

TESTING CENTER OF CABLE PRODUCTS

Autogennaya str. 7, Kharkov, 61099, Ukraine,
Phone: +38 057 754 52 75
E-mail: lab@yuzhcable.com.ua

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 24/1
Tested by Andrew Konoplev, Alina Shurupova
Approved by Nikolay Zykov
Date of issue 08-Feb-24
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 60502-2:2014 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 2: Cables for rated voltages from 6 kV (Um = 7,2 kV) up to 30kV (Um = 36 kV)
Test procedure Tests
Cable type NA2XS(F)2Y-6/10 1×240/25
Trade mark YUZH CABLE
Rating(s) Uo/U 6/10
Dates of receipt of test item 23-Jan-24
Dates of performance of tests From 24-Jan-24 to 07-Feb-24
Summary of test results PASS

Ref No.	Tests	Prescribed	Observed	Verdict
1	Electrical tests			
1.1	Resistance: (Ω/km) - of the conductor - of the concentric conductor	Макс. 0,125 Макс. 0,727	0,122 0,722	Pass Pass
1.2	Partial discharge test (pC)	Max. 5,0	1,7	Pass
1.3	Tan δ measurement	Max. 40×10 ⁻⁴	5,2×10 ⁻⁴	Pass
1.4	Resistivity of semi-conducting screens:(Ω×m) - conductor screen - insulation screen	Max. 1000 Max. 500	820 430	Pass Pass
1.5	Voltage test 24 kV/4 h	No breakdown of the insulation	No breakdown of the insulation	Pass
2	Non-electrical tests			
2.1	Measurement of thickness of insulation - value (mm) - eccentricity	3,4 _{-0,44} ≤0,15	3,45 0,11	Pass Pass
2.2	Measurement of thickness of sheath - value (mm)	2,2 _{-0,64}	2,45	Pass

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Ref No.	Tests	Prescribed	Observed	Verdict
2.3	Mechanical properties of insulation <i>Without ageing:</i>			
	Tensile strength (N/mm ²)	Min. 12,5	21,2	Pass
	Elongation-at-break (%)	Min. 200	365	Pass
	<i>After ageing in air oven:</i>			
	Duration (h) / Temperature (°C)	168 / (135±3)		
	Tensile strength variation (%)	Max. ±25	-5,3	Pass
	Elongation-at-break variation (%)	Max. ±25	-6,7	Pass
	<i>Hot set test</i>			
	Time under load (min) / Temperature (°C) mechanical stress (N/cm ²)	15 / (200±3) 20		
	Elongation under load (%) Permanent elongation after cooling (%)	Max. 175 Max. 15	70 0	Pass Pass
<i>Water absorption</i>				
Duration (h) / Temperature (°C) Increase of mass (mg/cm ²)	336 / (85±2) Max. 1,0		0,16	Pass
<i>Shrinkage test</i>				
Duration (h) / Temperature (°C) Shrinkage (%)	1 / (130±3) Max. 4,0		1,7	Pass
2.4	Mechanical properties of sheath <i>Without ageing:</i>			
	Tensile strength (N/mm ²)	Min. 12,5	22,8	Pass
	Elongation-at-break (%)	Min. 300	625	Pass
	<i>After ageing in air oven:</i>			
	Duration (h) / Temperature (°C)	240 / (110±2)		
	Elongation-at-break (%)	Min. 300	610	Pass
	<i>Shrinkage test</i>			
	Duration (h) / Temperature (°C) Heating, cycles Shrinkage (%)	5 / (80±2) 5 Max. 3,0		1,0
<i>Pressure test at high temperature</i>				
Duration (h) / Temperature (°C) Median of the depth of indentation (%)	6 / (110±2) Max. 50		18	Pass

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Ref No.	Tests	Prescribed	Observed	Verdict
2.5	Additional ageing test on pieces of completed cables Duration (h) / Temperature (°C) <i>mechanical properties of insulation:</i> Tensile strength variation (%) Elongation-at-break variation (%)	168 / (100±2) Max. ±25 Max. ±25	 -4,4 -7,1	 Pass Pass
	<i>mechanical properties of sheath:</i> Elongation-at-break (%)	Min. 300	595	Pass

Nikolay Zykov,
Head of TCCP



Andrew Konoplev,
Head of the Laboratory of electrical tests



Alina Shurupova,
Head of Laboratory of promising developments

