BOAT

Name **CHISPETREN**
Sail Nr **ESP-18869**

GPH

623.0

GENERAL

Class	**DUFOUR 40**
Designer	**FELCI**
Builder	**DUFOUR**
Series	**01/2003**
Age	**01/2007**
Age Allow ance	**0.487%**
Offset File	**DUF040.OFF - 15/01/2015 23:39:28**
Measurement by	**- 24/08/2018**

HULL

Length Overall	**12.060m**
Maximum Beam	**3.888m**
Displacement	**7,659kg**
Draft	**2.058m**
Plan Review	
IMS Reg. Division	**Cruiser/Racer**
Dynamic Allow ance	**0.299%**
Hull Construction	**Cored**
Carbon Rudder	**No**
Crew Arm Extension	

IMSL	**10.802m**	VCGD	**0.253m**	Sink	**23.11kg/mm**
RL	**8.609m**	VCGM	**0.145m**	WS	**30.24m²**
LSM0	**10.750m**	Displacement/Length ratio			**6.1652**

SCORING OPTIONS

	COASTAL / LONG DISTANCE			WINDWARD / LEEWARD		
Time on Distance	**605.1**			**682.8**		
Time on Time	**0.9915**			**0.9886**		
Triple Number	Low	Medium	High	Low	Medium	High
Time on Distance	**722.5**	**549.0**	**489.8**	**938.8**	**687.7**	**597.0**
Time on Time	**0.9342**	**1.2294**	**1.3781**	**0.7190**	**0.9815**	**1.1306**

TIME ALLOWANCES

Wind Velocity	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Beat VMG	**1081.7**	**892.2**	**783.4**	**719.7**	**695.7**	**686.6**	**690.4**
52°	**698.5**	**587.9**	**521.9**	**491.7**	**479.7**	**475.4**	**473.7**
60°	**655.9**	**556.3**	**501.8**	**477.7**	**466.1**	**461.2**	**458.4**
75°	**624.6**	**531.8**	**487.7**	**466.6**	**453.1**	**443.2**	**434.3**
90°	**632.4**	**527.7**	**478.0**	**456.8**	**447.8**	**435.9**	**414.0**
110°	**632.0**	**520.2**	**472.6**	**448.9**	**428.8**	**411.5**	**393.0**
120°	**652.4**	**535.5**	**479.7**	**453.6**	**432.1**	**411.2**	**376.2**
135°	**727.0**	**590.3**	**509.1**	**470.9**	**448.3**	**427.2**	**387.5**
150°	**860.3**	**682.4**	**580.0**	**515.2**	**482.4**	**461.8**	**429.7**
Run VMG	**993.4**	**788.0**	**669.7**	**594.9**	**555.9**	**512.6**	**460.1**
Selected Courses							
Windward / Leeward	**1037.6**	**840.1**	**726.5**	**657.3**	**625.8**	**599.6**	**575.2**
Circular Random	**864.4**	**695.1**	**603.8**	**551.0**	**519.1**	**499.1**	**476.0**
Coastal / Long Distance	**1033.2**	**787.2**	**650.4**	**567.8**	**529.0**	**497.7**	**449.5**
Non Spinnaker	**925.9**	**737.7**	**634.3**	**573.0**	**535.2**	**511.4**	**484.8**

Velocity Prediction in Knots for True Wind Speeds

Wind Velocity	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Beat Angles	**43.5°**	**42.0°**	**42.0°**	**41.3°**	**40.5°**	**40.1°**	**40.7°**
Beat VMG	**3.33**	**4.03**	**4.60**	**5.00**	**5.17**	**5.24**	**5.21**
52°	**5.15**	**6.12**	**6.90**	**7.32**	**7.50**	**7.57**	**7.60**
60°	**5.49**	**6.47**	**7.17**	**7.54**	**7.72**	**7.81**	**7.85**
75°	**5.76**	**6.77**	**7.38**	**7.71**	**7.95**	**8.12**	**8.29**
90°	**5.69**	**6.82**	**7.53**	**7.88**	**8.04**	**8.26**	**8.70**
110°	**5.70**	**6.92**	**7.62**	**8.02**	**8.39**	**8.75**	**9.16**
120°	**5.52**	**6.72**	**7.50**	**7.94**	**8.33**	**8.76**	**9.57**
135°	**4.95**	**6.10**	**7.07**	**7.65**	**8.03**	**8.43**	**9.29**
150°	**4.18**	**5.28**	**6.21**	**6.99**	**7.46**	**7.80**	**8.38**
Run VMG	**3.62**	**4.57**	**5.38**	**6.05**	**6.48**	**7.02**	**7.82**
Gybe Angles	**144.0°**	**148.0°**	**147.5°**	**148.5°**	**150.8°**	**175.0°**	**178.0°**

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ORC International Certificate

Rating Office

Offshore Racing Congress

Certificate

Number **188691**
ORC Ref **03510000LHE**
Issued On **26/06/2020**
VPP Ver. **2020 1.02**
Valid until **31/12/2020**

Crew Weight

Default	763kg
Maximum	**700kg**
Minimum*	**525kg**

**when applied by the NoR and SI*

Non Manual Pwr **No**

Special Scoring

	ToD	ToT
Non Spin GPH	**655.3**	**0.9156**
Non Spin OSN	**634.6**	**0.9455**

Sails Limitations

Headsails	Spinnakers
5	**4**

Class Division Length

CDL = **9.700**

Storm Sails Areas

Heavy Weather Jib	**28.47**
Storm Jib (JL=9.44)	**10.55**
Storm Trysail	**12.22**

Owner

BOAT

Name	**CHISPETREN**	Sail Nr	**ESP-18869**
File	**E18869**	Data in	**meters/kilograms**

RIG

Forestay Tension	**Aft**	Spreaders	**2**
Inner Stay	**None Fitted**	Runners/Checkstays	**0**
Carbon Mast	**No**	Jib Furler	**No**
Fiber Rigging	**No**	Main Furler	**No**
Non-Circular Rigging	**No**		
Articulated Bowsprit	**No**		

P	**14.250**	E	**4.900**	MDT1	**0.142**	MW	**0.232**
IG	**14.450**	J	**4.175**	MDL1	**0.232**	GO	**0.252**
ISP	**15.000**	SFJ	**0.180**	MDT2	**0.142**	BD	**0.160**
BAS	**1.800**	SPL		MDL2	**0.232**	MWT	**215.00**
FSD	**0.050**	TPS	**5.000**	TL	**0.000**	MCG	**5.520**

INCLINING TEST AND FREEBOARDS

Inclining Test **Current Inclining**

Flotation date **24/08/2018** SG **1.0250**

FFM	**1.412**	FF	**1.412**	SFFP	**0.100**
FAM	**1.182**	FA	**1.183**	SAFP	**11.430**
W1	**80.0**	PD1	**441.5**	WD	**12.180**
W2	**80.0**	PD2	**439.3**	GSA	**1.0**
W3	**80.0**	PD3	**440.2**	RSA	**1.0**
W4	**80.0**	PD4	**443.7**	PLM	**9000.0**

LCF from stem on CL / on sheer	**6.564 / 6.818**
Maximum beam station from stem	**7.500**
RM Measured	**173.9kg·m**
RM Default	**183.9kg·m**
Limit of positive stability / Stab.Index	**113.2° / 115.9**
Freeboard at mast at 4.355	**1.255**

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MIZZEN RIG AND SAILS

N/A

PROPELLER

Installation	**Strut**			PRD	**0.400**
Type	**Folding 3 blades**			PBW	
Twin Screw	**No**			PIPA	**0.0032**
ST1	**0.046**	ST3	**0.172**	ST5	**0.270**
ST2	**0.170**	ST4	**0.098**	EDL	**2.800**

Certificate

Number **188691**
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COMMENTS

MOVABLE BALLAST

N/A

CENTERBOARD

N/A

SAILS (Maximum Areas)

Mainsail	MHB	MUW	MTW	MHW	MQW	Area	Area (r)	Formula
	0.18	1.08	1.88	3.13	4.09	41.56	42.38	P/8 · (E + 2·MQW+ 2·MHW + 1.5·MTW + MUW + 0.5·MHB)

Symmetric
Not Available

Asymmetric	SLU	SLE	SL	SHW	SFL		
on centerline	15.85	13.30	14.57	8.28	8.10	100.13	AS · (SFL + 4·SHW) / 6

HEADSAILS

Area = 0.1125·HLU · (1.445·HLP + 2·HQW + 2·HHW + 1.5·HTW + HUW + 0.5·HHB)

HHB	HUW	HTW	HHW	HQW	HLP	HLU	Area	Btn	Flying	Meas.Date	Material	Comment
0.10	0.70	1.36	2.71	4.14	5.65	14.27	39.58		No	01/05/2019	Unknow	
0.10	0.58	1.05	2.50	4.00	5.64	14.10	37.05		No		Unknow	

MEASUREMENT INVENTORY

Measurer **e24**
Date **24/08/2018**
Comment
Internal Ballast total = 0.0

Id	*Item*	*Weight*	*Distance*	*VCG*	*Description*

Id	*Item*	*Weight*	*Description*

MEASUREMENT INVENTORY

Id	*Item*	*Tank Use*	*Tank Type*	*Capcty*	*Dist.*	*VCG*	*Condtn*	*Description*
1	Tank	goil			10.00		~~5.0~~	

Id	*Item*	*Weight*	*Distance*	*VCG*	*Description*

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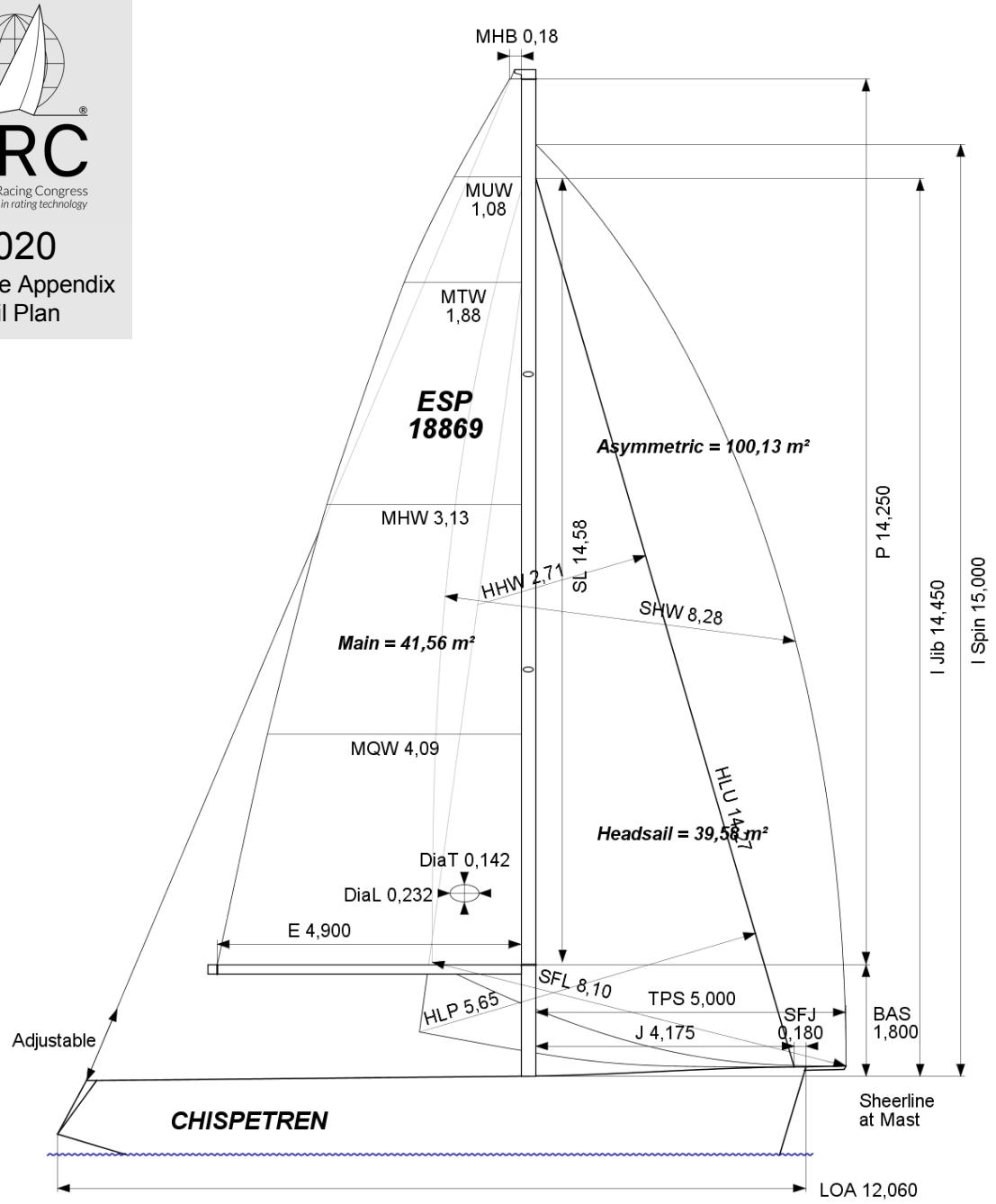
Certificate Appendix
Sail Plan



SAILS INVENTORY

MAINSAIL (2)

Id	MHB	MUW	MTW	MHW	MQW	Area	Measurer	Meas.Date	Manufacture	Material	Comment
002	0.18	1.08	1.88	3.13	4.09	41.56		01/05/2019		Unknown	
001	0.07	0.84	1.65	2.97	4.16	40.10		25/01/2018	NS	Unknown	

HEADSAILS (2)

Id	HHB	HUW	HTW	HHW	HQW	HLP	HLU	Ovrlp	Area	Btn	Flying	Measurer	Meas.Date	Manufacture	Material	Comment
002	0.10	0.70	1.36	2.71	4.14	5.65	14.27	135%	39.58		No		01/05/2019		Unknow	
foq	0.10	0.58	1.05	2.50	4.00	5.64	14.10	135%	37.05		No				Unknow	

SYMMETRIC SPINNAKERS (0)

Id	SLU	SLE	SL	SHW	SFL	Area	Measurer	Meas.Date	Manufacture	Material	Comment

ASYMMETRIC SPINNAKERS (1)

Id	SLU	SLE	SL	SHW	SFL	Area	Kind	Measurer	Meas.Date	Manufacture	Material	Comment
001	15.85	13.30	14.58	8.28	8.10	100.14	asym		23/11/2017	NS	Nylon	OSP2503-001