



CROWTHER DESIGN #95-MKII – 47 ft
for Mr. Ted Gosstyla
PRELIMINARY SPECIFICATIONS

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Valdivia - CHILE

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Technical specifications; Crowther Design # 95 MK II for Mr. Ted Gosstyla.

This specification covers the construction of a 14.30 m (47 ft.) catamaran of round bilge stitched glass / vinyl ester resin / PVC Divinycell foam sandwich construction powered by both sail and twin electric engines.

The construction is based on appropriate vacuum bagged sandwich techniques in accordance with good shipbuilding practice for glass reinforced plastic vessels.

1. BASIC HULL SHELL

- Hull skins and transoms,
- Underwing,
- Bulkheads and frames,
- Deck cabin,
- Arch/targa connected to GRP cockpit roof with sliding hatch,
- H80 - 20/25 mm Divinycell foam,
- Triaxial and double bias E-glass fabrics,
- Vinylester resins,
- Uni reinforcements on all openings,
- 6 custom built fibreglass hatches, (double-opening)
- Large cockpit/salon door with connected opening,
- Forced air vent system with underwing pick-up,
- Integral Fresh Water Tank with 60 gall. capacity, (baffled and/or 2 separate tanks as large as possible recognizing will only fill to about 50 gals when cruising)
- White urethane spray painted on outside, non-skid on decks, (light ivory, with non-skid areas a little darker to minimize glare)
- Antifouling, PVC heavy-duty rub rail (USA);

2. Rudders

- Divinycell foam,
- Vectorply fabrics,
- Vinylester resin,
- AISI 316 shafts,
- Marine bearings;

3. Daggerboards / daggerboard cases

- Divinycell foam H- 100,
- Vectorply fabrics,
- Vinylester,
- Harken hardware;

4. Chainplates

- S.S. AISI 316, polished;

5. Forebeam / seagull striker / catwalk / trampolins/ aftbeam

- Forebeam extrusion 6061 T6, 250 x 200 mm,
- Welded tangs and A-frame,
- Welded alumesh 6061 T6 ,
- Anchor support (2x) and 2 square compression posts;
- 14 mm S.S. 1 x 19 wire with turnbuckle and toggle,
- 2x trampolins on alu frames,
- Round aft beam with welded alumesh all 6061 T6;

6. WINDOWS / HATCHES

- 4 Hatches, Weaver N.Z., with internal fiberglass trimmings,
- 8 fixed/opening portholes,
- Windows in main saloon made out of toughened safety glass 5/16" thick;

7. RIGGING / SAILS

- Mast
 - 56ft. alu extrusion 241 x 152 mm, (upper 1/3 day-glo orange or yellow-lime)
 - 2 sets of aerofoil jumper / spreaders,
 - Tangs, beackets and forestay hounds,
 - Gooseneck,
 - 2 winch pads with Harken B 42.2 STA winches,(reefing winch?)
 - Lazy jacks,
 - 4 Spinlock jammers,
 - FLB sailtrack with batten and standard cars, (Harken battcars?)
 - 1 Windex,
 - Deck light 50 W halogen,
 - Alu mast base,
 - Forestay and upper shrouds 1/2", 1x19 S.S.,
 - Toggles and Norseman terminals, rigging screws,
 - Lower shrouds and diamonds 5/16", 1x19 S.S.,
 - Toggles, rigging screws, swages,
 - Electric wires in alu tubes,
 - All Halyards in Spectra 12mm, (spare halyard in mast)
 - Topping lift in 10mm Marlow,
 - 1 Harken roller furler unit # 3;
 - (all control lines color coded)
 - (flag halyard)
- Boom
 - 21 ft. alu extrusion 200 x 140mm, internally sleeved for dinghy hoist, (6x block and tackle used for hoist)
 - 3 sheaves inboard end and 3 sheaves outhaul end, track and car
 - S.S. mainsheet bail and 3 clutches;
- Sails
 - Mainsail:
 - 592 sqft, 8,3 oz./sqm, 2-ply leech, 2 reefs, cunningham, 6 full batten;(3 reefs?, spreader patches)
 - Self tacking roller-jib – 376 sqft, uv-cover,
 - Storm jib, (no)
 - Mainsail cover;

8. STEERING SYSTEM

- Complete hydraulic steering system - Hynautic: 2 x cylinder, relief valve, reservoir, (with emergency tiller)
- Reinforced composite hoses,
- 1 x S.S. wheel on flybridge;

9. INTERIORS

- All furnitures in Divinycell, Vectorply fabrics,
- Laminated native wood trimmings, acryl urethane varnish,
- 2 state rooms with marine wall linings Nautolex,
- 2 bathrooms with white Zolatone finish, mirrors, (2 heads, 3 sink areas)
- 2 showers with acrylic/alu doors, (1 shower, no door)
- 2 x 6'8" x 5' mattresses in staterooms, upholstery in saloon , (approx. 7' x 7')
- Grani Coat designer countertops;
- (connection for a hammock in salon)

10. DOMESTIC WATER SYSTEM

- 2 Sun-Mar Ecolet compost toilets 110V with 12V fans, (Sealand vacuflush low profile toilets with Lectra/San waste treatment)
- 2 holding tanks with Sealand vents, (at least 20 gals capacity with vents providing horizontal air flow)
- 2 Whale Macerator 12V pumps,
- 2 showers with shower/mixer faucets and Whale bilge pumps, 1 h/c cockpit shower, (1 shower in starboard hull and 1 outside shower on port sugar scoop, emergency manual bilge pump)
- 2 GRP-Grani Coat sinks with faucets in toilets, (3 – 1 in Guest Cabin, 1 in Master Cabin head area, and 1 in Master Cabin shower/sink area aft)
- 1 double S.S. sink with in galley ,(triple S.S. Sink?)
- All through hulls Philmarc nylon ball valves,
- 2 x 12 Volt Whale pressure pumps, (manual backup pump in galley – maybe not needed due to gravity feed from water tanks)
- Pressurized hot and cold water system with Whale hoses and couplings,
- Spectra Watermaker with UV sterilizer, (Vantage 30gal/hr 240/12 VDC with UV sterilizer and filtered Galley tap for drinking water. Designed so water from dock and watermaker processed by UV sterilizer before entering water tank.)
- 12V Whale freshwater deck wash pump;

11. GALLEY

- Down in hull, (port hull)
- (sea rails and securing clamps)

12. ENGINES

- 2 x ST74 Solomon Tchn. Motors complete, according to sep. spec sheet,(2 X OSSA 35hp electric)
- Fixed bladed props, s.s. 2205 shafts, GRP skegs,(3 blade folding props)
- 1 Fischer Panda DC 20kw genset, (2 X OSSA 25kw gensets)
- 2 x 80 gall. fuel tank,
- 12 AGM Group 4D batteries,(2 x 31s for gensets)
- 2 automatic 12V bilge pumps with float switches; (should have on indicator light for bilge pumps in Nav center)

13. REFRIGERATION (Glacier Bay with Artic Air)

- 2 x 12V compressor, Technautics Coolblue;
- Eutectic holding plate S.S.
- Electric control panel,
- Fridge / freezer compartment 100 mm foam, P.U. finish, 2 doors; (Freezer top load and fridge side load. Freezer and fridge each about 7ft³ .)

14. ELECTRICS

- 2 AGM Group4D service batteries,(3 AGM Group 8D for house)
- Blue Sea control panel 12V, main switch, 30 automatic circuit breakers,
- 110V circuit with breakers and wall outlets in galley, toilets and nav. Station, (12VDC outlet in crows nest and 110VAC and 12VDC outlets in both engine rooms)
- Battery charger 144VDC-8amp,(2 X 240VDC to 12VDC 200amp)
- DC/DC converter 144V -12V 30amp, (not needed)
- Inverter 144VDC to 120V AC-6kW, (2 x 2.5kw 240VDC to 120VAC)
- Complete bonding/grounding system,
- 8 interior fluorescent and 18 halogen lights, 1 cockpit halogen beam 50 W, Aquasignal (Germany),(use LEDs or fluorescent where possible)
- Navigation lights: Bow, top, steamer, stern, all S.S.;
- (Hella turbo fans)

15. ELECTRONICS

- Raymarine ST7001 plus autopilot with 400G course computer,(ST8001, S3G SmartPilot Corepack, Type 3 Pump)
- Raymarine ST60 Tridata & Wind,
- Raymarine ST600R remote control autopilot,
- Raymarine RL70CPlus Radar/GPS/Chart Plotter 2Kw-24nm (color screen),(E120 Display with 2kw 24nm radar)
- Raymarine Raystar 120GPS sensor (125 GPSI)
- Raymarine Ray 230 VHF, (Icom M602 with M88 handheld)
- Icom M710 SSB transceiver;(Instead get Iridium 9505A satphone)
- (manual disconnects on antennas and power leads - lightning)

16. DECK HARDWARE

- Harken electric 12V winch B48.2STEH, 2 x winch handles B10AL,
- Harken big boat main sheet track (arch) with 558 cars and traveller control blocks,
- Harken self-tacking headsail sheet track with B 154 CM lead cars,
- Turning blocks, jammers, Cam-Matic cam cleats;
- 1 x Ritchie steering compass, (1 handheld for bearings and backup)
- Helm seat (double), (backrest "flips")
- S.S. stanchions, 4mm lifelines with turnbuckles,(use Spectra as lifelines without turnbuckles)
- 2 x Bruce 65lb.anchor with 2 x 75ft- 3/8" high test chain, (instead setup for "tandem" anchoring as the norm. So use Fortress Fx-55 as "first down" anchor with 30ft chain and Spade 66lb with 100ft chain as main anchor. Use 1/2" Grade 70 chain. Also have a marker/trip line for main anchor.)
- 1 x Danforth 40 lbs with 50 ft 3/8" chain,(use Fx-55 instead and 1/2" Grade 70 chain. Also have marker/trip line)
- 2 x 3-strand anchor line 200ft - 5/8" thick, spliced to chain, (300ft 7/8" Yale Polyester Brait line spliced to chains and additional 300ft as reserve. Plus 40ft of floating polypropylene with snap shackles spliced into both ends as retrieval line for "first down")
- Lewmar concept II anchor windlass 12V with Gypsy/Capstan on S.S pad and stainless steel bollard,
- 6 x big fenders, (inflatable)
- 1 x S.S. boarding ladder, (swim ladder?)
- 4 x 1/2" dock lines 30' each, (polyester)
- 4 x 7/8" dock lines 150' each (polyester)
- 6 x cleats, storage lockers,
- 600ft roll 5/32" Yalebraid "small stuff"

all equipment installed, working,
wiring and plumbing schematics,
operating instructions,
launching and sea trials;

Export price ex Valdivia/Chile: 498.000.-- US\$
(four hundred ninety eight thousand US Dollars)

Loa: 47 ft, Beam: 23 ft, Draft: 3 ft, Displ: 24000 lbs.

Valdivia, April 21st, 2004