

# M.A.T.

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## New M.A.T. 12<sup>45</sup> IRC 12.45 m racer cruiser

# M.A.T. 12<sup>45</sup>

### Specification

August 2012v2

### M.A.T. 12 Redesigned

400 kg lighter keel fin  
110 mm deeper keel with less surface  
Adjustable draft  
Redesigned bulb for less wetted area  
Adjustable bulb weight  
New rudder for lighter helm and less friction  
New windows  
Updated interior

### 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	2.55/2.66 m	8.4/8.8 ft
Displacement	6.800/6.940 kg	14.990/15.300 lbs
Ballast	3.240/3.380 kg	7.142/7.451 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

### 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 isophthalic 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

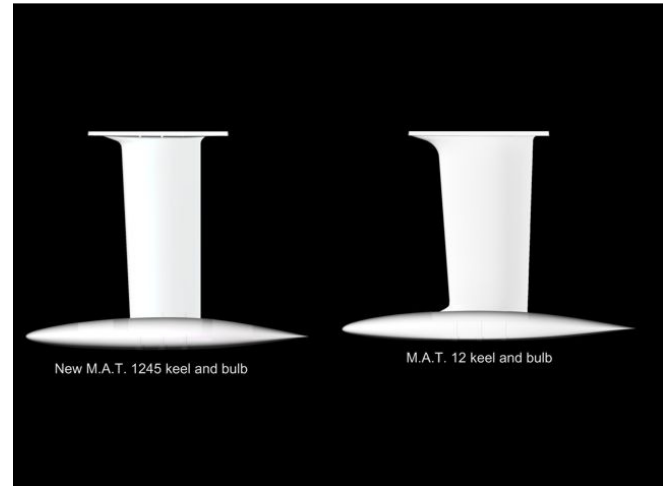
580 kg SG iron fin with 2640/2800 kg lead/antimony bulb, total 3240/3380 kg (approximate), adjustable draft and bulb weight.  
Recessed in the hull  
Coated and faired with a layer glass/epoxy

Comparison to M.A.T. 12 keel:

110 mm deeper draft option  
400 kg lighter fin  
0.5 sqm less surface area for the fin  
2.640 or 2.800 kg bulb weight  
0.1 sqm less surface area for the bulb

Right to modification without prenotice reserved

Configuration	Draft	Keel weight	Bulb weight
A – M.A.T. 12	2.55 m	950 kg	2.675 kg
B – M.A.T. 1245	2.66 m	580 kg	2.640 kg
C – M.A.T. 1245	2.55 m	580 kg	2.800 kg
D – M.A.T. 1245	2.66 m	580 kg	2.800 kg

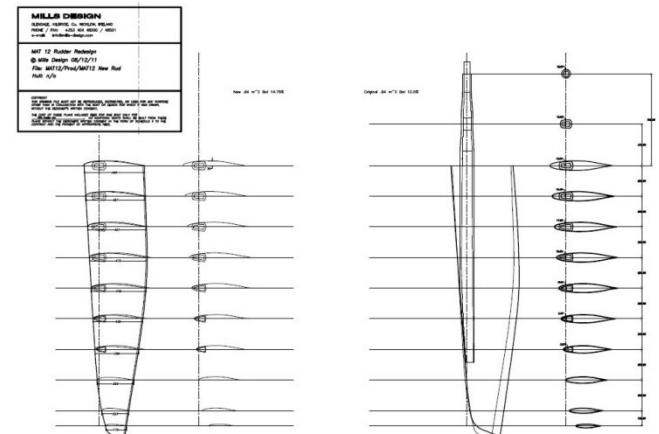


Please refer to VPP tables for configuration selection suitable to your racing area.

### Rudder and Steering

"There is more than a 10% reduction in area, and due to a change in the foil section which helps keep the overall chord thickness from growing, there should be no loss of grip, and a better warning effect as the helm approaches the stall."

Mark Mills



New M.A.T. 1245 rudder at left

Comparison to M.A.T. 12 rudder at right (New rudder shown with thin lines)

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  
Carbonautica twin 1000 mm composite wheels black (or custom colored)  
Twin composite removable footrests for helmsman on request

### 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

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## *Harken Performa racing winches on request*

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 tweaker 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

Recessed new cabin windows.  
Tempered laminated scratch and impact resistant safety glass.  
If laminated glass is shattered, the broken glass adheres to the interlayer.

4 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  
Locker for gas bottle  
Plastimo 135 mm compass

## **Mast and Rig**

Alloy mast with 2 sets of 20 deg. swept spreaders

*Optional:*

*Carbon fiber mast, carbon spreaders*

*Carbon fiber racing boom*

Carbon fiber spinnaker pole.

Rod rigging, PBO backstay.

Hydraulic integral backstay adjuster,

*Optional:*

*Two hydraulic panels in cockpit for backstay control by main trimmer.*

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  
Loplight combined LED navigation lights/anchor light on mast

## **Engine**

Yanmar 30 Hp diesel engine with SD20 sail drive

*Yanmar 40 Hp diesel engine with SD50 sail drive on request*

Fresh water cooling

Sea water filter

Exhaust with water trap

110 l diesel tank, level indicator, fuel filter, water separator

Shut off valve between the diesel tank and the engine

Diesel fill on deck

2 bladed 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

Right to modification without prenotice reserved

Whale tap/pull out shower head at basin  
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

## **Updated Accommodation**

All bulkheads and other interior components in PVC foam cored 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 ladder  
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  
Large 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  
Lightweight composite companionway ladder for easy access to engine.

*Optional:*

*Pipe berths with adjusting tackle for a sleeping capacity of up to 12 people.*

