

BOAT Name Czarodziejka Sail Nr POL 9658	GPH 755,3	HULL Length Overall 8,560m Maximum Beam 2,818m Displacement 2 698kg Draft 1,757m IMS Reg. Division Cruiser/Racer Dynamic Allowance 0,383% Fwd Accommodation No Hull Construction Solid Carbon Rudder No Crew Arm Extension
GENERAL Class GRANADA 27 Designer ELVSTROEM/KJAERULF Builder GESTEN GLASFIBER Series 01-1976 Age 01-1979 Age Allowance 0,487% Offset File czarodziejka.off - 2014-01-23 Measurement by J.Gorski - 14-06-2013		IMSL 6,784m VCGD -0,204m Sink 9,87kg/mm RL 5,594m VCGM -0,089m WS 14,38m2 LSM0 6,908m Displacement/Length ratio 8,1844



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ORC International
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Rating Office
Polski Związek Żeglarski
al. ks. J.Poniatowskiego 1
03-901 Warszawa, Polska



	COASTAL / LONG DISTANCE			WINDWARD / LEEWARD		
	Low	Medium	High	Low	Medium	High
Time On Distance	733,8			813,2		
Time On Time	0,8177			0,8300		
Triple Number	Low	Medium	High	Low	Medium	High
Time on Distance	857,7	671,2	603,8	1099,2	818,0	715,2
Time on Time	0,7870	1,0056	1,1180	0,6141	0,8252	0,9438

Wind Velocity	TIME ALLOWANCES						
	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Beat VMG	1281,1	1080,0	968,7	892,8	860,5	848,9	851,1
52°	847,2	720,3	649,9	621,5	606,5	600,1	597,8
60°	804,2	681,8	630,1	605,7	590,5	581,2	576,8
75°	769,7	656,3	615,1	592,1	574,1	559,0	542,1
90°	765,8	639,8	597,2	583,3	571,4	553,5	523,4
110°	747,1	630,5	589,6	560,5	540,1	528,5	510,9
120°	770,9	639,9	595,1	565,5	537,1	513,5	493,5
135°	842,2	692,0	614,9	582,5	555,1	528,4	484,7
150°	977,1	786,7	667,0	610,0	581,2	555,9	508,3
Run VMG	1128,3	907,6	766,8	673,5	618,8	588,4	539,8

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Number **28**
ORC Ref **N/A**
Issued On **2017-11-28**
VPP Ver. **2017 1.00**
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Crew Weight
Declared **300kg**
Default* **406kg**
Non Manual Pwr **No**

Special Scoring

	ToD	ToT
Double H.GPH	758,1	0,7915
Double H.OSN	737,6	0,8134
Non Spin GPH	795,5	0,7542
Non Spin OSN	768,7	0,7806

Selected Courses							
Windward / Leeward	1204,7	993,8	867,7	783,1	739,7	718,6	695,4
Circular Random	1031,9	837,0	733,3	673,6	637,6	614,7	587,7
Ocean for PCS	1251,5	975,0	819,3	724,2	662,8	620,6	563,2
Non Spinnaker	1103,3	887,8	771,3	703,1	661,3	634,7	603,2

Sails Limitations

Headsails	Spinnakers
5	3

Dacron Sails

Class Division Length
CDL = **6,189**

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	42,2°	40,8°	42,0°	40,7°	39,5°	38,9°	39,4°
Beat VMG	2,81	3,33	3,72	4,03	4,18	4,24	4,23
52°	4,25	5,00	5,54	5,79	5,94	6,00	6,02
60°	4,48	5,28	5,71	5,94	6,10	6,19	6,24
75°	4,68	5,48	5,85	6,08	6,27	6,44	6,64
90°	4,70	5,63	6,03	6,17	6,30	6,50	6,88
110°	4,82	5,71	6,11	6,42	6,67	6,81	7,05
120°	4,67	5,63	6,05	6,37	6,70	7,01	7,30
135°	4,27	5,20	5,85	6,18	6,49	6,81	7,43
150°	3,68	4,58	5,40	5,90	6,19	6,48	7,08
Run VMG	3,19	3,97	4,70	5,35	5,82	6,12	6,67
Gybe Angles	148,5°	152,5°	152,0°	170,7°	180,0°	180,0°	180,0°

Storm Sails Areas

Heavy Weather Jib	15,64
Storm Jib (JL=7,00)	5,79
Storm Trysail	4,63

Owner
Tomasz Konnak


I certify that I understand my responsibilities under ORC Rules and Regulations

Signature

BOAT	
Name Czarodziejka File czarodziejka_test1	Sail Nr POL 9658 Data in meters/kilograms

INCLINING TEST AND FREEBOARDS		
Inclining Test Current Inclining		
Flotation date 08-06-2013		SG 1,0050
FFM 1,002	FF 1,003	SFFP 0,600
FAM 0,842	FA 0,856	SAFP 7,680
W1 11,2	PD1 59,0	WD 5,950
W2 22,4	PD2 124,0	GSA 15,9
W3 33,6	PD3 184,0	RSA 10751,
W4 44,8	PD4 244,0	PLM 2115,0
LCF from stem on CL / on sheer		4,852 / 5,008
Maximum beam station from stem		5,250
RM Measured		40,4kg·m
RM Default		34,6kg·m
Limit of positive stability / Stab.Index		124,7° / 122,7
Freeboard at mast at 4,000		0,962

RIG				
Forestay Tension Aft	Spreaders 1			
Inner Stay None Fitted	Runners 0			
Carbon Mast No	Jumper Struts None			
Taper Hollows No	Jib Furler No			
Fiber Rigging No	Main Furler No			
Lenticular Rigging No	Without Backstay No			
Articulated Bowsprit No				
P 9,516	E 2,780	MDT1 0,106	MW 0,155	
IG 10,563	J 3,330	MDL1 0,155	GO 0,217	
ISP 10,613	SFJ 0,670	MDT2 0,106	BD 0,120	
BAS 0,973	SPL 3,300	MDL2 0,155	MWT 63,30	
FSP 0,000	TPS 0,000	TL 0,000	MCG 4,210	



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IMS Measurement Certificate

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MIZZEN RIG AND SAILS	
N/A	

PROPELLER		
Installation Strut	PRD 0,354	
Type Folding 2 blades	PBW 0,013	
Twin Screw No	PIPA 0,0018	
ST1 0,060	ST3 0,195	ST5 0,270
ST2 0,195	ST4 0,059	EDL 1,360

COMMENTS

MOVEABLE BALLAST	
N/A	

CENTERBOARD	
N/A	

SAILS (Maximum Areas)						
Mainsail	MHB	MUW	MTW	MHW	MQW	Area Area (r) Formula
	0,130	0,54	0,97	1,68	2,25	15,11 15,27 P/8 · (E + 2·MQW + 2·MHW + 1.5·MTW + MUW + 0.5·MHB)
Symmetric	SLU	SLE	SL	SHW	SFL	
	10,68	10,68	10,68	6,77	5,41	57,83 SL · (SFL + 4·SHW) / 6
Asymmetric	Not Available					

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	Fly	Meas.Date	Material	Comment
0,04	0,49	0,96	1,96	3,01	4,07	10,55	21,09			26-08-2014	Dacron	genua
0,05	0,42	0,81	1,63	2,48	3,38	10,57	17,56			21-11-2017	Polyest	genua 2
0,05	0,40	0,78	1,64	2,62	3,66	8,54	14,80			04-02-2015	Dacron	fok
0,03	0,28	0,56	1,20	1,92	2,66	7,98	10,07			25-05-2013	Dacron	fok may

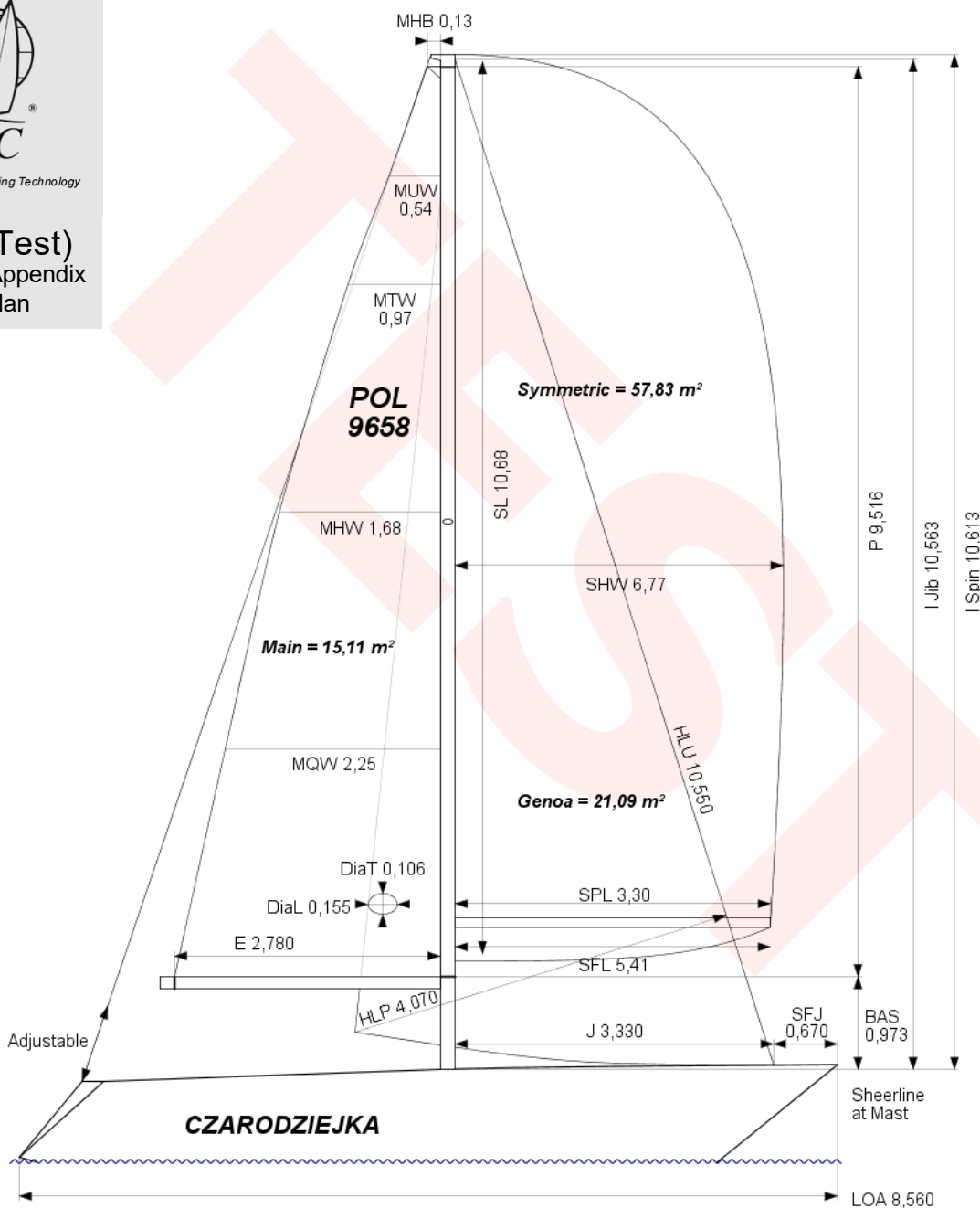
MEASUREMENT INVENTORY				
Measurer J.Gorski JG				
Date 08-06-2013				
Comment				
Id	Item	Weight	Distance	VCG Description
+	Ancher	7,0	6,78	0,00
+	Chain	4,3	6,23	0,00
+	Feels	4,9	4,03	0,00
Id	Item	Maker	Model	
1	Engine	Volvo	MD5B	
Id	Item	Weight Description		

MEASUREMENT INVENTORY							
Id	Item	Tank Use	Tank Type	Capcty	Dist.	VCG	Condtn Description
1	Tank		fuel	22,0	6,53	0,00	16,0
2	Tank		water	50,0	5,59	0,00	0,0
Id	Item	Weight	Distance	VCG Description			
1	Battery		5,60	0,00 75 Ah			
2	Battery		5,60	0,00 WARTA, 140 Ah			



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Sail Plan



SAILS INVENTORY

MANSAIL (2)

Id	MHB	MUW	MTW	MHW	MQW	Area	Measurer	Meas.Date	Manufacture	Material	Comment
2	0,130	0,54	0,97	1,68	2,25	15,11	J.Górski	07-09-2016	Bryt Sails	Polyester	Flex z tafetą
1	0,120	0,51	0,92	1,64	2,21	14,79	J.Gorski	25-05-2013	Sundelin	Dacron	

HEADSAILS (4)

Id	HHB	HUW	HTW	HHW	HQW	HLP	HLU	Ovrlp	Area	Btn	Fly	Measurer	Meas.Date	Manufacture	Material	Comment
3	0,04	0,49	0,96	1,96	3,01	4,07	10,55	122%	21,09			J.Górski	26-08-2014	Bryt Sails	Dacron	genua
1	0,05	0,42	0,81	1,63	2,48	3,38	10,57	102%	17,56			T.Konnak	21-11-2017	Bryt Sails	Polyest	genua 2
4	0,05	0,40	0,78	1,64	2,62	3,66	8,54	110%	14,80			J.Górski	04-02-2015	De Vries	Dacron	fok
2	0,03	0,28	0,56	1,20	1,92	2,66	7,98	80%	10,07			J.Gorski	25-05-2013	DeVries	Dacron	fok may

SYMMETRIC SPINNAKERS (2)

Id	SLU	SLE	SL	SHW	SFL	Area	Measurer	Meas.Date	Manufacture	Material	Comment
1	10,68	10,68	10,68	6,77	5,41	57,83	J.Gorski	25-05-2013	Neil Pryde	Nylon	kolorowy
2	10,85	10,85	10,85	5,73	5,26	50,96	J.Górski	26-08-2014	Ocean Sails	Nylon	black

ASYMMETRIC SPINNAKERS (0)

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