

## CARBON FIBRE INSIDE PERSICO

processed by



Persico S.p.A. proposes innovative solutions for the nautical field, based on research, development and application of new updated technologies.

As far as the future development, **Persico has signed an agreement with SP, the marine business for the supply of SPRINT® technology for carbon masts.**

Competitive price combined with prompt delivery (thanks to a new procedure that reduces production times improving the mast technical characteristics), consent **Carmatech masts** to enter the high profile nautical field with conceit.

The new licensed process avails of the usage of **heated moulds**, so as to solve and surpass the now existing productive problems, mainly related to the usage of autoclaves that are employed to obtain the pressures and the temperatures necessary for the composite corrected polymerization.

This new technology permits to develop the following materials: typical materials for masts production, boom, structural appendixes, crosspieces for marine and aeronautical usage.

To be up to date, a specific **area employed for composites** has been created within the Persico plants.

The usage of Carbon Fibre in any field permits to obtain light, rigid and resistant components.

At the beginning the applications that most benefitted of its employment were limited at the aerospace field. Nowadays excellent results were reached also in the nautical field, where good resistance and low weight are fundamental requirements.

Today Persico is able to construct sailing boats as well as motor boats, utilizing composites materials thanks to specific equipments and tools, for the process of the high module carbon fiber, present inside the plant.

In order to get the maximum benefit from the composite exceptional mechanical properties and in order to realize a final product of great dimensions, Persico has recently bought **a vacuum system and an oven for the post cure**. They also consent a best standard production and the rolled steels resistance increasing.

Furthermore Persico utilizes sophisticated CNC machineries, to hand over maximum precision in shapes and profiles, in construction of plugs and moulds also relative to appendix. Persico is the first Italian Company utilizing milling machinery with dimensions of (23x7x3.0)m.

***We are convinced that the reading key for the present time as well as for the future time is High Technology supported by a fundamental constructive Know-How.***

**Please have a look to the Brochure enclosed to have an impression about our products.**

Andrea Rottigni  
*Business Development*

Persico S.p.A.  
via R. Follereau, 4 . 24027 Nembro (BG) Italy

ph. +39 035 4531711 . fax +39 035 4531712  
[www.persico.com](http://www.persico.com)  
p.i. 01508540166



Meet us at the SP stand 01.144 at METS  
Tuesday 17th – Thursday 19th November 2009  
Amsterdam Rai Convention Center



## CARBON FIBRE INSIDE PERSICO

processed by



*La Persico S.p.A. propone soluzioni innovative per il settore nautico, basandosi sulla ricerca, sullo sviluppo e sull'applicazione di sempre nuove tecnologie all'avanguardia.*

Per quanto riguarda lo sviluppo futuro, **Persico ha firmato un accordo con SP, per il business nautico per la fornitura della tecnologia SPRINT per la produzione di alberi in carbonio.**

Il prezzo competitivo associato ai tempi di consegna ridotti, grazie ad un nuovo processo che riduce i tempi di produzione migliorando le caratteristiche tecniche dell'albero, fanno sì che gli **alberi Carmatech** entrino a far parte con slancio nel settore nautico di alto profilo.

Il nuovo processo brevettato si avvale dell'utilizzo di **stampi riscaldati**, che risolvono e superano gli attuali problemi produttivi, legati principalmente all'utilizzo delle autoclavi che si utilizzano per raggiungere le pressioni e le temperature necessarie alla corretta polimerizzazione del composito.

Questa nuova tecnologia permette di sviluppare i seguenti materiali: i tipici materiali per la produzione di alberi, boma, appendici strutturali, traverse per uso marino ed aeronautico.

Per stare al passo con i tempi all'interno degli stabilimenti della Persico è stata creata **un'area adibita ai compositi.**

L'utilizzo della Fibra di carbonio in qualsiasi settore permette di ottenere componenti leggeri, rigidi e resistenti.

Inizialmente le applicazioni che traevano maggior vantaggio dal suo utilizzo erano limitate al settore aerospaziale, ora anche nella nautica di alto livello, dove requisiti fondamentali sono alta resistenza e basso peso, si è ottenuto un ottimo riscontro.

Oggi la Persico è in grado di realizzare imbarcazioni sia a vela che a motore utilizzando materiali compositi grazie a specifici impianti ed attrezzature, per la lavorazione della fibra di carbonio ad alto modulo, presenti al proprio interno.

Per sfruttare al massimo le eccezionali proprietà meccaniche del composito e per realizzare un prodotto finale di grandi dimensioni, la Persico ha recentemente acquistato **un impianto sottovuoto ed un forno per la post-cura** che consente di attuare i migliori standard produttivi e permette di aumentare la resistenza dei laminati.

Inoltre la Persico per fornire massima precisione, nelle forme e nei profili, nella costruzione di modelli e di stampi, anche relative alle appendici, utilizza sofisticati macchinari a controllo numerico. La Persico è la prima azienda italiana che ha utilizzato fresatrici fino a dimensioni (23x7x3.0) m.

*Siamo convinti che **la chiave di lettura per il presente come per il futuro sia Alta Tecnologia supportata da un fondamentale Know-how costruttivo***

**Date un'occhiata alla nostra brochure allegata per avere un'idea dei nostri prodotti**

Andrea Rottigni  
*Business Development*

Persico S.p.A.  
via R. Follereau, 4 . 24027 Nembro (BG) Italy  
ph. +39 035 4531711 . fax +39 035 4531712  
[nautical@persico.com](mailto:nautical@persico.com)  
[www.persico.com](http://www.persico.com)  
p.i. 01508540166



Meet us at the SP stand 01.144 at METS  
Tuesday 17th – Thursday 19th November 2009  
Amsterdam Rai Convention Center

© 2008 Persico SpA - sede legale: via R. Follereau, 4 – 24027 Nembro (BG) Italy  
Tel +39 035 4531611 – Fax +39 035 4531612. Resolution 1024x768  
[www.persico.com](http://www.persico.com) - [info@persico.com](mailto:info@persico.com)

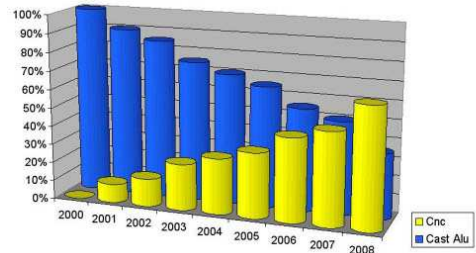
## PERSICO CNC MACHINED MOLDS

# FROM DESIGN TO FINISHED PRODUCT PLAYING HARD FOR YOU

### MANUFACTURING REVOLUTION

Constant demand for increased quality and shorter mold delivery times from the market are the keys to the revolution of mold manufacturing in Persico.

From the year 2000 when 100% of all molds were manufactured by Cast Aluminium to 2008 during which an estimated 65% will be produced by CNC, Persico has introduced new possibilities and opened new doors into mold manufacturing for the Rotational Molding industry.



Persico molds trend 2000-2008

	2000	2001	2002	2003	2004	2005	2006	2007	2008
Cnc	0%	10%	15%	25%	30%	35%	45%	50%	65%
Cast Alu	100%	90%	85%	75%	70%	65%	55%	50%	35%

### PERSICO CAPABILITIES

During the past 3 years Persico's investments have been focused on increasing CNC Machining capabilities (currently there are 20 CNC machines within Persico and a further 60 at associated partners) in order to guarantee availability of the latest technology, faster mold delivery time and the ability to manufacture more than 60 molds simultaneously..



### DAY AFTER DAY BIGGER AND BIGGER

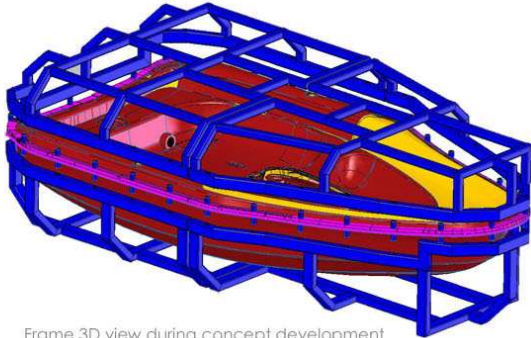
The latest investments have increased the size of mold parts which can be manufactured out of single blocks of aluminium. This brings the advantages of CNC machined molds, such as quality, tighter tolerances, improved aluminium properties and faster delivery times to large molds which have typically been manufactured only by cast aluminium.



CNC Machined Mold for a Sailing Boat 102x39x23 inches (2600x1000x600mm)

**MOLD FRAME INNOVATIONS**

The design of mold frames via CAD files and their manufacture by laser cutting allows the mold and frame to be produced in parallel using an advanced process to reduce human influence on final quality.



Frame 3D view during concept development



CNC Machined Mold in 4 Pieces  
(a total of 35 aluminium parts joined together)  
for Offshore Buoyancy Module 95x50x36 inches  
(2421x1270x916mm) Courtesy of Remcon Plastics Inc.

**THE BENEFITS OF COMPLEXITY**

The greater the complexity, the greater the benefits to be had by choosing a CNC machined mold when compared to a cast mold. Flange assembly and the internal surface profile are extremely accurate and permit a drastic reduction of the time to complete a mold after machining. The possibility for multiple parts to be joined together after machining eliminates the limit in size and complexity that can be achieved with CNC machined molds.

**THE ULTIMATE SURFACE FINISH**

Starting from aluminium blocks the ability to achieve higher degrees of surface finish is guaranteed by better aluminium quality vs. cast and by the optimum internal finishing of the molds once machined. High-gloss polished textures can be achieved much more quickly due to the advanced starting level of a machined surface, drastically reducing the cost for mold completion.



Persico S.p.A. | **Rotational Division**  
via G. Camozzi, 8 . 24027 Nembro (BG) Italy  
Ph. +39 035 4531811 . Fax +39 035 4531812  
p.i. IT 01508540166