

# M.A.T.

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## M.A.T. 12

### IRC 12.45 m racer cruiser

#### Specification

February 2012

##### Type

12.45 m production dual purpose yacht aimed at providing competitive IRC performance and comfortable accommodation

##### Design

Mills Yacht Design, Mark Mills  
[www.mills-design.com](http://www.mills-design.com)

##### Design Category

CE category A 10

##### Dimensions

Length overall	12.45 m	40.8 ft
Hull length	12.45 m	40.8 ft
LWL	10.66 m	34.9 ft
Beam max	3.75 m	12.3 ft
Draft	2.55 m	8.4 ft
Displacement	7.000 kg	15.430 lbs
Ballast	3.625 kg	7975 lbs

I	16.97 m	55.7 ft
J	4.82 m	15.8 ft
P	16.58 m	54.4 ft
E	5.90 m	19.4 ft
LP	4.94 m	16.2 ft
ISP	18.40 m	60.4 ft
STL	5.50 m	18.0 ft

Mainsail	58.21 m2	627 ft2
Fore triangle	42.53 m2	458 ft2
Spinnaker	147.00 m2	1584 ft2

Fuel Tank	137 l
Water tanks	200 l

##### Construction

Hull and deck produced with vacuum assisted resin infusion technology (VAI) in PVC foam cored vinylester/e-glass  
Bulkheads produced with VAI in PVC cored vinylester/e-glass, laminated and structurally bonded to hull and deck  
Multiaxial structural e-glass reinforcement fabrics  
White colored isophtalic NPG acid gelcoat on hull, deck, bulkheads and interior molding  
Molded nonskid on deck and cockpit floor  
Composite structural IGU for interior arrangement  
Light composite interior components in PVC cored polyester/e-glass  
\*Vacuum assisted resin infusion technology  
Resin will fill every little gap that is under vacuum  
The structure is free of voids  
65/35 glass/resin content

##### Keel Frame

Special aluminum alloy keel/mast frame  
Anodized and protective epoxy paint coated

##### Keel

950 kg SG iron fin with 2675 kg lead/antimony bulb, total 3625 kg (approximate), adjustable draft and bulb weight.  
Recessed in the hull  
Coated and faired with a layer glass/epoxy

##### Rudder and Steering

Composite rudder and custom carbon fiber stock  
Jefa high performance self-aligning top/lower rudder bearings  
Provision for emergency tiller on rudder stock  
Composite twin pedestals  
Jefa twin 1000 mm alloy wheels black

##### Deck

Primary winches: 2 x Harken Radial B50.2 STA self-tailing 2 speed alloy winches

Halyard winches: 2 x Harken Radial B46.2 STA self-tailing 2 speed alloy winches  
Mainsheet winches: 2 x Harken Radial B46.2 STA self-tailing 2 speed alloy winches  
4 x Harken 10" lock-in winch handles  
Harken Black Magic racing block and car package including:  
2:1 mainsheet to winch  
Mainsheet traveller and track, blocks for 6:1 windward sheeting traveler purchase system  
Longitudinal jib tracks, ball bearing cars and blocks for 12:1 purchase system  
Spinnaker sheet and deflector blocks  
2:1 Spinnaker sheet twacker blocks  
2:1 Foreguy blocks  
Halyard lead blocks  
Halyard crossover blocks  
4 Spinlock XX and 2 XTS series clutches  
Custom alloy fairleads  
Wichard folding pad eyes  
8 opening BSI Moonlight portlights  
4 opening BSI Moonlight hatches  
1 opening BSI Moonlight round foredeck hatch  
Portlights interior trims in anodized alloy  
Stainless steel open bow pulpit and stern rail, stanchions, 5 mm S/S lifelines, 620 mm high  
Custom stainless steel chainplates recessed in hull  
Anchor locker with drain, provision for mounting the windlass in the locker  
40 mm molded toe rail to mast  
Composite mast collar  
Recessed companionway sliding hatch  
Opening life raft locker in cockpit floor  
Locker for gas bottle  
Plastimo 135 mm compass

##### Mast and Rig

Alloy mast with 2 sets of 20 deg. swept spreaders  
*Carbon fiber mast with 2 sets of 20 deg. swept alloy spreaders on request*  
Alloy boom finished to match rig with 12:1 internal outhaul  
Carbon fiber spinnaker pole  
Provision for attachment of mainsheet at boom end and gooseneck  
Twin tie rods  
Rod rigging  
Gas strut vang  
Integral backstay adjuster  
Provision for:  
1 main halyard 2:1  
1 Cl I height jib halyard  
1 wing spinnaker/jib halyard to spectacle at I height  
2 masthead spinnaker halyard  
1 pole lift 1 m below I  
Lopolight combined LED navigation lights/anchor light on mast

##### Engine

Yanmar 3YM30C 30 Hp diesel engine with SD20 sail drive  
*Yanmar 3JH5CE 40 Hp diesel engine with SD50 sail drive on request*  
Fresh water cooling  
Sea water filter  
Exhaust with water trap  
137 l Vetus diesel tank, level indicator, fuel filter, water separator  
Shut off valve between the diesel tank and the engine  
Diesel fill on deck  
2 bladed racing folding propellers  
Teleflex single lever engine control  
Engine panel recessed in the cockpit for protection

##### Electrical

12 volt DC  
12 volt 60/80 A alternator on engine  
2x90 amp hour group 27 Deka AGM deep cycle house batteries  
1x90 amp hour group 27 Deka AGM deep cycle starter battery  
Blue Sea Systems main DC panel with house, engine and emergency switches  
Blue Sea Systems 12 volt DC distribution panel with 13 automatic circuit breakers  
3 position voltmeter  
12 volt DC plug  
LED interior lights

##### Plumbing

200 l flexible fresh water tank  
Jabsco pressurized water system  
Hand basin in head  
Whale tap/pull out shower head at basin

Right to modification without prenotice reserved

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Galley sink

Whale mixer tap

Two Jabsco manual bilge pumps, cockpit and cabin 3000 l/h each

Rule electric bilge pump 7570 l/h

Two manual and one electric bilge pumps to ORC standards

Rule electric shower drain pump

Jabsco marine toilet

Marelon seacocks and flush valves

Fresh water fill on deck

## Accommodation

All bulkheads and other interior components in PVC foam cored GRP composite

White colored gelcoat surfaces with wooden trim for ease of maintenance, lightweight and modern appearance

Honeycomb cored satin varnished natural oak floor boards, cabin doors and cabinet doors

Custom lightweight alloy cabinets to match alloy door frames, alloy portlights trims

Custom alloy handrails

Southco satin polished door handles

High density foam cushions, Sunbrella upholstery

Removable honeycomb cored natural oak floor boards

Hinged companionway steps

Central salon area with settees port & starboard, large wet locker starboard, cabinets with doors on P&S

Enclosed head to port forward of mast, s/s hand basin, shower, china bowl, cabinet

Forward cabin with double berth, wardrobe, large space under the bed, natural light from foredeck hatch

Double berth cabin port & starboard aft, hanging lockers, double portlights

Galley to port by companionway, s/s sink, gimbaling cooker, refrigerator compartment

Navigation station to starboard of companionway