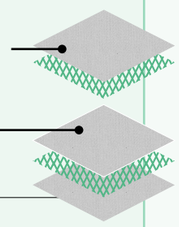
MD is a drainage geocomposite with high compressive strength, obtained by bonding a HDPE micro-studded membrane to one or two PP non-woven geotextiles. The micro-studded membrane can also be used without filter elements, with a leakage control function incorporated between two waterproofing membranes.


01.


02.

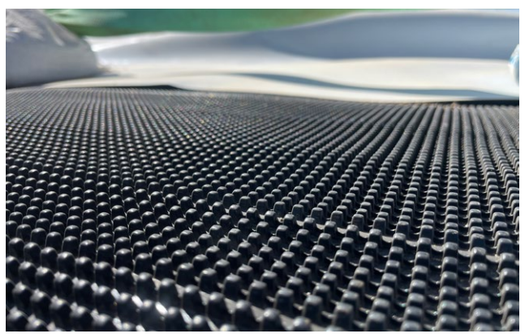
01. MD / **02.** MD with geotextile

MODELS	MD 4 50 (membrane) MD 4 50 12F (membrane + 1 PP NW geotextile) MD 4 50 12F 12F (membrana + 2 PP NW geotextiles)
COMPRESSIVE STRENGTH	700 - 1200 kPa
THICKNESS	5 - 6 mm



FUNCTION

AREA OF APPLICATION



MEMBRANA NERA

CE EPD INTERNATIONAL EPD SYSTEM

DRAINAGE - FILTRATION
SEPARATION - PROTECTION

MEMBRANA NERA is a PE studded membrane that can be bonded to one or two PP non-woven geotextiles (Membrana Nera and Membrana Nera Double versions). To improve compression resistances, the R&D team created a star dimple shape (all variations are available with the star dimple).

Due to the presence of the membrane, the composite is able to protect the material on which it is installed and drain liquids and air from the side where the filter element is present.

The product is available in roll widths of up to 4.8 m.

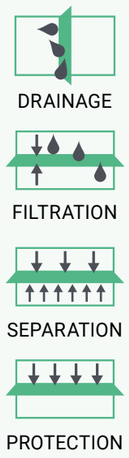

01.


02.

01. Membrana nera / **02.** Membrana Nera Geo

MODELS	MEMBRANA NERA (membrane) MEMBRANA NERA GEO (membrana + 1 PP NW geotextile) MEMBRANA NERA DOUBLE (membrane + 2 PP NW geotextiles)
THICKNESS	8 mm

FUNCTION



AREA OF APPLICATION

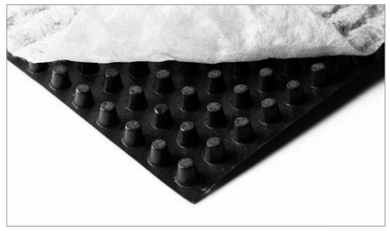
HDD

CE EPD INTERNATIONAL EPD SYSTEM

DRAINAGE - FILTRATION
SEPARATION - PROTECTION

Polyethylene geomembrane used for mechanical protection of waterproofing and drainage membranes. The special shape of the studs results in excellent compressive strength and impressive drainage capacity to cope with both high and low loads (up to 600 kPa).

The product can also be bonded to a PP non-woven geotextile (model 12F) and, only on request, to two geotextiles.



MODELS	10 85 - 10 95 - 10 105 (membrane only) 10 85 12F - 10 95 12F - 10 105 12 F (membrane + 1 PP NW)
COMPRESSION STRENGTH	350 - 450 - 600 kPa
THIKNESS	10 mm

FUNCTION

- DRAINAGE
- FILTRATION
- SEPARATION
- PROTECTION

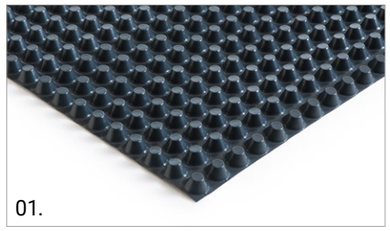
AREA OF APPLICATION

- LANDFILLS
- EARTH WORKS
- CONTAMINATED SITES
- ROADS RAILWAYS AIRPORTS
- TUNNELS
- MINES

MAXISTUD CE

DRAINAGE - FILTRATION
SEPARATION - PROTECTION

MAXISTUD is a 22 mm thick PE studded membrane. The naked membrane is called Maxistud, the membrane bonded to a PP non-wove geotextile si Maxistud Geo and Maxistud T2 has special additives to be used in tunnels and no bonded textiles. Maxistud F features notches and can be used as a water reservoir in hanging green roofs.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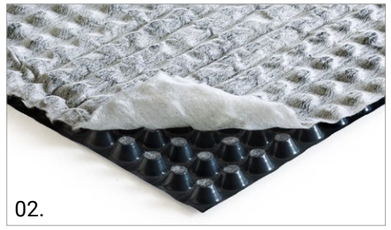

02.

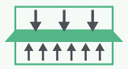
01. Maxistud / **02.** Maxistud Geo

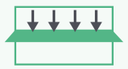
MODELS	Maxistud (membrane only) Maxistud Geo (membrane + 1 PP NW geotextile) Maxistud T2 (membrane only with special additives)
THICKNESS	22 mm

FUNCTION


DRAINAGE


FILTRATION


SEPARATION


PROTECTION

AREA OF APPLICATION


ROADS
RAILWAYS
AIRPORTS

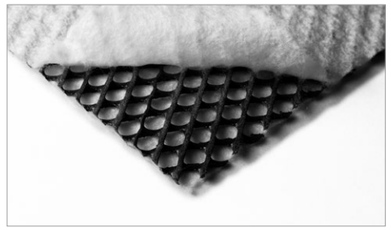

TUNNELS

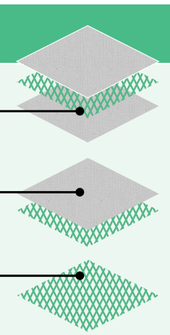

MINES

T-DRAIN CE

DRAINAGE - FILTRATION
SEPARATION - PROTECTION

T-DRAIN is a drainage geocomposite consisting of a three-dimensional HDPE diamond mesh structure made of two rows of overlapping, crossed and parallel wires bonded to one or two PP non-woven geotextiles.





MODELS

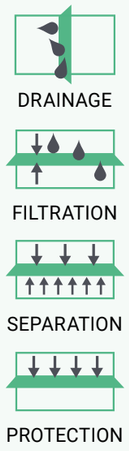
T-Drain 12F
(geonet + 2 PP NW geotextiles)

T-Drain 12F TG
(geonet + 1 PP NW geotextile)

T-Net (geonet only)

THICKNESSES 4 - 5 - 6 - 7 mm

FUNCTION



DRAINAGE
FILTRATION
SEPARATION
PROTECTION

AREA OF APPLICATION

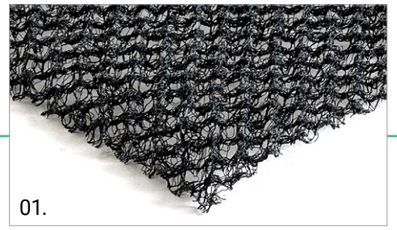
LANDFILLS
EARTH WORKS
CONTAMINATED SITES
ROADS RAILWAYS AIRPORTS
TUNNELS
MINES

K-MAT®

CE EPD INTERNATIONAL EPD SYSTEM

DRAINAGE
EROSION CONTROL

K-MAT® is a three-dimensional geomat obtained from extruded PP monofilaments. The product is available in three different thicknesses (10 - 17 and 22 mm) and can be bonded with biodegradable pre-seeded biofelts (Grass version) or waterproofing membranes for lining earthen guard ditches. The standard colour is black but it is also available in light brown and green on request.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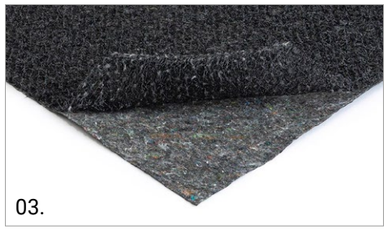

03.

01. K-Mat® L / **02.** K-Mat® Grass / **03.** K-Mat® WP

MODELS	K-MAT® MINI L / L / SUPER L (mat only) K-MAT® GRASS (mat + biod. pre-seeded biofelt) K-MAT® WP (mat + 1 PP NW geotextile + 1 waterproofing membrane)
THICKNESSES	10 - 16 - 22 mm

FUNCTION

DRAINAGE

EROSION CONTROL

AREA OF APPLICATION

LANDFILLS · EARTH WORKS · CONTAMINATED SITES · DRY SLOPES · CANALS · MINES

K-MAT® RF METAL

CE EPD INTERNATIONAL EPD SYSTEM

EROSION CONTROL

K-MAT® RF METAL is a composite consisting of a hexagonal double-twist wire mesh (6x8 or 8x10 cm) and a polymeric three-dimensional geomat, which are intermeshed and bonded during the production process. The wire mesh is in eutectic alloy zinc aluminum (Galfan alloy) and can be coated with PVC on request. The geomat is black, but other colours are available on request.

MODELS	K-MAT® RF METAL 68 Zn Al / 810 Zn Al K-MAT® RF METAL 68 Zn Al / 810 Zn Al PVC
MESH DIMENSIONS	6x8 / 8x10 cm
COLOUR	Black (other colours are available on request)

FUNCTION

EROSION CONTROL

AREA OF APPLICATION

ROCKY SLOPES | EARTH WORKS | DRY SLOPES | CANALS

ECOVERNET® J

EROSION CONTROL

ECOVERNET® J is a bionet made of 100% natural jute fibres woven in orthogonal directions. The natural composition of the product guarantees its degradability in a timeframe that depends on the surrounding climatic conditions.

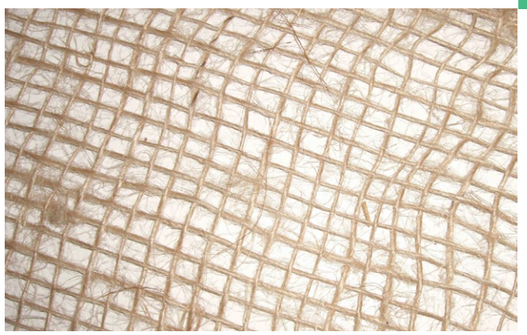
MODELS	ECOVERNET® J - JXL
WEIGHTS	100 - 500 g/m²

FUNCTION

EROSION CONTROL

AREE DI APPLICAZIONE

LANDFILLS · EARTH WORKS · CONTAMINATED SITES · DRY SLOPES · CANALS



ECOVERMAT®

EROSION CONTROL PROTECTION

ECOVERMAT® is a biomat obtained by weaving natural fibres (straw and coconut).

The Ecovermat® range also includes a preseeded cellulose fibre biofelt (Grass version).


01.


02.

01. Ecovermat® Grass / **02.** Ecovermat® PC 450

MODEL	ECOVERMAT® P 400 ECOVERMAT® PC 450 ECOVERMAT® GRASS ECOVERMAT® P GRASS ECOVERMAT® F GRASS
RAW MATERIAL	Straw Coconut Cellulose

FUNCTION

EROSION CONTROL

PROTECTION

AREA OF APPLICATION

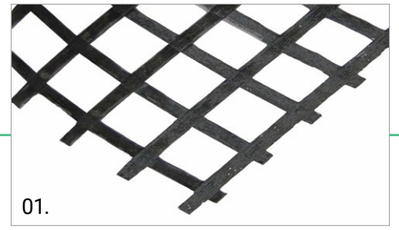
LANDFILLS | EARTH WORKS | CONTAMINATED SITES | DRY SLOPES | CANALS

X-GRID®

CE EPD INTERNATIONAL EPD SYSTEM BBA APPROVAL INSPECTION TESTING CERTIFICATION CERTIFICATE 16/4853

EROSION CONTROL
SEPARATION - REINFORCEMENT

X-GRID® is a knitted geogrid in high-tenacity PET or fibreglass yarns (FG model). The PET geogrid is used for the geotechnical improvement of soil and can also be bonded with a PP non-woven geotextile (PET - PVC - PP model) if required for improving road foundations. If, instead, it is necessary to improve asphalt (bituminous conglomerate) surfaces, the bitumen coated versions, with FG or PET yarns, and can be bonded with different geotextiles 25-150 g/m² depending on requirements.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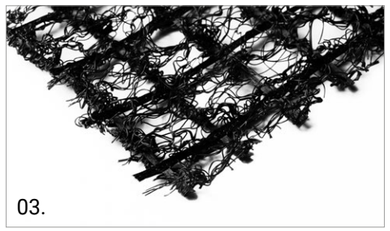

03.

01. X-Grid® PET / **02.** X-Grid® FG BC PPL / **03.** X-Grid® PET C AM.

MODELS	X-GRID® PET *X-GRID® PET PVC-0 / X-GRID® PET PVC PP* *X-GRID® PET C 0 / X-GRID® PET C PP / X-GRID® PET C PPL* X-GRID® FG *X-GRID® FG BC-0 / X-GRID® FG BC PPH /* *X-GRID® FG BC PPL* X-GRID® PET C AM
TENSILE STRENGTH	from 10 to 800 kN/m

FUNCTION

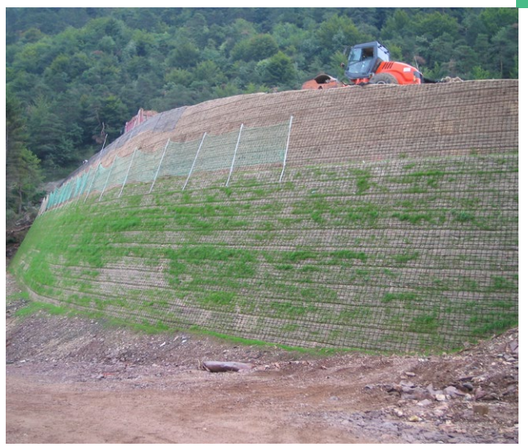
REINFORCEMENT

SEPARATION

EROSION CONTROL

AREA OF APPLICATION

LANDFILLS · EARTH WORKS · CONTAMINATED SITES · ROADS RAILWAYS AIRPORTS · DRY SLOPES · CANALS · ROCKY SLOPES · TUNNELS · MINES



FORMWORKS

CONTAINMENT

The TeMa Geo formwork is an electro-welded wire mesh. It has a differentiated mesh with a rod diameter of 8 mm, bent at different angles (from 55° to 90°) in order to retain and shape the front of reinforced soil structures.

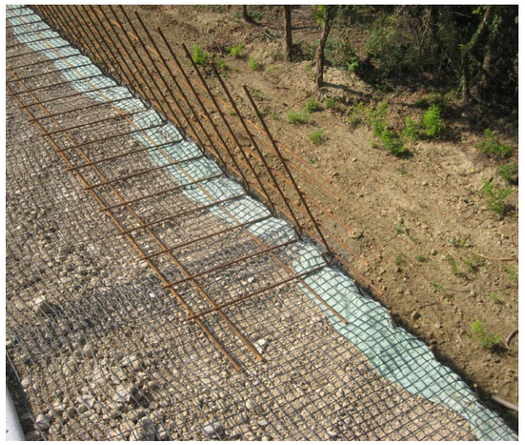
SLOPE ANGLE	55° - 60° - 65° - 70° - 75° - 80° - 85° - 90°

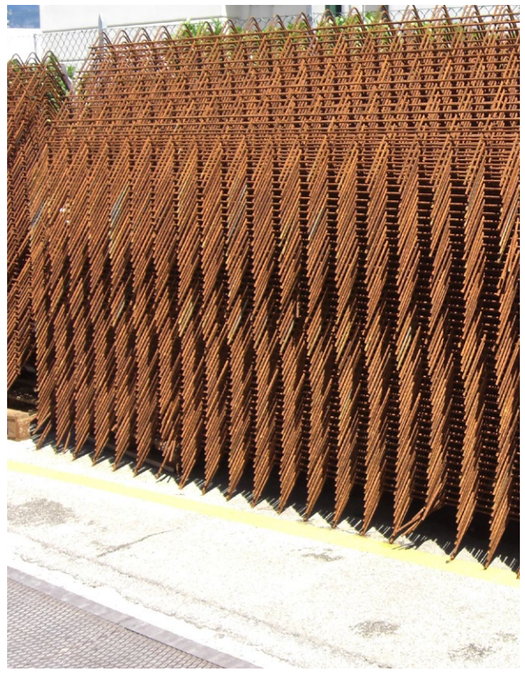
TYPE OF PRODUCT

CONTAINMENT

AREA OF APPLICATION

EARTH WORKS





Note

Sustainability

A fundamental value for all IWIS Holding Group companies.

IWIS Holding invests heavily in R&D to guarantee the quality of its products, for technological innovation and respect for the environment.

IWIS Group also uses recycled materials for some of its production processes, relying on its own plants for recycling plastics.

Environment and circular economy.

The issue of the environment has been one of the TeMa group's concerns since its founding more than 30 years ago.

In Europe, TeMa founded its own recycling plants (EcoTeMa in Russia and Replastica in Romania) where plastic is collected and refurbished.

The material so recovered is then supplied to the Group's factories and placed on the market.

The reuse of plastic takes place according to the quantities required by the regulations and certifications in force in each country and by responding to the indications provided in the customers' projects.

We preserve the environment where we live

We use renewable sources

We invest in research and development

We use recycled materials

The Environmental Product Declaration EPD

EPD
INTERNATIONAL EPD SYSTEM

S-P-06562
S-P-06563
S-P-06571

www.environdec.com

TeMa subjected several product lines to an in-depth investigation to determine the consumption of resources and the impact of the products during their lifecycle on the natural environment.
TeMa has certified their performance through a third body verifier and has obtained EPD certification on many product lines and is aiming at acquiring more.

TeMa | Technologies and Materials
ISO 9001 Certified Company

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For more than 30 years, TeMa has been involved in environmental and construction engineering projects, making its mark with unique and higly competitive application solutions.
Since 2013, the company has been applying its own research in the interior building works sector, developing new high-performance materials in the fields of waterproofing and sound insulation.

Thanks to a modern production system (with branches in Italy, Spain, Turkey, Russia, Romania and the USA) and to a widespread sales network in more than 60 countries, for protection, maintenance and safety in the residential and civil building sectors and in the field of major environmental works.

TeMa stands out for its ongoing research into new products, the active involvement of designers and customers, and customer assistance during the pre-sale stages and after installation.

TeMa Building Solutions
www.temabuilding.com

TeMa Geo Solutions
www.temageo.com

TeMa Interior Solutions
www.temainterior.com

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