

TESTING CENTER OF CABLE PRODUCTS

Autogennaya str. 7, Kharkov, 61099, Ukraine,
 Phone: +38 057 754 52 75
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Accredited by:
 National Accreditation Agency of Ukraine - A national accreditation body of Ukraine
 Certificate of Accreditation № 20353 dated January 16, 2024; Valid until January 15, 2029

TEST REPORT

Report reference number 10
 Tested by Andrew Konoplev, Alina Shurupova
 Approved by Nikolay Zykov
 Date of issue 19-Jan-26
 Testing laboratory Testing center of cable products,
 Address Autogennaya str. 7, Kharkov, 61099, Ukraine,
 Phone: +38 057 754 52 75, E-mail: lab@yuzhcable.com.ua
 Manufacturer YUZH CABLE WORKS, PJSC
 Address Autogennaya str. 7, Kharkov, 61099, Ukraine
 Standard IEC 60502-1:2004 Power cables with extruded insulation and their accessories for rated voltages from 1 kV (Um = 1,2 kV) up to 30 kV (Um = 36 kV) - Part 1: Cables for rated voltages of 1 kV (Um = 1,2 kV) and 3 kV (Um = 3,6 kV)
 Test procedure Tests
 Cable type АПвБ6Шп-1 4×95
 Trade mark YUZH CABLE
 Rating(s) Uo/U 0,6/1
 Dates of receipt of test item 06-Jan-26
 Dates of performance of tests From 07-Jan-26 to 16-Jan-26
 Summary of test results PASS

Ref No.	Tests	Prescribed	Observed				Verdict
1	Electrical tests		BU	BN	BK	GY	
1.1	Resistance of conductors (Ω/km)	Max. 0,320	0,316	0,316	0,317	0,315	Pass
1.2	Volume resistivity of insulation at (90±2)°C (Ω·cm)	Min. 10 ¹²	2,72	2,75	2,81	2,90	Pass
	Insulation resistance constant K _i at (90±2)°C (MΩ·km)	Min. 3,67	8,41	8,48	8,52	8,44	Pass
1.3	Voltage test 3,5 kV/5 min	No breakdown of the insulation	No breakdown of the insulation				Pass
2	Non-electrical tests						
2.1	Measurement of thickness of insulation - nominal value (mm)	1,1	1,16	1,14	1,12	1,13	Pass
2.2	Measurement of thickness of extruded inner covering - nominal value (mm)	1,2	1,55				Pass
2.3	Measurement of thickness of the armour galvanized steel tapes - value (mm)	0,5	0,5				Pass
2.4	Measurement of thickness of sheath - nominal value (mm)	2,3	2,34				Pass

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Ref No.	Tests	Prescribed	Observed				Verdict
2.6	Mechanical properties of insulation <i>Without ageing:</i>						
	Tensile strength (N/mm ²)	Min. 12,5	18,5	17,4	18,8	17,2	Pass
	Elongation-at-break (%)	Min. 200	550	560	580	540	Pass
	<i>After ageing in air oven:</i>						
	Duration (h) / Temperature (°C)	168 / (135±3)					
	Tensile strength variation (%)	Max. ±25	-2,2	-3,4	-2,9	-3,8	Pass
	Elongation-at-break variation (%)	Max. ±25	-3,4	-4,1	-3,5	-4,7	Pass
	<i>Hot set test</i>						
	Time under load (min) / Temperature (°C) mechanical stress (N/cm ²)	15 / (200±3) 20					
	Elongation under load (%)	Max. 175	60	70	60	75	Pass
Permanent elongation after cooling (%)	Max. 15	0	0	0	0	Pass	
<i>Water absorption</i>							
Duration (h) / Temperature (°C)	336 / (85±2)						
Increase of mass (mg/cm ²)	Max. 1,0	0,12	0,15	0,11	0,17	Pass	
<i>Shrinkage test</i>							
Duration (h) / Temperature (°C)	1 / (130±3)						
Shrinkage (%)	Max. 4,0	1,6	1,5	1,8	1,3	Pass	
2.7	Mechanical properties of sheath <i>Without ageing:</i>						
	Tensile strength (N/mm ²)	Min. 12,5		22,7			Pass
	Elongation-at-break (%)	Min. 300		650			Pass
	<i>After ageing in air oven:</i>						
	Duration (h) / Temperature (°C)	240 / (110±2)					
	Elongation-at-break (%)	Min. 300		615			Pass
	<i>Shrinkage test</i>						
	Duration (h) / Temperature (°C) Heating, cycles	5 / (80±2) 5					
Shrinkage (%)	Max. 3,0		1,5			Pass	
<i>Pressure test at high temperature</i>							
Duration (h) / Temperature (°C)	6 / (110±2)						
Median of the depth of indentation (%)	Max. 50		12			Pass	

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Ref No.	Tests	Prescribed	Observed				Verdict
2.8	Additional ageing test on pieces of completed cables Duration (h) / Temperature (°C)	168 / (100±2)					
	<i>mechanical properties of insulation:</i> Tensile strength variation (%)	Max. ±25	-5,2	-5,7	-4,8	-6,1	Pass
	Elongation-at-break variation (%)	Max. ±25	-6,3	-5,9	-6,7	-5,5	Pass
	<i>mechanical properties of sheath:</i> Elongation-at-break (%)	Min. 300	600				Pass

Nikolay Zykov,
 Head of TCCP

Andrew Konoplev,
 Head of the Laboratory of electrical tests

Alina Shurupova,
 Head of Laboratory of promising developments

