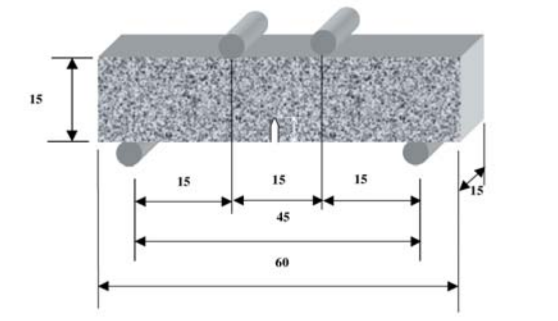
La Gramigna

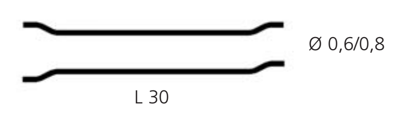
Types of La Gramigna fibres most commonly used in the sprayed concrete or gunite sector

ART.	WEIGHT OF BOX	WEIGHT OF PALLET
060 x 30	20 kg	1260 kg
070 x 60	20 kg	1260 kg
080 x 30	20 kg	1260 kg
060 x 30 S	20 kg	1260 kg

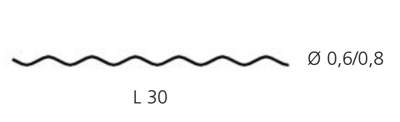


Above, a diagram of the girder used for the concrete classification deflection test.

GEOMETRY OF LA GRAMIGNA FIBRES



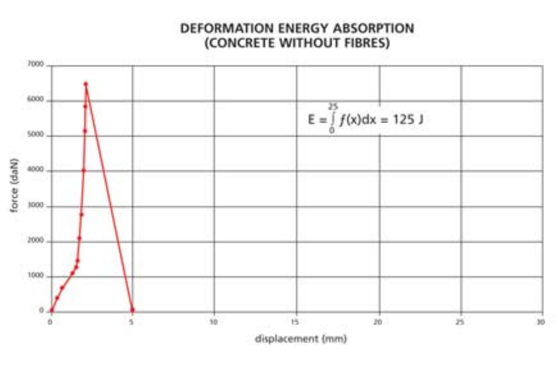
HOOKED

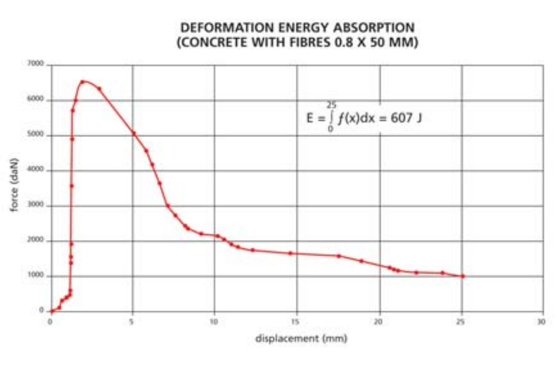


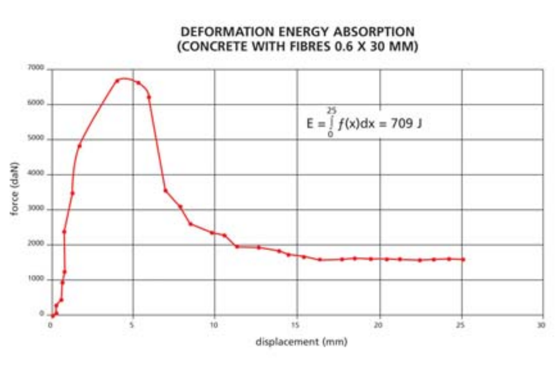
ONDULATED

TECHNICAL DATA SHEET	
Breaking strength	> 1200 N
Tensile stress	> 800 N
Ultimate elongation	< 2%

CHEMICAL ANALYSIS PURELY INDICATIVE	
C	0,04
MN	0,25
SI	0,03
P	0,012
S	0,013







At left, detailed view of the test piece in the test machine.

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TurboDiesel 03-2/2004 I GALLERIE

La Gramigna

Steel fibres

for concrete structural reinforcement

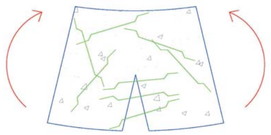
T U N N E L S

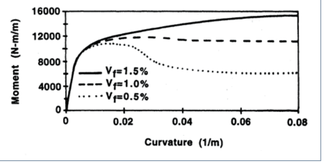
la matassina

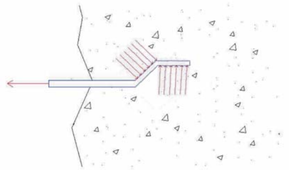
La Gramigna TUNNELS

steel fibres
for concrete structural reinforcement

The increase of the tensile strength of cement mix through the addition of fibres has been the subject of special study in recent years.
Fibres were initially added to improve the performance of material in regard to shrinking or cracking without taking maximum advantage of the structural possibilities offered.
The first such structural applications in which fibres partially or even completely replaced traditional concrete reinforcement have appeared only recently.







Fibres inside the cement matrix serve to provide a composite material in which the mix is enriched by the presence of reinforcement composed of fibres of various nature. Steel fibres are the most commonly used for such structural applications.

La Gramigna steel fibres are usually constructed with low-carbon steel.
Fibres function as a diffused element of strength that "sews" the flaps of the crack together and therefore it is clear that fibres become efficacious and improve concrete performance only after the matrix has set.

La Gramigna steel fibres are specially shaped at the end for more efficient anchoring.

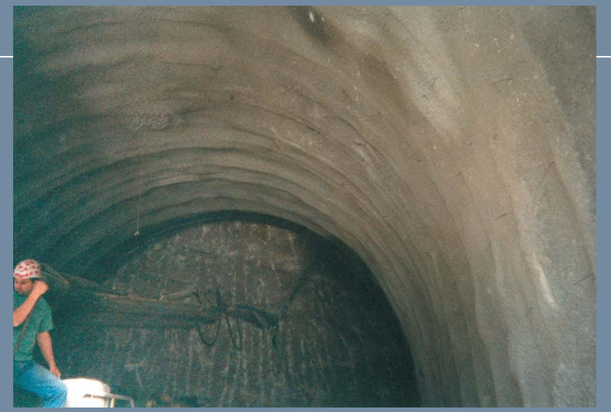
The most important structural applications of concrete reinforced with La Gramigna steel fibres are currently industrial flooring, prefabrication sector and sprayed concrete.

Sprayed concrete

This concrete is used for the facing of tunnels, the consolidation of rock walls, and the repair of dams and bridges.
The product is characterised by the use of a more slender (Ø 0.60/0.80) and smaller (30 mm) fibre that permits to increase the quantity of fibres/kg while simplifying laying at the same time using the respective air spraying machines.

The advantages obtained by the use of La Gramigna steel fibre-reinforced gunite are:

- elimination of the need for electrowelded wire mesh with consequent savings in labour costs for cutting, shaping and laying;
- savings in concrete thanks to constant thickness;
- increased production because just one operation is required to apply reinforced concrete using automatic machines in complete safety.



In order to obtain extremely homogenous sprayed concrete without lumps or tangles dangerous for automatic spraying machines, we provide the equipment necessary to load and disentangle **La Gramigna** fibres.