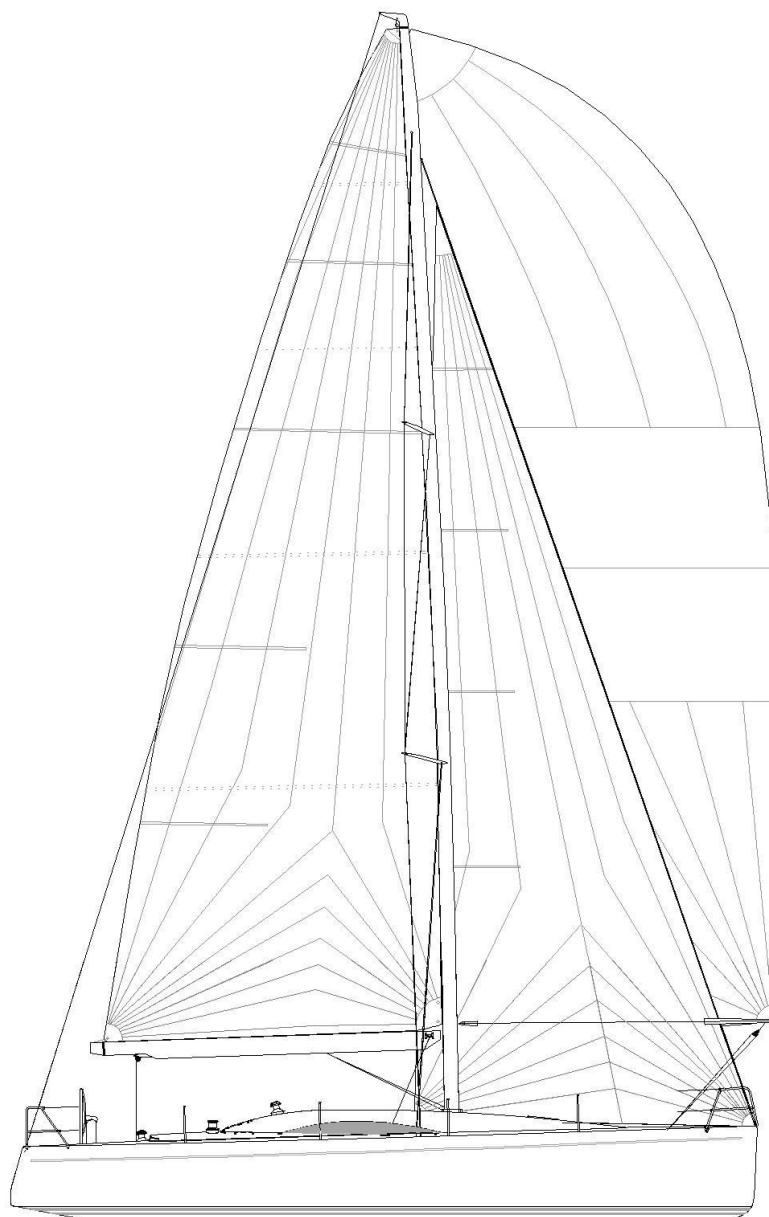


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# KER 39

## Specification for 39' Production IRC Cruiser-Racer Design

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## ***Design Brief:-***

The Production Ker 39 Cruiser/Racer has been designed with the seriously discerning performance orientated sailor in mind. Fast, fully fitted out, safe and comfortable design, engineered to ABS requirements for Offshore Racing Yachts, the Ker 39 is a natural development of our Cruiser/Racer range which started with the highly successful 'Flying Glove' (Custom Ker 39) in 2003.

The Deck layout has been designed for both racing and cruising, with excellent ergonomics when beating upwind whilst racing or enjoying a drink whilst tied up alongside. With clean lines and an uncluttered deck layout she is a pleasure to sail.

The 39 has a comfortable, practical interior with 3 double cabins, a fully enclosed head and a well appointed Navigation area and Galley. There is ample storage space for cruising whilst still having a very practical interior for racing both round the buoys and offshore. Designed to sleep 8 in normal cruising mode and up to 4 to windward offshore (with optional pipecots)

## ***Research and Development:-***

Ker Associates is committed to continually improving its designs through extensive ongoing research. Using the extensive Americas Cup technology at its disposal Ker Associates continues to develop an improved understanding of the science of yacht performance and applies this to its new IRC designs. As an example of it's dedication to science and refinement, Ker Associates tested three one third scale models at the BHSC testing facility in Bulgaria.

The hull shape used for the Production Ker 39 is the product of extensive Computational Fluid Dynamic (CFD) research during 2006, a significant number of candidates were analysed leading to some surprising and highly exciting conclusions. The final shape selected for the new Ker 39 has shown to be significantly faster than the already highly successful previous generations and also promises to have very favourable handling characteristics.

The appendage shape and sizing for the new Ker 39 are the product of considerable CFD and other research and in particular research has focused on ensuring forgiving performance and handling characteristics.

## ***Hull/Deck and Internal Structure:-***

The Ker 39 is crafted from vacuum-bagged Epoxy/Glass with a lightweight closed-cell core foam sandwich construction. Strong, Light, Stiff and designed to ABS Rules for Offshore Yachts. Ker designed yachts have a great reputation for robustness with the example of the Ker 55 'Aera' winning the very windy 2004 Sydney to Hobart Race, and overall wins in the Around Ireland race and numerous other tough offshore races proving strength and reliability in Ker designed yachts.

### *Principal Dimensions:*

- |   |             |
|---|-------------|
| • Length overall, hull .....            | 11.85m      |
| • Beam moulded .....                    | 3.52m       |
| • Draft .....                           | 2.55m       |
| • Displacement (IRC Empty Weight) ..... | 5.95 tonnes |
| • CE Approval .....                     | A (ongoing) |

## **Deck Layout:-**

The deck layout is clean and modern, with a roomy cockpit for cruising or racing.

The teak laid Cockpit seats have a backrest for comfort, and contain convenient storage lockers for loose items. A locker dedicated to liferaft stowage is under the teak laid cockpit floor, aft of the wheels.

Twin carbon wheels give fingertip control, and provide excellent visibility for both racing and cruising.

A self draining anchor locker just aft of the Headstay may have a removable windlass mounted for stress free cruising. The windlass and a removable bow roller are optional.

## **Deck Gear:-**

Spinlock clutches along with custom organisers and turning blocks/ferrules lead the sail control lines aft under the coachroof, keeping the coachroof clean and unobstructed.

Other sail control lines are run under deck (such as mainsheet, jib car control lines and traveller) to provide a clean uncluttered deck and cockpit at all times.

Longitudinal Jib tracks are used in conjunction with inhaulers (when racing) to maximise the power of the easily managed, 105% overlap rig.

The Harken Deck gear and Winch package is complete and fully installed, ready to go racing or cruising.

## **Rig:-**

The 7/8ths, 2 Spreader Carbon Mast, with 20° of sweep on the spreaders and a permanent hydraulic backstay has been developed to allow maximum control of the sail plan while being safe and secure.

The carbon boom is a deep section for stiffness and lightness. The German style mainsheet system is lead internally in both the boom and under deck to keep the loose sheet out of the cockpit during gybes.

Mast, boom and poles are painted in a clear lacquer, giving a gloss carbon finish.

Depending on the option chosen, the Ker 39 can be fitted with a retracting bowsprit and fly only asymmetric spinnakers, greatly easing sail handling.

### *Principal Sail Areas:*

- Sail Areas

Upwind .....	Approx. 95m <sup>2</sup>
Spinnaker (sym) ...	Approx. 135m <sup>2</sup>

## **Appendages:-**

A generously sized deep 'T' shaped lead bulb keel with a high Ballast to Displacement ratio is positioned to provide a stiff, balanced and well behaved yacht in all conditions.

The Rudder is a deep draft blade type, with a carbon stock and JP3 Type-4 self aligning roller bearings. The system uses twin lightweight Composite wheels, pedestals and quadrant with a wire and chain system to minimise weight and maximise feel through the system.

## **Interior:-**

A modern, light and stylish interior by Design Unlimited.

Construction is in lightweight E-glass/foam sandwich panels, with particular attention to the finish and fit of all the furniture in keeping with the standards of a high quality production Cruiser/Racer. Large windows and opening hatches allow for light and fresh air to circulate through the entire interior.

The spacious Saloon has large settees on both port and starboard sides. A down leaf table is mounted on centreline, and contains a storage bin in its centre panel. This layout allows comfortable socialising, whilst permitting ease of movement throughout the interior. For offshore sailing, the settee backs are hinged and can be lifted to form sea-berths. Storage is provided both under the settees.

There are 3 large double cabins with hanging lockers and seats. Forward, a spacious, fully enclosed head with a marine WC and hot/cold shower is accessed from the saloon.

The galley is aft and to port in the saloon. It is fully appointed, with a stainless steel gas cooker and oven, running hot and cold water, and a stainless steel recessed sink. Storage cabinets at eye level and under the bench top, and a large built in cool box make for easy storage of provisions for cruising or longer offshore passages.

Opposite the galley on the starboard side is an ergonomic Nav Station, with a large, well lit chart table and generous storage space. The Nav station has been designed for the installation of the latest navigational aids and space for computer systems with a flat screen mounted above the chart table.

## **KER PRODUCTION CRUISER/RACER 39 STANDARD SPECIFICATION**

### **1. Hull and Deck:**

- i Female moulded Hull and Deck in wet-preg e-glass and epoxy on a closed-cell foam core.
- ii Structures in accordance with ABS regulations
- iii AwlGrip painted exterior hull and decks. Hull colour Matterhorn White, Deck and non-skid colour Chevy white.
- iv Underwater paint is white epoxy primer up to approximately 100mm above waterline
- v Composite V1/D1 chainplates, Stainless Steel forestay fitting
- vi Galvanized Steel Keel floors grid to take keel/rig loads out to longitudinal structure
- vii Large capacity self draining foredeck chain locker, with space for optional electric anchor windlass
- viii Large, comfortable cockpit with seating with low coamings to provide back support
- ix 2 cockpit seat lockers for general storage (1 to contain self draining/vented gas bottle storage)
- x 1 aft cockpit liferaft locker (in cockpit floor aft of wheels)
- xi Teak cockpit sole and seats

### **2. Keel and Rudder**

- i Carbon fibre rudder stock and quadrant with emergency tiller attachment point
- ii Twin composite wheels and pedestals
- iii Large diameter low-friction sheaves and 1x19 galvanized steel wire for minimum stretch

- iv Lightweight Chain & Sprocket steering heads
- v Conventional T-shaped keel with Iron fin and CFD optimised lead bulb
- vi Emergency tiller

### **3. Propulsion**

- i 30hp Volvo diesel engine with "sail drive" leg and BRISKI folding racing propeller
- ii Spinlock flush throttle control mounted on stbd side of cockpit
- iii Below deck engine instrument panel
- iv 40 litre rigid plastic fuel tank

### **4. Electrical**

- i Red/white cabin lighting in saloon, galley and nav areas
- ii 12 volt DC switch panel and battery indicator mounted by the Chart Table
- iii Battery isolator/selection switch mounted on Engine Box
- iv 2 x 65 AH gel type batteries & 1 x 17 AH battery for engine start
- v 12 V electrical panel for Engine, with fuel gauge, rev counter and start/stop switches mounted close to the engine
- vi Ceiling light in heads and all cabins – berth lights where applicable
- vii Navigation lights on pushpit and pulpit, steaming light and windex light on rig
- viii Gas alarm

## 5. Plumbing

- i Pressurised hot and cold water system for galley and shower
- ii Additional manual tap at galley sink
- iii Plumbed in seawater toilet
- iv Manual bilge pump in cockpit
- v Shower drain pump with filter
- vi Flexible water tank (130 litres) under main cabin settees

## 6. Interior

- i Built using lightweight E-glass/foam sandwich panels
- ii Reinforcing of laminate in high use areas
- iii Light and stylish interior by Design Unlimited. Clean fresh and light interior with a blend of fabric, wood veneer and gelcoat finished surfaces.
- iv High quality fittings used through out

## 7. Accommodation

- i Designed to meet ORC, IMS, IRC regulations.

## 8. Forward Cabin

- i Access door to main Saloon
- ii Large double berth with storage below – Sunbrella Navy Blue upholstery
- iii Hanging Locker and cushioned seat on port side
- iv Centreline Lewmar size 22 round low profile hatch and aft port Lewmar size 20 low profile hatch for ventilation

- v Recessed ceiling lights

### 8.1. Forward Heads

- i Access door to main Saloon (fully enclosed)
- ii Lower part integrally moulded, with integral shower tray, sink with access below to seacocks, toilet roll holder
- iii Sink is recessed in Navy Blue worktop
- iv Shower head with pressurised hot and cold water
- v Plastimo marine salt water toilet
- vi Electric shower drain pump
- vii Shelf along the hull side with mirror
- viii Shower grating
- ix Lewmar low profile hatch size 20 in deckhead for ventilation
- x Recessed ceiling lights

### 8.2. Aft Cabins (Port and Starboard)

- i Access door to main cabin
- ii Large hanging locker with cushioned seat beneath
- iii Vanity unit with storage space along the centerline (stbd cabin only)
- iv Large Double Berth in each cabin – Sunbrella Flagship Midnight upholstery
- v Access panels to engine space, machinery and steering area
- vi Lewmar Portlight size 0 into cockpit for ventilation
- vii Recessed ceiling lights

### 8.3. Chart Table (Starboard side)

- i Large chart table facing forward
- ii Storage under the chart table accessed via a lift up, hinged section
- iii Locker under chart table
- iv Bookshelf
- v Large hinged instrument panel with electric display, 12 V - voltmeter – ammeter
- vi Space for VHF, Instruments, stereo and flat screen.
- vii Cushioned navigator's seat and backrest with storage below
- viii Fiddle around edge of Nav table with integrated handrail
- ix Recessed ceiling light

### 8.4. Main Saloon

- i Sunbrella Antique Beige cushioned settee/berths and backs to port and starboard
- ii Removable Drop leaf table with fiddles
- iii Fresh water tank/ optional black water tank fitted under settees
- iv Handrail integrated into internal rope garage in deckhead
- v Red/white lighting recessed into headlining
- vi Settee backs hinged to provide upper sea berths (including tackle)
- vii Two Lewmar size 20 low profile hatches for light and ventilation

### 8.5. L-shaped Galley (Port side)

- i Gimbale Techimpex XL2 gas stove with oven and 2 burners, with s/s protection bar

- ii Double s/s sink unit recessed in Navy Blue Formica worktop
- iii Pressurised hot and cold water through a swiveling mixer tap unit
- iv Additional manual tap (cold water only)
- v Large 150 litre moulded icebox, with top access (optional refrigeration)
- vi 3 utensil drawers
- vii Large storage cupboard under drawers.
- viii Storage cupboard under sink with shelf
- ix Full length locker unit above of galley worktop
- x Stainless steel splashback behind cooker and worktop
- xi Fiddle around the edge of the worktop with integrated handrail
- xii Recessed ceiling lights and worktop lights

### 8.6. Companionway

- i Large top step to provide working platform for pitman
- ii Steps with angled treads integrated into Engine Box
- iii Non slip surface on all steps

### 10. Rig

- i Carbon fibre, twin carbon spreader, runnerless rig
- ii Carbon fibre boom with internal 12:1 outhaul purchase system, 2 x mainsail reefing sheaves and jammers, internally led German mainsheet system and carbon fibre vang lug.
- iii Composite rigging backstay
- iv Nitronic rod, discontinuous, standing rigging

- v Forestay twin groove Tuff-Luff model 1706
- vi Carbon spinnaker pole attaching to ball-bearing Harken track on mast with control system
- vii Mast deck collar with custom moulded resin wedge, adjustable mast step
- viii Electrically driven Hydraulic backstay adjuster with push button control panels at each mainsheet winch
- ix Solid spring vang with integral purchase
- x 1 Vectran mainsail halyard – 2:1
- xi 1 Vectran genoa halyard with snapshackle
- xii 1 Spectra fractional spinnaker halyard with snapshackle
- xiii 2 Spectra masthead spinnaker halyards with snapshackles
- xiv 2 Spectra spinnaker sheets with snapshackles
- xv 2 Vectran spinnaker guys with snapshackles
- xvi 2 Spectra jib sheets with snapshackles
- xvii 1 Spectra mainsheet
- xviii Mainsail traveller lines
- xix Genoa car adjustment lines
- xx Spinnaker tweaker lines
- xxi Spinnaker pole downhaul line
- xxii Outhaul lines
- xxiii Cunningham lines
- xxiv 2 Spectra reef lines

- ii 2 Cockpit lockers with Stbd side incorporating gas locker
- iii Transom liferaft locker
- iv 2 primary winches, Harken 48.3A for jib sheets and guys (3 Speed)
- v 2 self-tailing halyard winches, Harken 44STQ Quattro (2 Speed)
- vi 2 self-tailing mainsheet winches, Harken 44.2STA (2 Speed)
- vii 3 Harken lock-in winch handles, including 2 "Speed grip" type
- viii 2:1 Mainsheet system on Harken blocks, led forward through boom and aft under deck to cockpit winches
- ix Harken adjustable CRX mainsheet traveler with a below deck 6:1 purchase led to a cleat on both sides of the cockpit
- x Harken jib tracks, with ball-bearing car system and 12:1 adjustable internal purchase, adjusted from the cockpit
- xi Inhauler system, 10:1 purchase internally mounted, adjusted from the cockpit
- xii 2 Harken foot blocks for genoa sheets
- xiii 2 Harken low profile Guy leads
- xiv 2 Harken spinnaker sheet blocks mounted on fwd leg of pushpit
- xv 6 Custom Thru Deck Halyard Leads
- xvi 1 custom deck organizer to lead halyards to either coachroof winch
- xvii 7 Spinlock clutches in jammer recess
- xviii Vang with Harken ball bearing bocks with a 38:1 purchase lead aft to either side of the companionway
- xix 2:1 Spinnaker sheet tweaker, led through custom fairleads under deck into cockpit coamings

## 11

### Deck Equipment and Hardware

- i Bow anchor locker

- xx 2:1 Spinnaker pole downhaul system, lead aft through a Harken double block on a snapshackle on foredeck, adjusted from cockpit
- xxi 1 main foredeck opening hatch (into fwd cabin) – Lewmar low profile hatch size 22
- xxii 1 opening hatch for heads – Lewmar low profile size 20
- xxiii 1 opening hatch for forward cabin – Lewmar low profile size 20
- xxiv 2 opening hatches for main saloon – Lewmar low profile size 20
- xxv 2 opening ports for aft cabins Lewmar portlight size 0
- xxvi Coachroof windows to be curved Perspex (dark tinted)
- xxvii Double stainless steel rail pulpit and pushpit
- xxviii 8 stainless steel stanchions and twin stainless steel guard rails
- xxix A lightweight companionway wash board with lock

The above specification is subject to change without notice.