EEC

Industrial Composites

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About Us

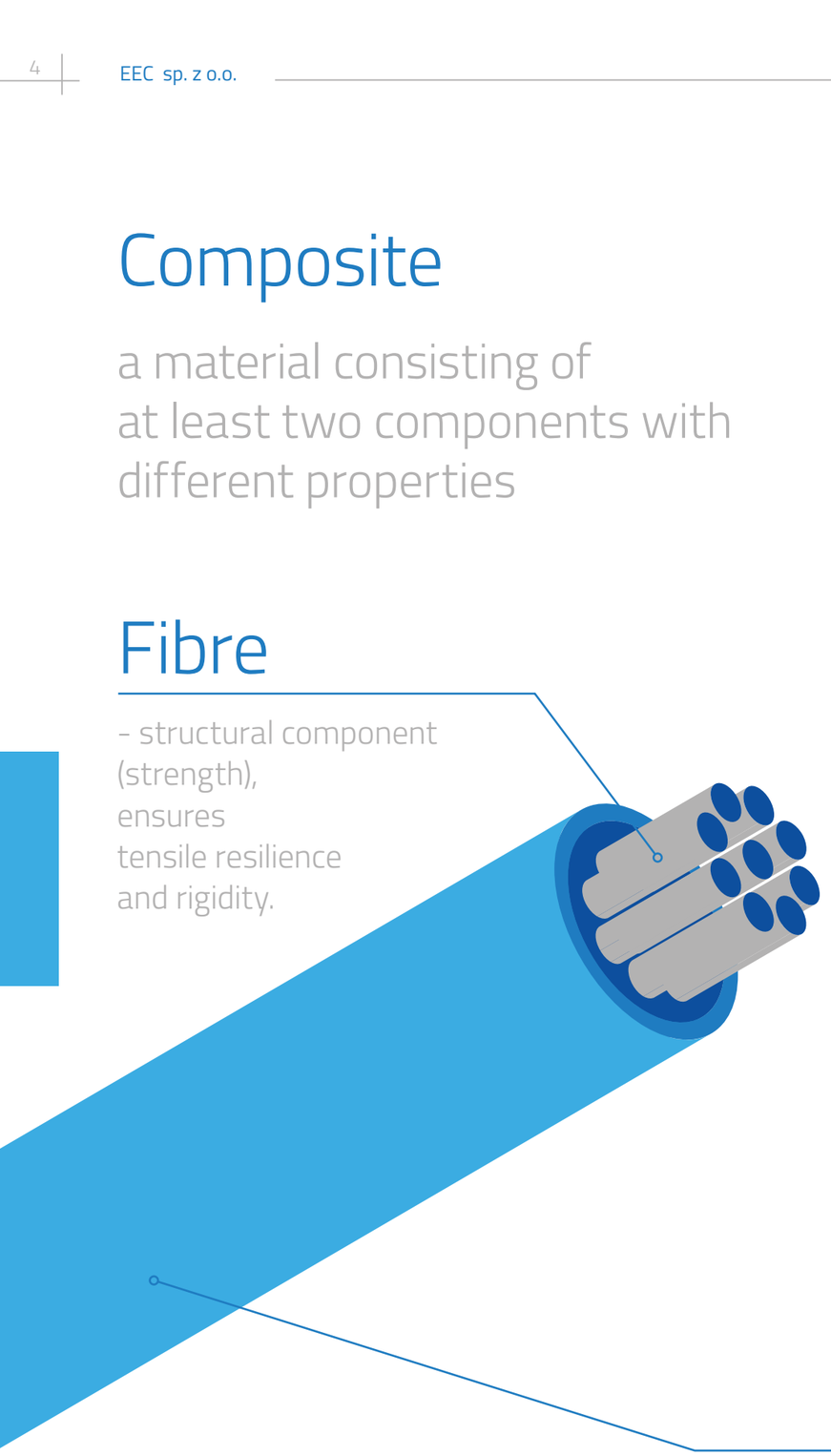
EEC Sp. z o.o. is a company specializing in the development and manufacture of innovative composite products used in industry. Since 2012, we have been implementing projects within the framework of broadly defined composite technologies, constantly developing our own innovations using glass, basalt and carbon fibres. The company relies on its own "know-how", and the industrial designs we have developed are subject to patent applications. The main profile of the company's business is the production of the patented MiMesh® composite meshes, which protect ceilings and side walls in mining plants. The name EEC comes from Eastern Europe Composites.

Composite

a material consisting of
at least two components with
different properties

Fibre

- structural component
(strength),
ensures
tensile resilience
and rigidity.



Matrix

- saturates and coats the fibre bundle
creating lasting protection against mechanical damage and
stress. It can also give extra resilience.

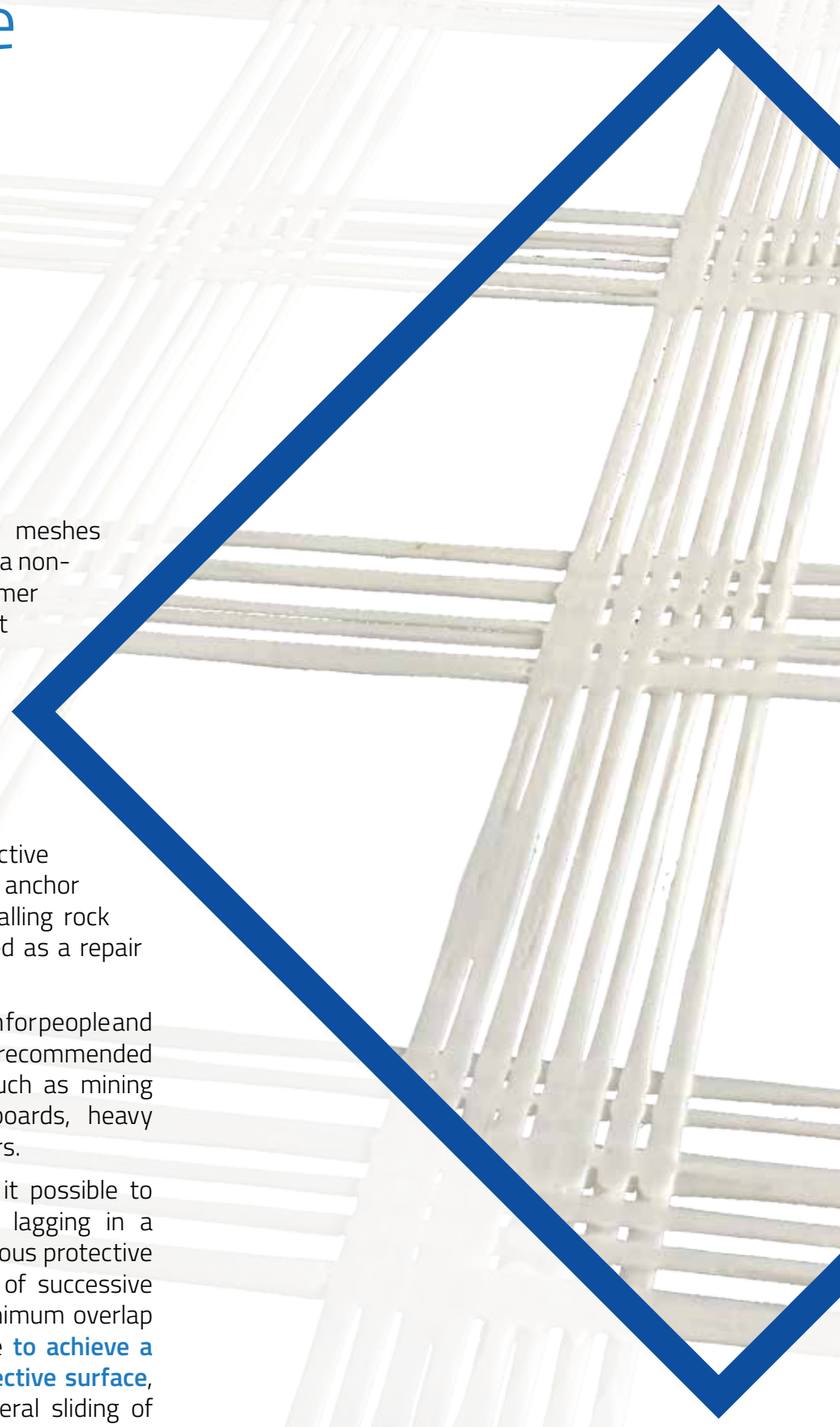
Composite MiMesh®

MiMesh® OKK75 composite meshes made based on glass fibres in a non-flammable antistatic polymer matrix, are used to protect ceilings and side walls in underground excavations of metal ore mining plants, coal mines, salt mines and mines of mineral raw materials or other minerals.

MiMesh® acts as a protective lining in an independent anchor housing, protecting against falling rock fragments. It can also be used as a repair kit for corroded steel covers.

MiMesh® is a modern protection for people and equipment. It is particularly recommended for permanent workplaces such as mining chambers, electrical switchboards, heavy machinery and pump chambers.

The use of MiMesh® makes it possible to create ceiling and side wall lagging in a simple way, creating a continuous protective surface. The interconnection of successive rows of the mesh, with a minimum overlap of 150mm, makes it possible **to achieve a uniform and consistent protective surface**, without the possibility of lateral sliding of individual rows of the mesh.



MiMesh® can be fixed using both steel and plastic anchors, while with the latter, the whole casing remains completely workable and need not be dismantled when widening the excavation.

The MiMesh® sheets are rigid and resilient, which makes them flexibly fit into the rock mass. Unlike other polymer meshes, they are not flimsy, so they do not fall by gravity during installation. It should be added that they are 3 times lighter than their steel counterparts. All this combined, results in significantly higher installation efficiency.

More importantly, MiMesh® is resistant to corrosion and chemicals and therefore it can be used even in the most aggressive environments. Unlike steel meshes, it does not require periodic replacement, which translates into a significant reduction in maintenance costs.

MiMesh® is intended for use in underground excavations of mining plants, in excavations classified as class "a", "b" or "c" of methane explosion hazard and class A or B of coal dust explosion hazard.

...do you know
that to produce
one OKK75 GS1 MiMesh® almost
2km of glass fibre is used?

Advantages of composite MiMesh®

Cost-effectiveness
- due to the low cost of maintenance, transport and assembly

Corrosion resistance
- 100 % resistant to corrosion, completely resistant to contact with water

Resistance to chemical agents,
both acidic and alkaline

Shape Memory
- resistant to permanent deformations

Low weight
- results in lower transport and assembly costs. Its weight is three times lower than of its steel equivalent

Durability
- excellent strength parameters, meeting the standards for steel products

Fast installation
- significantly improves installation time and cost

Flexibility
- flexibly adjusts to uneven wall and ceiling surfaces

No radio interference
- does not interfere with the communication of transmitters and receivers on site

Certificates
- product approved for use in underground mines

Non-combustible and antistatic product
- does not accumulate electric charge

Environmental friendliness
- the product is organic, non-toxic, easy to dispose, compliant with European standards in terms of environmental protection

Workability
- fully workable by standard mining methods

Longevity
- is not degraded for up to 100 years, making expensive repairs unnecessary

Technical parameters

MiMesh® OKK75	GE	GEL	GS1
mesh dimensions [mm]		75 x 75	
mesh format [mm]		1765x1765; 1420x1420	
mesh strip width [mm]		40	
thickness [mm] (±10 %)	2.5	3	4
weight [kg/m^2]	1.25	1.75	2.25
equivalent Mg(F_{max}) of mesh load capacity [kNm]	5.3	7.1	9.9
Highest recorded value of mesh bending force F_{max} [kN]	21.4	28.5	39.6

Colour:	white, uniform
Strength parameters:	according to PN-G-15050:2018-01
Surface resistance:	antistatic mesh - in accordance with the requirements of the standard PN-EN ISO 80079-36:2016-07
Flammability:	flame retardant mesh - in accordance with the requirements of the standards PN-EN ISO 340:2013-07 point 5.7 excluding points 5.7.5 and 5.7.6
Toxicity and harmfulness assessment:	Fibreglass mining mesh does not pose a threat to the health and the lives of employees

The mesh format should be adapted to the anchoring spacing.
Suggested mesh format for sample anchoring spacings

mesh format [mm]	anchor spacing [mm]
1420 × 1420	1200 × 1200
1765 × 1765	1500 × 1500

MANUFACTURED IN POLAND ACCORDING TO EU STANDARDS

Additional filling with fibre glass

All variants of MiMesh® come in a variant with additional non-flammable, antistatic fabric of fibreglass, with which the grid holes (meshes) are completely filled.

Composite
vs. steel mesh

	Mesh of fibreglass	Steel mesh
Corrosion resistance	✔	✘
Low weight	✔	✘
Easy to transport	✔	✘
Resistance to aggressive chemical environment	✔	✘
High strength	✔	✔
Flexible fit to surfaces	✔	✘
Resistance to permanent deformations	✔	✘
Low conductance thermal conductivity	✔	✘
Easy to cut	✔	✘
Workable	✔	✘
Permanent colouring	✔	✘

References, certificates, patents

The products of the company have been tested and implemented in all KGHM copper ore mines, in the coal mines of LW Bogdanka, Tauron Wydobycie and tourist mines such as the "Wieliczka" Salt Mine and Guido Historic Coal Mine. Our products are also successfully applied in Swedish iron ore mines.

EEC products have all required approvals for use in underground mining operations.

They are protected by patent rights.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CERTYFIKAT
uprawniający do oznaczenia wyrobu znakiem bezpieczeństwa
Nr OBAC/0140/CB/19
(Przedłużenie certyfikatu Nr OBAC/0636/CB/15)

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z up. Kierownika Jednostki Certyfikującej
mgr inż. Zbigniew Tarnawski


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ZNAKI TOWAROWE I WZORY

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Niniejsze Świadectwo Rejestracji zostało wystawione dla przedstawionego poniżej Zarejestrowanego Wzoru Wspólnotowego. Wszystkie dane dotyczące tego wzoru zapisane są w Rejestrze Wzorów Wspólnotowych.

OHIM – OFFICE FOR HARMONIZATION IN THE INTERNAL MARKET
TRADE MARKS AND DESIGNS

CERTIFICATE OF REGISTRATION

This Certificate of Registration is hereby issued for the Registered Community Design identified below. The corresponding entries have been recorded in the Register of Community Designs.

Prezes / The President

António Campinos


TÜVRheinland
CERTIFIED

System zarządzania ISO 9001:2008

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NARODOWA STRATEGIA SPÓJNOŚCI

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