



I.Ma.C. CARBON
INDUSTRY

TUV
UKQA



THE COMPANY THE COMPANY

I.Ma.C s.r.l is an ISO 9001-2000 certified company specialised for many years in manufacturing Carbon fibre tubing.

I.Ma.C tubes are used in some very interesting and a variety of different applications including: industrial sector, sporting good manufacturers, spars manufacturers, high tech industry and furnishing sector.

I.Ma.C has the capability to produce round, elliptical, foil, parallel and tapered tubing.

Manufactured using a roll wrap process from carbon fibre, glass fibres or other hi tech fibres and a pre-preg epoxy based resin.

I.Ma.C' tubes offer a strong yet light weight and economically viable alternative to traditional materials and custom manufacture to the strength that you require for your application.

I.Ma.C can offer finishing and painting services to meet your geometric tolerance and aesthetic appearance requirements.

I.Ma.C customer orientation means Punctuality, Rapidity, Flexibility and Confidentiality.

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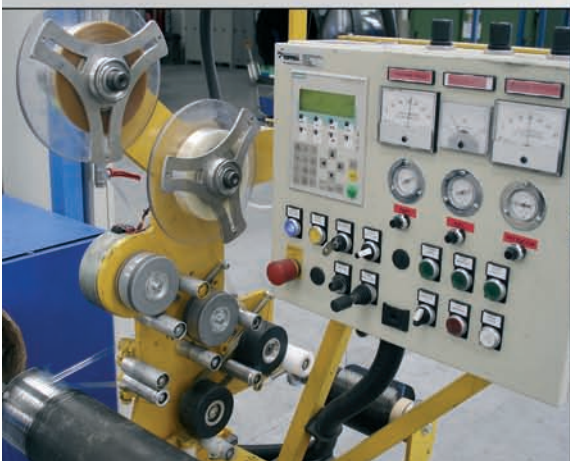
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FLEXIBILITY FLESSIBILITÀ

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QUALITY QUALITÀ

Using pre-preg material allows for great precision when it comes to the amount of Carbon and Resin that is used for each tube. Using Autoclave oven curing process and the heat-shrink wrapping ensure that all the resin is squeezed out uniformly over the whole tube allowing for excellent repeatability and a flawless tube. These two factors together are giving excellent quality.

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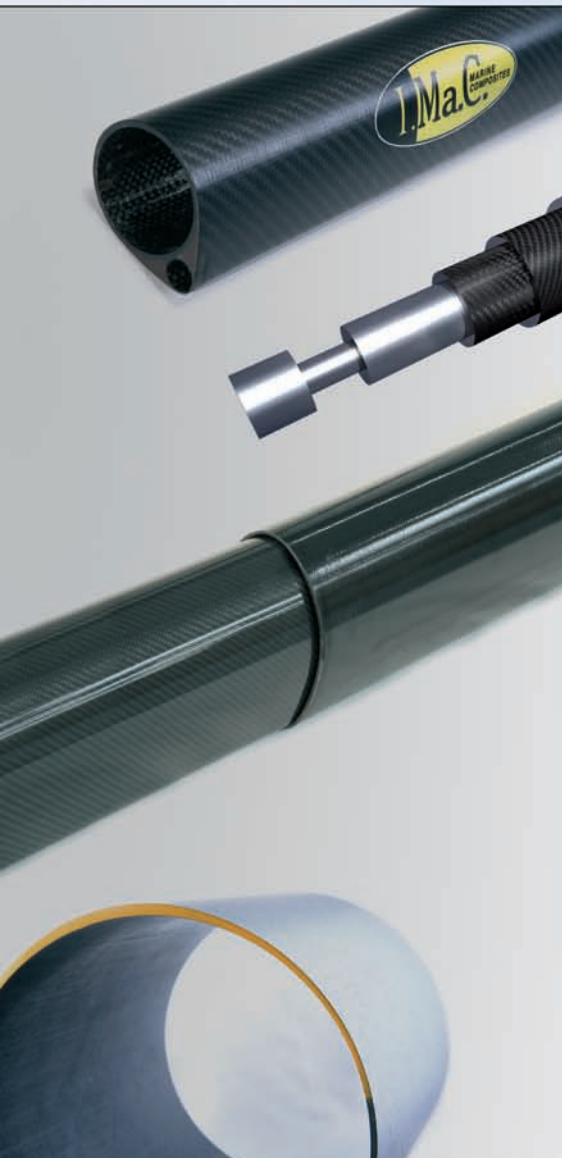
CERTIFICATION CERTIFICAZIONE

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IMAC TECHNOLOGY

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Roll-Wrapping

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is the technique used to make the Carbon Fibre tubes that we supply. It is a male-moulding process which means that material is laid up around a mandrel.

The material is pre-impregnated with Epoxy resin so the exact ratio of fibre/resin is guaranteed. Material is added in layers (Carbon, glass, Kevlar, or combinations of) and can be added with fibres in varying directions to achieve the required structural properties and physical dimensions.

Once the material is correctly laid up a heat-shrink wrap is applied to the tube and it is placed in an autoclave or oven for the resin to cure.

The heat-shrink wraps contracts and the pressure on the tube helps cure the resin and ensure that it is evenly distributed throughout the tube.

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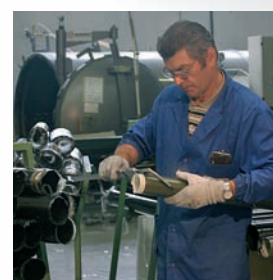
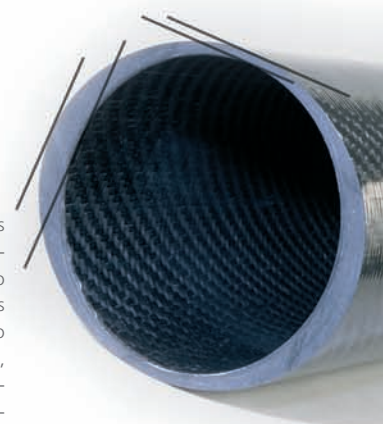
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Quality Quality

The strength of the tube comes from the carbon fibres themselves, and the resin is used solely to hold the fibres in place. Excess resin in the tube simply serves to increase the weight of the tube, and reduce its strength..

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Customisable designs for specific applications



Perhaps the biggest advantage of the manufacturing process used to produce our tubes is the ability to customise tubes for specific mechanical requirements.

The fibres can be laid to run in multiple directions within the tube in varying ratios allowing you to customise the tubes structural properties.

Also the quantities of carbon, glass, or kevlar within the tube can be specified to obtain the perfect offset of weight, strength, cost and so on.

In summary our tubes can be made to the perfect properties required for the application.

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Material content & Lay-up

Material content & Lay-up

The amount of Carbon, Glass, and Kevlar content can be varied to offset weight, strength, and cost.

Fibres can be made to run in any direction through the tube in different amounts to ensure that the tube gets the required mechanical properties. Outer Diameters and Wall thickness can be specified as required.

Tubes can be produced with diameters ranging from 6 mm to 300 mm and the maximum length can be 9 m (Maximum length available in oven curing process) although lengths do vary with different mandrels.

Surface Finish Surface Finish

Our tubes can be supplied in a 3 varieties of surface finishes:

- Standard natural finish off a roll wrapped tube has a slight ridge that spirals round the length of the tube and it is known as 'Rat-tail finish'.
- If required this can be sanded off in order for the tube to be painted or lacquered.
- or for more aesthetic applications can be made with an outer layer which gives the tube a Satine finish.

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Tapered

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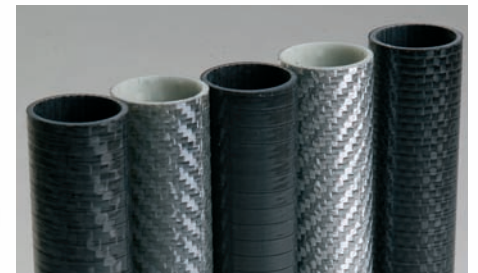
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Physical dimensions Physical dimensions

The composite tubes are manufactured using a male-moulding process which involves laying-up material over a mandrel.

This means that tubes are specified by their internal diameter and then either Outer Diameter or wall thickness can then be specified. There are limits to the maximum length that can be supplied but we can implement a proven joining process to reach any length required and also allow ease of transport.

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Customised tubes Customised tubes

One of our biggest selling points is our ability to provide our customers with a customised tube to best match their requirements.

Tubes can be specifically designed to have the exact mechanical properties required by the application. When designing your carbon tube a number of factors can be varied. These include the actual physical dimensions of the tube, the material content & lay-up, and the surface finish & colour.

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Applications

Applications



Industrial applications

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High speed idler rollers for industrial production and packaging plants.
High speed idler rollers for industrial production and packaging plants.

Lampshade for furnishing industry – aesthetic
Lampshade for furnishing industry – aesthetic

Covered awnings and annexe poles - strong & lightweight.
Covered awnings and annexe poles - strong & lightweight.

High pressure tube for water maker – strong & lightweight
High pressure tube for water maker – strong & lightweight

Légende
Légende

Légende
Légende

Boating industry

Boating industry



Dinghy Multi-hulls beams.
Dinghy Multi-hulls beams.

Spars makers: Mast, boom, spreaders, spinnaker pole, bowsprit etc...
Spars makers: Mast, boom, spreaders, spinnaker pole, bowsprit etc...

Tiller & Tiller extensions.
Tiller & Tiller extensions.

And other variety of applications
And other variety of applications

Mat de planche à voile
Mat de planche à voile

Sport equipment applications

Sport equipment applications

Légende
Légende



Bicycle – strength
Bicycle – strength

Motorcycle muffler – vibration & aesthetic
Motorcycle muffler – vibration & aesthetic

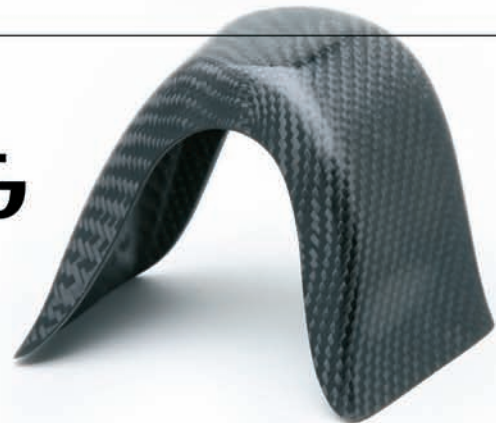
Canoe paddle shaft - lightweight
Canoe paddle shaft - lightweight

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Pièces moulées

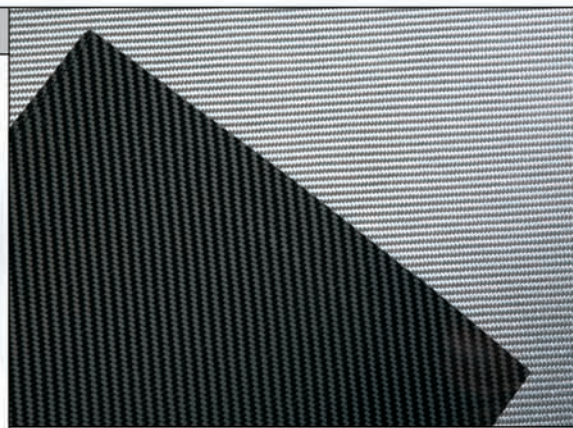
Pièces moulées



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Légende



Légende
Légende



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Bicycle – strength
Bicycle – strength

Motorcycle muffler – vibration & aesthetic
Motorcycle muffler – vibration & aesthetic

Canoe paddle shaft - lightweight
Canoe paddle shaft - lightweight



Légende
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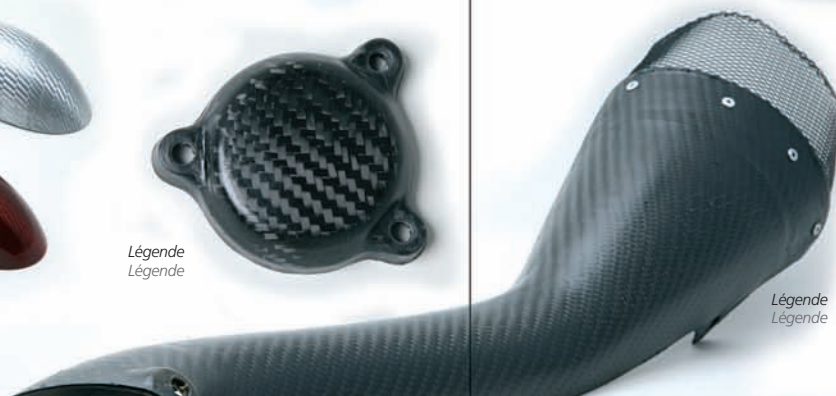
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COME RAGGIUNCERCI



www.imacsrl.com

I.Ma.C. s.r.l.

Sede Operativa - Working Office
Via dei Longobardi, 47/1 - Z.I.
Tel. ++39.(0)434.917053
Fax ++39.(0)434.917062
info@imacsrl.com
33080 San Quirino - Pordenone
ITALY

Sede legale - Registered Office
Via del Maglio, 2
33170 - Pordenone
ITALY