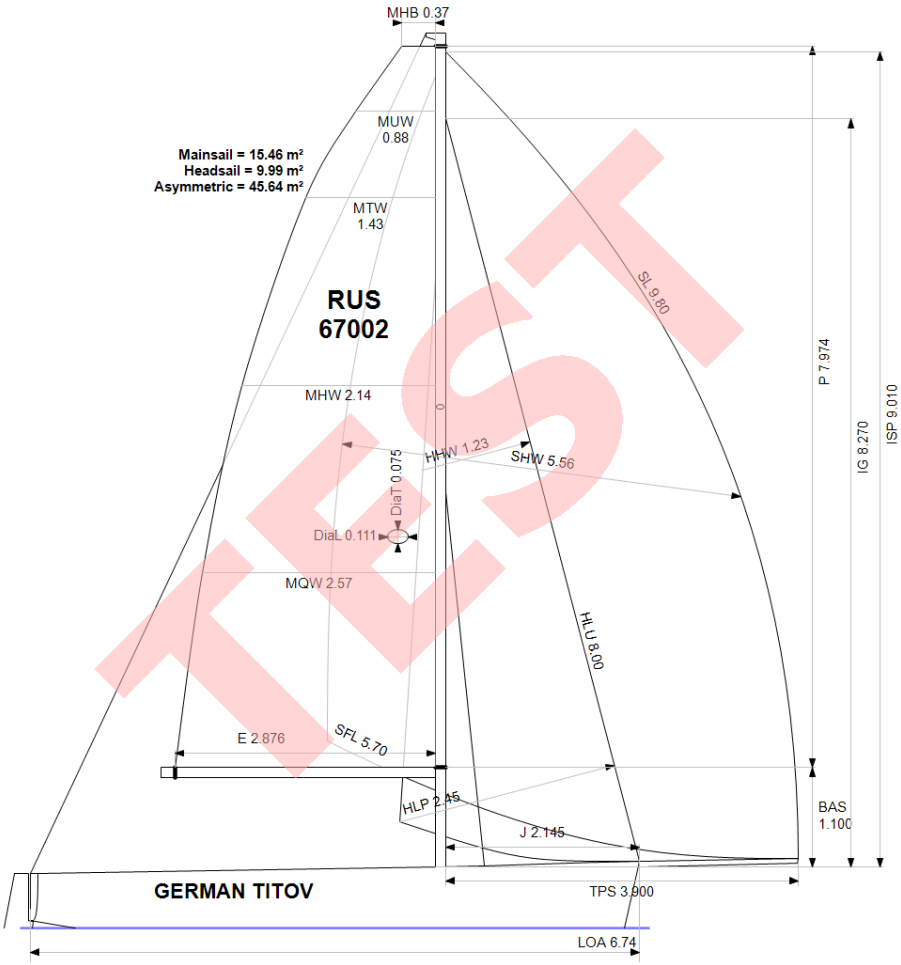
Club
Certificate
2022

Boat
German Titov
RUS 67002

Novokolomiazhskii av 11-70
St-Petersburg
Russia



APH: **577.5** CDL: **6.720**

GPH: **649.8** CertNo: **6702.1**

BOAT

Class	**RAKETA 670**
Designer	**Michail Tikhonov**
Builder	**Raketa yachts Ltd**
Age date	**02.2019**
Series date	**10.2018**
Offset file	**SV670.off**
Data file	**RU67002 Titov**

HULL

Length Overall	**6.700 m**
Maximum Beam	**2.234 m**
Draft	**1.641 m**
Displacement	**621 kg**
DLR	**3.6541**
IMS Division	**Sportboat**
Dynamic Allowance	**0.000%**
Age Allowance	**0.130%**

PROPELLER

Installation	**No Propeller**
Type	**N/A**
Diameter	**N/A**

CREW

Maximum weight	**320 kg**
Minimum weight	**235 kg** ** when applied*
Non Manual Power	**No**
Crew Arm Extension	**0.50 m**

SAIL AREAS (m²)

	Measured	Rated
Mainsail	**15.46**	**16.02**
Headsail Luffed	**9.99**	**9.99**
Headsail Flying		
Symmetric		
Asymmetric	**45.64**	**45.64**

(All asymmetric spinnakers with SHW/SFL > 85%)

STORM SAIL AREAS (m²)

Trysail	**4.02**
Storm Jib	**3.50**
Heavy Weather Jib	**9.45**

SAIL LIMITS

Headsails	**5**
Spinnakers	**4**

STABILITY

Righting Moment	**17.1 kg·m**
Stability Index	**N/A**

The owner and any other person in charge is responsible that boat is complying with her certificate in accordance with RRS 78.1 and ORC Rule 304.

Rated boat velocities in knots							
Wind Velocity	**6 kt**	**8 kt**	**10 kt**	**12 kt**	**14 kt**	**16 kt**	**20 kt**
Beat Angles	43.8°	42.0°	39.1°	37.2°	37.3°	37.6°	37.8°
Beat VMG	3.17	3.87	4.36	4.58	4.61	4.61	4.66
52°	4.86	5.74	6.15	6.50	6.62	6.67	6.82
60°	5.15	5.92	6.35	6.83	7.03	7.12	7.31
75°	5.37	6.04	6.55	7.16	7.76	8.00	8.24
90°	5.57	6.35	6.87	7.22	8.00	8.90	9.62
110°	5.63	6.48	7.41	8.12	8.69	9.24	10.39
120°	5.50	6.36	7.23	8.39	9.28	9.99	11.48
135°	4.95	5.98	6.72	7.62	8.78	10.33	13.25
150°	4.19	5.32	6.04	6.69	7.50	8.57	12.17
Run VMG	3.63	4.60	5.24	5.80	6.49	7.42	10.54
Gybe Angles	143.9°	148.3°	151.0°	147.8°	144.8°	143.0°	141.1°

TEST

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Time Allowances in secs/NM							
Wind Velocity	**6 kt**	**8 kt**	**10 kt**	**12 kt**	**14 kt**	**16 kt**	**20 kt**
Beat VMG	1137.1	930.4	826.6	786.8	780.4	780.3	772.3
52°	740.9	627.4	585.3	553.9	543.9	539.4	527.8
60°	698.6	608.2	567.1	527.0	512.2	505.4	492.7
75°	670.7	596.2	549.3	502.5	463.9	450.1	436.9
90°	646.3	566.6	524.0	498.3	450.0	404.3	374.4
110°	638.9	555.4	486.1	443.3	414.5	389.6	346.5
120°	654.6	566.3	498.3	429.0	388.1	360.3	313.5
135°	727.5	602.2	535.5	472.3	409.9	348.4	271.6
150°	858.9	677.2	595.6	537.8	480.1	420.0	295.8
Run VMG	991.8	782.0	686.8	621.0	554.3	484.9	341.5
Selected Courses							
Windward / Leeward	1064.4	856.2	756.7	703.9	667.4	632.6	556.9
All purpose	817.3	679.4	608.8	562.8	528.4	499.2	450.5

Single Number Scoring Options		
Course	**Time On Distance**	**Time On Time**
Windward / Leeward	725.9	0.8265
All purpose	577.5	1.0389

Custom scoring options for Russia

Single Number	Time On Distance	Time On Time
Predominantly Upwind	643.2	0.9328
Predominantly Downwind	573.8	1.0456

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Data in **meters/kilograms (Metric)**

HULL AND APPENDAGES (Lightship Trim)

Class	**RAKETA 670**	LOA	**6.700**	VCGD	**-0.155**
Measurement	**10.05.2022**	Max. Beam	**2.234**	VCGM	**-0.313**
HIN	**RU-RY67002 B 919**	Draft	**1.641**	RM Measured (kg·m)	**17.1**
Plan review		Displacement	**621**	RM Default (kg·m)	**17.1**
Hull construction	**Solid**	Wetted area	**8.02**	Limit of positive stability(°)	**N/A**
Aramid Hull Core	**No**	IMS L	**6.235**	Stability Index	**N/A**
Carbon Rudder	**No**	LSM0	**5.538**		
Light stanchions	**No**	Acc. length	**6.735**		
Trim tab	**No**	Sink (kg/mm)	**6.43**		

PROPELLER

Propeller Type	**No Propeller**		
Hydro generator	**No**	PIPA	**0.0000**

RIG

Forestay tension	**Fixed**	P	**7.974**	E	**2.876**
Inner stay	**Fixed**	IG	**8.270**	J	**2.145**
Carbon mast	**No**	ISP	**9.010**	BAS	**1.100**
Headsail furler	**No**	MDT1	**0.075**	FSD	**0.000**
Mainsail furler	**No**	MDL1	**0.111**	SFJ	**0.000**
Articulated bowsprit	**No**	MDT2	**0.075**	SPL	**0.000**
Non-circular rigging	**No**	MDL2	**0.111**	WPL	
Fiber rigging	**No**	TL	**1.000**	TPS	**3.900**
Runners/Checkstays	**0**	MW	**0.111**	BD	**0.111**
Spreaders	**1**	GO	**0.135**	MWT	**30.10**
				MCG	**3.250**

FLOTATION AND STABILITY

Calculation method	**VCG estimated**	SFFP	**0.228**	SAFP	**6.699**
Flotation Date	**02.05.2022**	FFM	**0.729**	FAM	**0.527**
Measurer	**RUS 216**	FF	**0.732**	FA	**0.529**
Comment	**YC BEREZKI, Chivtrevo**	LCFcl	**3.353**	LCFsh	**3.523**
		SG	**1.0000**	HBl	**0.671**

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MAINSAIL

Id	*MHB*	*MUW*	*MTW*	*MHW*	*MQW*	*Area*	*Meas.Date*	*Maker*	*Material*	*Comment*
67001	0.37	0.88	1.43	2.14	2.57	15.46	20.03.2022		Dacron	

HEADSAIL

Id	*HHB*	*HUW*	*HTW*	*HHW*	*HQW*	*HLP*	*HLU*	*Btn*	*Flying*	*FT*	*Area*	*Meas.Date*	*Maker*	*Material*	*Comment*
001	0.07		0.65	1.23	1.86	2.45	8.00	Yes	No		9.99	20.03.2022		Dacron	235 g\m2

ASYMMETRIC SPINNAKER

Id	*SLU*	*SLE*	*SL*	*SHW*	*SFL*	*Ratio*	*Area*	*Meas.Date*	*Maker*	*Material*	*Comment*
67001	10.80	8.80	9.80	5.56	5.70	98%	45.64	20.03.2022		Nylon	