

# Miracle Association Measurements 2021

Measurements marked with \* are taken from the outside bottom corner of the transom following the contour of the chine or keel as appropriate.

**All measurements to be recorded in mm & kg**

		Min	Actua	Max
1	Weight of hull, inclusive of fixed fittings but excluding the	58 kg.		-
1A	Weight of hull, inclusive of fixed fittings but including the Centreb	62 kg		
2	Weight of correctors fitted to underside of thwart, if necessary	-		4 kg.
<b><u>HULL – TOPSIDE</u></b>				
3	Sail Number cut into transom or stamped on to a plate and attached to transom	20		-
4	Overall length. - top outside of aft transom to top fore edge of transom.	3875		3905
5	Outside transom to centreline of eye in jib plate	3675		3715
6	Outside transom to foreside of mast partners at deck level	-		2625
7	Outside transom to aft side of mast gate.	2470		-
8	Outside transom to centreline of chainplate eyes measured centreline of boat.	2225		2245
9	Outside transom to aft edge of thwart measured at tank sides only	1510		1535
10	Beam at top of fore transom at sheerline.	300		320
11	Beam at 3125mm forward of transom at sheerline.	920		935
12	Beam at 1525mm forward of transom at sheerline.	1530		1550
13	Beam at 455mm forward of transom at sheerline.	1340		1360
13a	<b>If false floor</b> distance to floor at 455mm forward of transom measured from a straight edge placed across boat to top of floor	280		-
14	Beam at top of aft transom at sheerline.	1130		1155
15	Distance between side tank bulkheads at 1525mm forward of and within 50mm of inside deck level	945		965
16	Depth of hull inside skin to top of deck at forward mast partners	525		550
16a	<b>If false floor</b> distance from floor to top of deck at forward mast partners	460		

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17	Depth of keelson at mast step above inside step.	45		60
18	Depth of hull inside skin to sheerline at 1525mm forward of transom	425		445
18a	<b>If false floor</b> distance from floor to straight edge placed across at 1525mm forward of transom	360		445
19	Depth of transom UNDERSIDE skin to sheerline.	300		320
20	Extension of rubbing bead beyond sheerline.	20		30
20a	Hiking out wings - (optional)- extension beyond sheerline			65
20b	Hiking out wings - distance measured in straight line from transom	300		2650
21	Width of centreboard case slot.	20		27
22	Jib fairleads may be fitted above or below deck			
22a	Distance from aft face of aft transom to aft face of the fairlead surface. Starboard side.	-		2325
22b	Distance from aft face of aft transom to aft face of the fairlead surface. Port side.	-		2325
23a	Distance from centreline of boat to fairlead outer bearing face Starboard side	350		-
23b	Distance from centreline of boat to fairlead outer bearing face Port side	350		-
24	Through deck hole for jib fairlead	-		25
25	Distance from transom to centre of mainsheet pad (centre main o	1250		1500
25a	Depth of mainsheet pad below straight edge across deck sheerline	60		
26	Depth of centreboard case measured from top of case to underside keel	250		-
27	Radius of all corners of spinnaker bag holes if cut into foredeck. Holes should not be cut within 20mm of the stowage bulkhead or aft edge of foredeck. Not to be cut within a 50mm of mast gate area or side gunwhale.	15		-
28	Width of side deck at any point between 2300mm forward and the transom measured from sheerline to inner edge of deck	115		-
29	If cut down front tank top surface of tank measured from <b>foredeck at 3125mm from transom</b>			280

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<b>HULL – UNDERSIDE</b>				
30	Datum or Base line set below keel at transom.	-	158	-
31	datum or Base line set below keel at 3110mm forward of	-	106	-
* 32	Base line to underside of keel at 1000mm forward of transom	52		62
* 33	Base line to underside of keel at 2145mm forward of transom	25		35
34	Length of baseline from transom extended to point where bow transom extended cuts the baseline.	3535		3555
35	225mm from baseline measured along bow transom extension, nearest point of forefoot.	40		55
36	Beam of upper chine at transom.	985		1005
37	Height of upper chine above baseline at transom.	245		265
* 38	Beam of upper chine at 1020mm forward of transom.	1265		1285
* 39	Height of upper chine above baseline at 1020mm forward of	155		175
* 40	Beam of upper chine at 2170mm forward of transom.	1120		1140
* 41	Height of upper chine above baseline at 2170mm forward of	190		200
* 42	Beam of upper chine at 3170mm forward of transom.	610		630
* 43	Height of upper chine above baseline at 3170mm forward of	330		350
44	Width of bottom panel at transom.	385		400
* 45	Projection of keel below skin between transom and 3200mm	14		18
46	Thickness of keel or chine bands if fitted.	-		5
47	Width of keel or chine bands if fitted.	-		15
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<b><u>CENTREBOARD AND RUDDER</u></b>			
60	Width of centreboard at keel when fully extended.	-	385
61	Width of centreboard at 610mm from keel when fully extended measured at 90° to a leading edge.	-	300
62	Depth of centreboard below keel when fully extended	-	950
63	Thickness of centreboard except where bevelled.	16	20
64	Width of bevel on all edges of centreboard.	-	50
* 65	Distance from transom to leading edge of centreboard where it keel line when fully extended	2120	2140
66	Extension of rudder blade below keel at transom.	-	650
67	Width of rudder blade for a minimum of 200mm of its length	200	
68	Thickness of rudder blade	16	20
69		-	
70	The stock , tiller and tiller extension are optional in size and shape and shall be constructed of wood, metal, or glass fibre and resin as required.		
71	Foils to be constucted from ply, hardwood or glass fibre and resin		
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74	70. to 79. Spare		
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	<b>SPARS</b>		
80	Weight of mast with all fixed fittings and halyards but excluding shrouds and forestay.	5.5kg.	8.0kg
81	Overall length of mast.	-	5850
82	Mast step to lower edge of top black band.	-	5715
83	Mast step to centre of shrouds and forestay tang eyes or T	4410	4455
84	Mast step to top of foresail sheave.	-	4330
85	Mast step to top edge of lower black band.	990	-
	<b>Round Section Mast</b>		
86a	Diameter of mast exclusive of attached track.	49	51
	<b>Oval Section Mast</b>		
86b	Diameter of mast on major axis.	58	60
86c	Diameter of mast on minor axis.	47	49
	<b>Boom</b>		
87	Overall length of boom.	2520	2560
88a	Distance of inner edge of black band on boom to aft side of with boom fitted to gooseneck. (Round Section Mast)	-	2450
89a	Distance of centre of eye locating kicking strap to mast tube with boom fitted to mast gooseneck. (Round Section Mast)	532	548
88b	Distance of inner edge of black band on boom to aft side of tube with boom fitted to gooseneck. (Oval Section Mast)	-	2440
89b	Distance of centre of eye locating kicking strap to mast tube with boom fitted to mast gooseneck. (Oval Section Mast)	522	538
	<b>Round Section Boom</b>		
90a	Diameter of boom.	44	50
	<b>Oval Section Boom</b>		
90b	Diameter of boom on major axis.	58	60
90c	Diameter of boom on minor axis.	47	49
91a	Extension of foresail booming out spar from foreside of mast including fittings.	-	1532
91b	Overall length of spinnaker pole including end fittings	-	1525
92	Centre of shroud tang eyes to top of spinnaker halyard sheave (or T terminals)	-	250