

Matter and Sustainability

January 2017

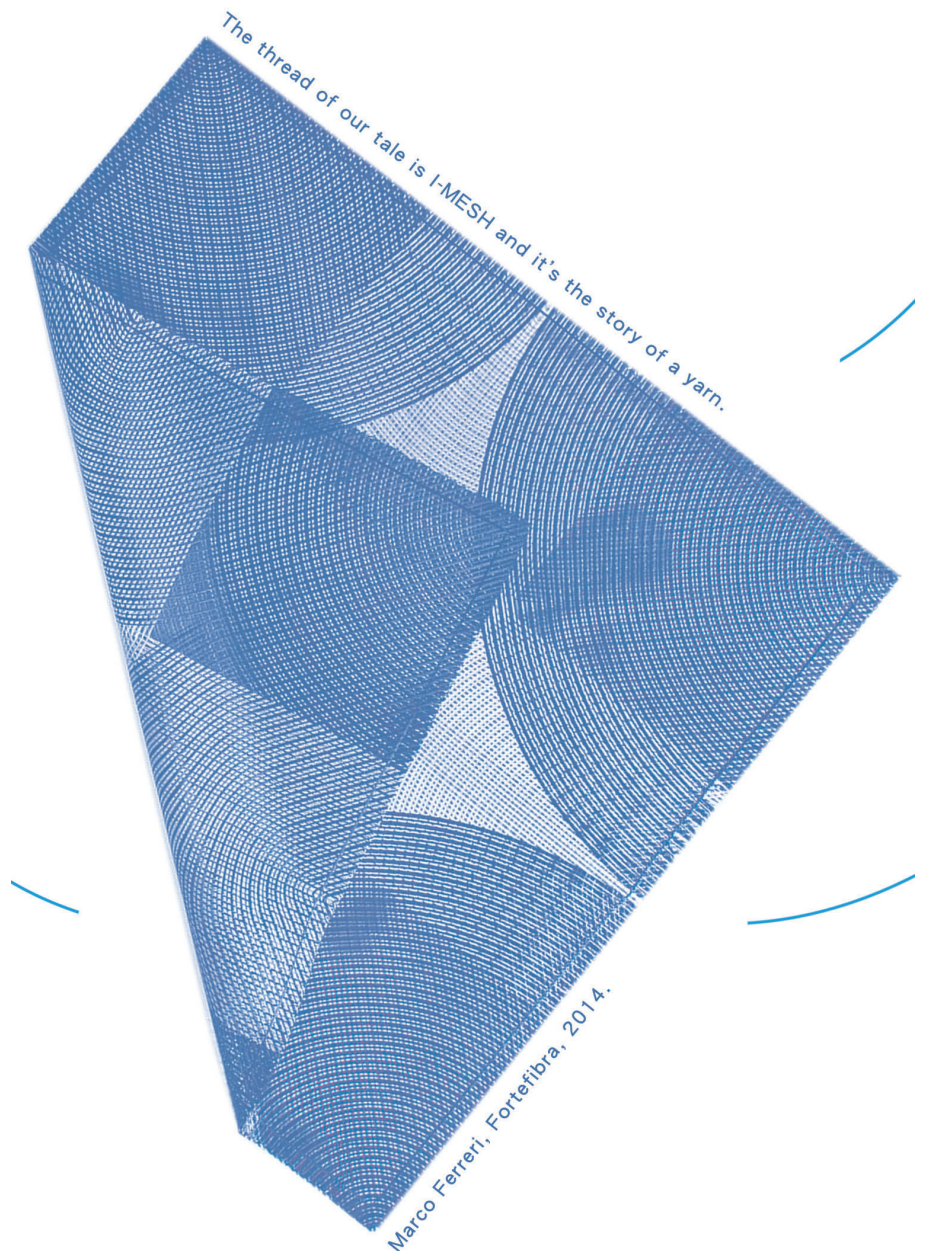
I-MESH

I-MESH is the result of an experience based on the theoretical study and on the experience acquired on composite materials – stiff and flexible – mainly in the nautical and aerospace environment, thus in conditions which require the greatest performances and safety.

It has to be regarded as an invention in terms of innovation of use and application; it has to be regarded as an evolution and a transfer of technologies which are already implemented in similar sectors.

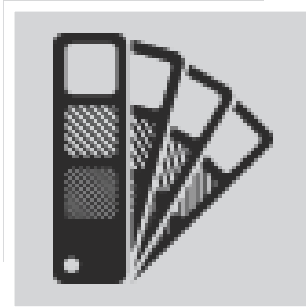
For its physical and constituent characteristics, it is sustainable, recyclable, noise-absorbing, insulating, non-combustible and it guarantees the greatest energy saving. The sustainability, a concept linked to the installations we make, becomes a company working style, a philosophy that translate into an evergoing project.

To the point that even the small waste we have in production becomes a new project a new development program, something new to invent everytime.



I-MESH

COLORS



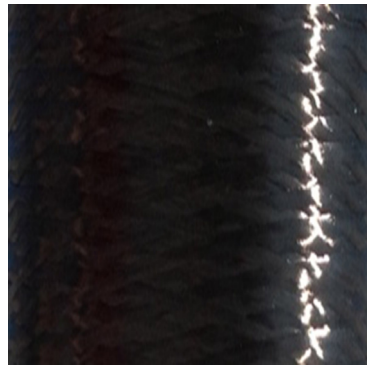
I-MESH is made in the following colors: Black, White, Copper, Gold, Basalt.

Due to its reaction to light it is not possible to associate the color of the materials with a single RAL reference. However, to provide a guidance we can indicate the reference RAL related to two conditions: if radiated by the sunlight or not.



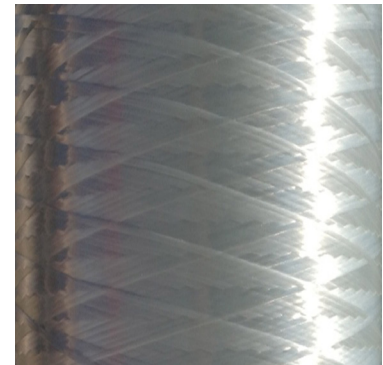
Basalt
Color: Basalt

RAL 7048 un-radiated
RAL 1036 radiated



Carbon
Color: Black

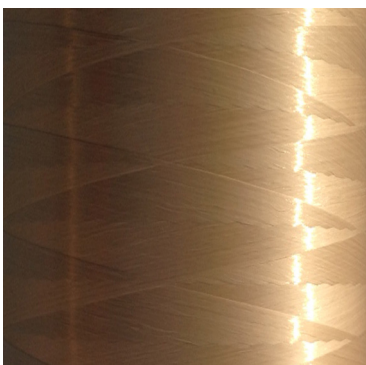
RAL 9011 un-radiated
RAL 7021 radiated



Fiberglass
Color: White

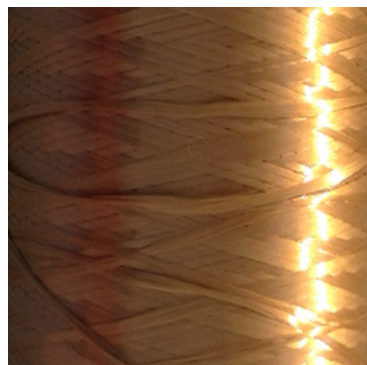
RAL 9003 un-radiated
RAL 9016 radiated

Yarns can also be dyed for major interiors projects.



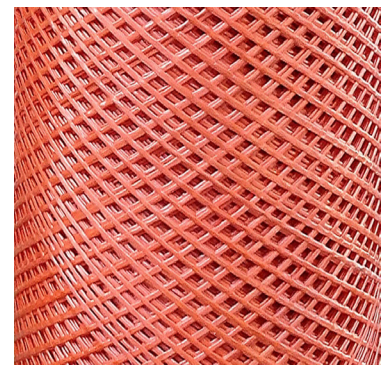
Technora
Color: Gold

RAL 1015 un-radiated
RAL 1018 radiated



Zylon
Color: Copper

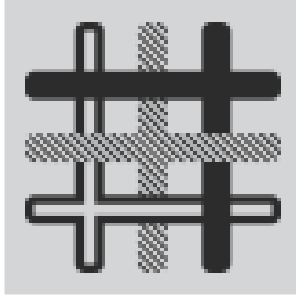
RAL 1032 un-radiated
RAL 1005 radiated



Orange
Color: Orange

RAL 2009 un-radiated
RAL 2008 radiated

I-MESH



DESIGN

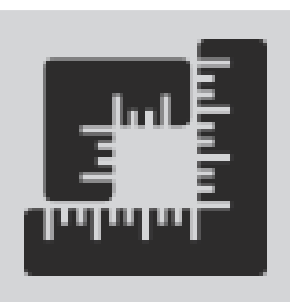
I-MESH is functional and expressive matter. I-MESH is a multi-axial, yarn-oriented material.

I-MESH yarn layout can be totally customized by our designers in close collaboration with the customer. It is constituted by different materials, also used in the nautical and aerospace sector, chosen according to the expected function. The raw materials used have excellent flame-retardant properties, high mechanical and physical performances, excellent thermal insulation power, and they are resistant to attacks of chemical debris.



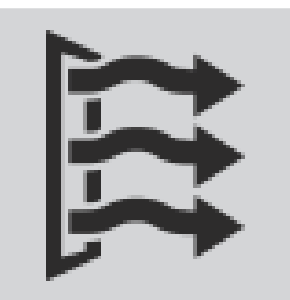
NOISE REDUCTION

A very important property of I-MESH is its capability of reducing noise that has been evaluated by specific tests carried out in accordance with the norm ISO 11654:1998 ("acoustics - acoustic Absorbers for the house building - Evaluation of the acoustic absorption").



DIMENSIONS

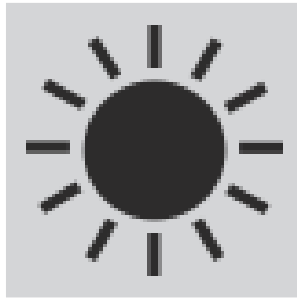
I-MESH can be produced in small size panels or in to very large panels, up to 5x15 meters or 5x12,5 meters depending on the finish.



THERMAL DECOMPOSITION

It is important to clarify that in the I-MESH system, the yarns are not utilized in crude form, but are impregnated with resins. Such resins are designed to increase the yarn life span.

I-MESH



RADIATION THERMAL SHIELD

The thermal characteristics of I-Mesh depend on the type and relevant density of the weaving (opening of the mesh and values of thermal conductivity, reflectance, and emissivity of the fibre).

A surface with high solar reflectance and high thermal emissivity has the capacity to reflect impacting solar radiation and to re-radiate most of the fraction that it has absorbed from the solar radiation, avoiding summer overheating.

The most important application of I-Mesh in terms of energy efficiency is architectural façades and their function as devices to screen solar radiation, double skins, ventilated façades, and thermal buffers.



THERMAL DECOMPOSITION

The peculiar nature of the fibers we utilize in the manufacture of I-MESH is non-combustible. However depending on the resin system we utilize the product complies with various fire resistance standards.

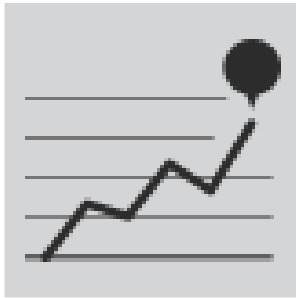
Basic finish: ITA Class 2 (UNI9174:1987+A1;UNI9176:1998)

Finish S1: ITA Class 1 (UNI9174:1987+A1;UNI9176:1998) - EU B-s1-d0 (EN ISO 11925-2:2010) - Class A (ASTM_E84_16-068A) - FSR: 10 - SDC: 35 (CAN_ULC_S102_16-068B)

Upon request we can perform new tests to comply to your local standard.



I-MESH



COMPARISON

The main difference between a conventional technical fabric and I-MESH is in the way the material is engineered.

On a conventional technical fabric the stabilizing resin system is normally placed on the weaved fabric, whereas in manufacturing I-MESH the coating is made on the yarn.

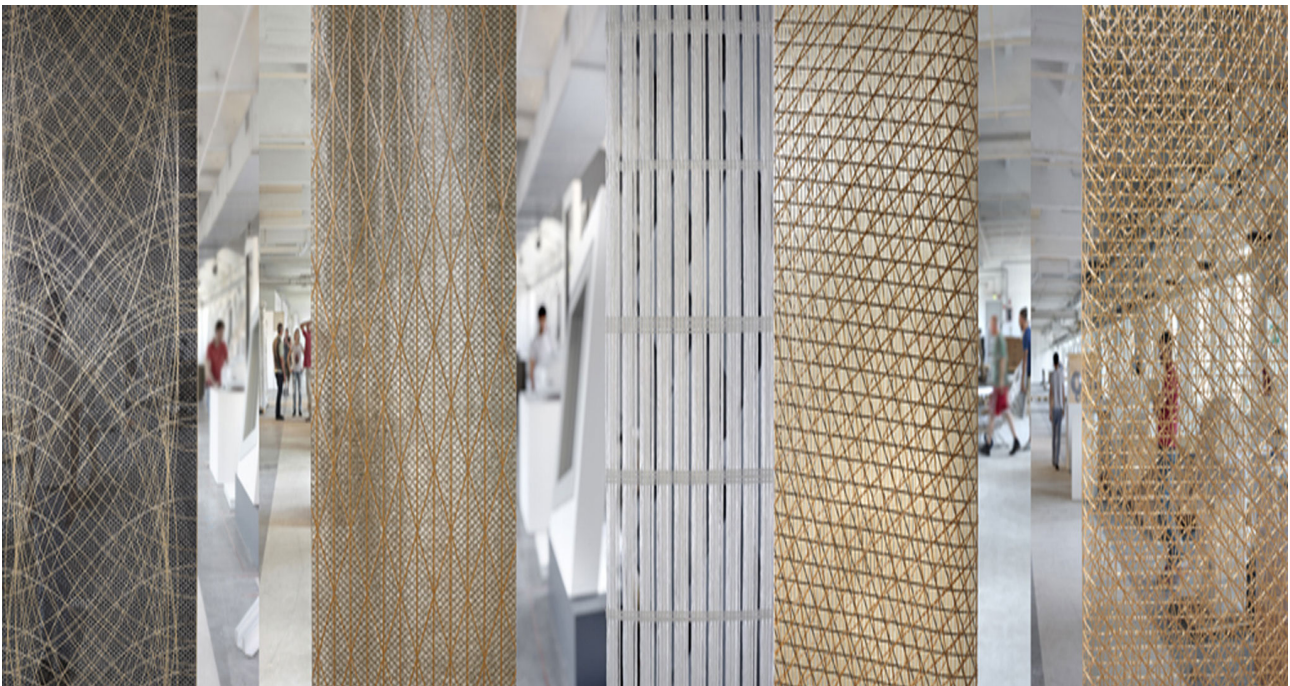
This in turn enables a more durable protection of the yarn that constitutes the fabric and a different “weaving” process.

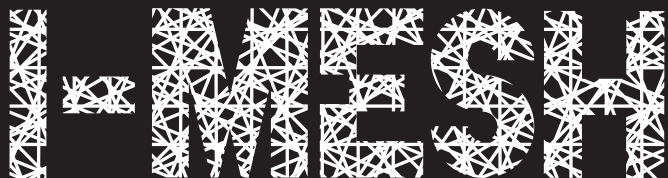
The results of a comparison between I-MESH, which is produced in such an innovative way and other mesh types, are the following ones:

METAL GRIDS	I-MESH
Strong	6/7 times stronger than metal
Conventional patterns	Total freedom in patterns design
Easy to rust	Non-rusting
Low noise absorption	High noise absorption
Costly	Price competitive
Thermic conductor	Athermic
Excellent fire retardancy property	Excellent fire retardancy property
Low sustainability	Eco-friendly
Difficult to maintain	Easy to maintain and/or replace

I-MESH

PVC COATED MESHES	I-MESH
PVC toxicity	PVC free
Low strength	High strength
Biaxial	Multi-axial
Reduced width	Wider width
Conventional patterns	Total freedom in patterns design
No chromatism for UV stability	Possible chromatism and fiber mixing





I-MESH

info@i-mesh.eu

+39 07122163

www.i-mesh.eu

Marketing contacts :

info@i-mesh.eu

#Imeshmktg

#IMESH

#thethreadofyourtale

Via dell'Artigianato, 17-25
60026 NUMANA (ANCONA) ITALY
+39 07122163 - info@i-mesh.eu