

# (Sporty) new entrant

The MAT1180 – a new and relatively light IRC design from designer Mark Mills

The MAT1180 is an exciting next-generation IRC raceboat that is the product of a careful design, engineering and development process initiated by longterm clients Alp and Cem Somer of MAT boatbuilders in Turkey. With changes to IRC allowing lighter, faster boats at sizes above 40ft, MAT wanted to see if they could bring a competitive new design to the market under 39ft.

Since it wasn't clear how far down this rebalancing extended we produced a study in 2013 to investigate a range of lighter displacements at 11.8m LOA. It became clear there was space in IRC for an aggressively light and fast design, but only if well engineered and well built to hit the right weight and distribution of mass.

With the benefit of this study MAT were eager to proceed, so CFD work started with our R&D partners KND Sailing Performance, a leading firm in the field of CFD and VPP performance prediction. After looking at more than 20 hulls we settled on a powerful shape that offers low drag when upright with increasing stability as the hull immerses with heel. This increase in form stability allows a lighter overall displacement ensuring high performance offwind and in light air.

Achieving target displacement is key, so an engineering concept created by UK engineer Mark McCafferty was developed by Gurit to fully optimise the composite engineering, including hull, deck and internals with limited carbon in the keel frames and rudder, plus an SG iron keel-post inside composite fin shells. All the major elements are laid up in female tooling. The keel and bulb arrangement incorporates a facility for altering bulb weight and draft, allowing the boat to be moded in a heavier/shallower rating-centric configuration and a deeper/lighter performance-centric configuration. Combined with the scope to adjust sail area this opens up a



The first MAT1180 in early trials before being put on a ship for Australia. Light displacement ensures the performance of such a powerful hull in light airs

broad range of optimisation solutions for customers in the future.

The wide cockpit is laid out for optimal crew work and permits the full range of fore and aft crew weight positioning which is key for moding to different conditions. The interior has standing headroom under a shallow wedge coachroof with an asymmetric pit and hatch. A double swept-spreader, high-modulus Axxon carbon rig was selected for light weight and high tube stiffness, carrying a square-top main and generous masthead spinnakers.

MAT have been a superb builder of our designs, bringing their own talent for detail and construction to each example. We have been impressed at every stage of this project how committed the whole team has been to make this a breakthrough boat for MAT, and looking at the first boat launched in January some 2.5kg below the predicted build weight I can say our expectations have been surpassed. With a boat on its way to Australia and discussions for boats to the UK and US underway we hope to see a lot more of this light, powerful design. Base price of the MAT 1180 is €219,000.

Mark Mills, Ireland

## Custom builds

BOAT	LOA	DESIGNER	BUILDER	LAUNCH	COMMENTS
YD-37	11.22m	Bakewell-White	Yachting Developments	April 2015	Foxy new custom offshore racer to replace the team's sunken J/111
<b>OCD Class 40</b>	<b>12.13m</b>	<b>Owen-Clarke/Clay Oliver</b>	<b>Carbon Ocean Yachts</b>	<b>May 2015</b>	<b>Open 60 engineering and build quality in a Class 40. Designed by Owen-Clarke Design with engineering by Pure of New Zealand. Built in Rhode Island for a new US-based Class 40 team</b>
<a href="http://www.carbonoceanyachts.com">www.carbonoceanyachts.com</a>					
Ambush 41	12.42m	Mills Design	McConaghy China	April 2015	All-new custom IRC racer from a designer who's on a roll right now
TP52	15.85m	Botin Partners	Longitud Cero	April/May 2015	New Quantum Racing plus a sistership to follow for Andy 'Alegre' Soriano
TP52	15.85m	Botin Partners	King Marine	April/May 2015	The latest Azzura will share tooling with the new Bronerosec
TP52	15.85m	Judel-Vrolijk	Persico	April 2015	The next Rán will also have a sistership – the new Gladiator
TP52	15.85m	Botin Partners	Cookson	April 2015	Sled and Provezza (below) signify a return to TP52 building in Auckland
TP52	15.85m	Judel-Vrolijk	Cookson	May 2015	A new Provezza for Turkish owner-skipper Ergin Imre
TP52	15.85m	Judel-Vrolijk	Premier Composites	April 2015	The first TP52 to come from this highly acclaimed Dubai-based builder
Hugo Boss	18.28m	Verdier-VPLP	Green Marine	July 2015	Alex Thomson will start the next Vendée Globe on a brand new design
Banque Populaire	18.28m	Verdier-VPLP	CDK & associates	May 2015	A new Imoca 60 to go with the team's existing 30m (now) solo trimaran
Safran	18.28m	Verdier-VPLP	CDK & associates	April 2015	Safran's latest Imoca 60 will be sailed by young Figaro star Morgan Lagravière
Gitana	18.28m	Verdier-VPLP	Multiplast	July 2015	Séb Josse's hard work with Gitana pays off with the build of a new Imoca 60
Virbac	18.28m	Verdier-VPLP	TBC	Sep 2015	(Yet) another new Imoca 60 for the flying vet Jean-Pierre Dick
Imoca 60	18.28m	Verdier-VPLP	Persico	July 2015	Italian skipper Andrea Mura is the lucky customer for the latest VPLP-Verdier creation
Super Nikka	18.79m	Mills Design	Vismara Marine	July 2015	Fast lift-keel all-carbon cruiser-racer for the Med circuit
High Spirit	20m	Botin Partners	King Marine	June 2015	Powerful-looking all-carbon racer-cruiser with canting keel
JV72	21.82m	Judel-Vrolijk	Persico	March 2015	A second boat is now being built using the Rán tooling at Persico
Cafe Racer	26.36m	Humphreys Yacht Design	TBA	End 2015	New all-carbon/Nomex day racer features a deep lifting keel and twin rudders
WallyCento 3	30.34m	Reichel-Pugh	Green Marine	May 2015	The third WallyCento will be (much) more Magic Carpet than Hamilton...
Macif	30.5m	VPLP	CDK	June 2015	François Gabart gets a new singlehanded multihull to help keep him fit
<b>WallyCento 3</b>	<b>30.34m</b>	<b>Reichel-Pugh</b>	<b>Green Marine</b>	<b>June 2015</b>	<b>The third WallyCento will be (much) more Magic Carpet than Hamilton. Currently approaching completion for a USA owner, big news will hopefully come soon with confirmation of the 4th WallyCento</b>
<a href="http://www.greenmarine.co.uk">www.greenmarine.co.uk</a>					
J9	41.5m	Hoek Design	Holland Jachtbouw	End 2015	Original 1936 Frank Paine design
J8	42.64m	Hoek Design	Holland Jachtbouw	2015	Original 1935 Frank Paine design
Tiger Jay	43.6m	Hoek Design	Bloemsma Shipyard	2015	Original 1937 Tore Holm design



spinlock