M.A.T.
1180

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IRC 11.80 m Racer

Specification
January 2015

Design
Mills Yacht Design, Mark Mills
www.mills-design.com

Composite Engineering
Gurit
www.gurit.com/engineered-structures

Dimensions

Hull length	11.80 m
LWL	10.18 m
Beam max	3.98 m
Draft	2.50 m
Displacement	4.375 kg
P	15.75 m
E	5.20 m
J	4.44 m
STL	6.47 m

Construction
Female hull and deck tools
E-glass, carbon fiber, PVC core, epoxy vinylester resin
Vacuum assisted resin infusion
ISO 12215 structural regulations category A
Gelcoat finish on hull, deck and internal structure
RAI 7005 grey gelcoat on cockpit floor
Molded nonskid on deck and cockpit floor

Keel
SG structural post
CNC shaped molded composite keel shell
Fully CNC machined lead bulb

Rudder and Steering
Carbon fiber rudder stock
Carbon fiber rudder blade, adjustable rudder balance
Jefa self aligning rudder bearings
Carbon fiber tiller and Spinlock tiller extension
Optional 900 mm composite twin wheel steering

Deck
Harken deck gear package
Transverse jib tracks
Harken Performa racing winches
2 x primary winches 46.2 STP
2 x main sheet winches 46.2 STP
2 x backstay winches 35.2 STP
1 x pit winch 40.2 STP
Optional Harken or Lewmar grinder pedestal system
1 x Spinlock XX and 6 x XTR clutches
Custom alloy fairleads
Composite stanchions, pulpits and pushpits
4 mm 1x19 SS or synthetic lifelines
Forward hatch port of CL

Rig
Axxon Composites high modulus carbon fiber mast
Integral hydraulic mast jack
Carbon fiber boom
Carbon fiber bow sprit
Rod rigging
2 x mast head backstay tails

Engine
New Yanmar 30 Hp diesel engine with SD25 sail drive
80 liter rigid polyethylene diesel tank
2 bladed folding propellers
Single lever engine control

Electrical
1 x 12 V deep cycle house battery
1 x 12 V deep cycle starter battery
LED interior lights
LED navigation lights

Interior
Engine box with steps
4 bunks
Galley with sink, pressurized fresh water and cooker
100 liter flexible fresh water tank
Two manual bilge pumps
Jabsco marine toilet
Marelon seacocks and flush valves

Participants

MILLS DESIGN

Mills Design Ltd. was started by Mark Mills with a belief that a small team maintaining a focus
on racing yacht performance assisted by leading specialists in fields such as engineering or CFD
can offer the client the best outcome both from a performance and a cost standpoint. With
designs such as the Mini-Maxi winners Alegre and Alegre 3, custom IRC champions such as
Tiamat and Mariners Cove, and production successes with DK, MAT, and Summit Yachts Mills
Design has shown consistently that their pedigree under IRC is unrivalled.

Gurit

Gurit has a track record of innovation in the composites industry spanning 30 years. From engineering the first advanced composite sailing boat, patented material technology such as SPRINT®, wind turbine blade tooling capability for moulds up to 70m, and Class A carbon fibre body panel manufacture for the automotive industry, Gurit is a proven partner whatever your challenge. Gurit's heritage lies in engineering high performance yachts such as Americas Cup, Open 60's and Volvo 70's. However, over the past 30 or so years, Gurit has been involved with almost every type of marine craft including military power boats, production cruisers, and some of the world's most spectacular superyachts. Whilst Gurit is most widely recognised for its marine expertise, the team has considerable experience in the provision of innovative engineering solutions to many different structures, some of which have never been tackled in composites before.

KND-SailingPerformance

KND Sailing Performance is a firm based in Valencia headed by partners Dimitri Nicolopoulos, Roland Kleiter, and Cyrille Drouillet. They offer CFD expertise using both RANS and the DasBoot panel code, VPP analysis using the North Sails VPP, and offer their own performance analysis software and services to leading campaigns such as Ran, Bella Mente, Quantum Racing, Luna Rossa, Artemis, and Volvo winner Groupama to evaluate the logged on-the-water performance against the designs potential, closing the design loop in a very powerful way that is not possible elsewhere.