

# CYAbY(-F), CYAbzY(-F), ACYAbY(-F), ACYAbzY(-F)

Cablu de energie armat, cu izolatie si manta de PVC

PVC insulated and sheathed power cable, steel tape armored

Standard	Aprobari / Approvals	Ambalare / Packaging
SR HD 603 S1/4C; IEC 60502-1, ST104: Rev 2 :2016	Certificat de omologare tehnica feroviara Nr.183,184 /2016, AFER Buc Railway Technical Approval Certificate No 183,184/2016, AFER Buc Romania	Tambur/ drum

CARACTERISTICI		CHARACTERISTICS	
<b>Utilizare:</b> Cabluurile sunt utilizate pentru transportul energiei electrice la statiile de putere. Cabluurile trebuie protejate impotriva agentilor corozivi , a solventilor chimici Cabluurile sunt cu rezistenta la UV		<b>Applicability :</b> Power supply to power stations. The cables must be protected against: corozive chemicals, chemical solvents UV resistant cables	
Tensiune nominala U <sub>0</sub> /U	0.6/1 kV	Rated voltage U <sub>0</sub> /U	0.6/1 kV
Tensiune de incercare	3.5 kV ca sau 8.4 kV cc,5 min	Test voltage	3.5 kV ac or 8.4 kV dc,5 min
Rezistivitatea de volum specifica, min.	la 20 °C-10 <sup>13</sup> Ω*cm la 70°C-10 <sup>10</sup> Ω*cm	Volume resistivity at, min	la 20 °C-10 <sup>13</sup> Ω*cm la 70°C-10 <sup>10</sup> Ω*cm
Constanta rezistentei de izolatie	20 °C:min 3.67 MΩ*km 70 °C: min 0.037 MΩ*km	Insulation resistance constant at	20 °C:min 3.67 MΩ*km 70 °C: min 0.037 MΩ*km
Rezistenta de izolatie la 20 °C	Min. 50 MΩ*km	Insulation resistance	Min. 50 MΩ*km
Temperatura minima de instalare pe cablu	-5°C	The minim temperature of de cable during installation	-5°C
Temperatura maxima de lucru	+70°C	Max.permissible operating temperature	+70°C
Temperatura maxima de scurt-circuit	+160 °C (max 5 sec)	Max. short-circuit temperature	+160 °C (max 5 sec)
Temperatura de utilizare normala	-40°C ÷ +70°C	Normal operational temperature range	-40°C ÷ +70°C
Temperatura minima de montaj	-5°C	Temperature during installation	-5°C
Temperatura masurata pe manta	-10°C ÷ +70°C	Temperature measured on the sheath	-10°C ÷ +70°C
Conformitate RoHS	Da	RoHS compliancy	Yes
Conformitate REACH	Da	REACH compliancy	Yes
Conductor de cupru sau aluminiu	Conductor unifilar (re), conductor multifilar (rm) conf SR EN 60228	Copper or aluminum conductor	Monowire (re), multiwire (rm) according to SR EN 60228
Izolatie	PVC tip DIV 10	Insulation	PVC type DIV 10
Umplutura	PVC sau benzi din material plastic	Filling	PVC or plastic tape
Manta interioara	PVC tip DMV 17 negru (A/CYAbY, A/CYAbzY ) sau gri (A/CYAbzY-F, A/CYAbzY-F)	Inner sheath	PVC type DMV 17 black (A/CYAbY, A/CYAbzY) or gray (A/CYAbzY-F, A/CYAbzY-F)
Armatura	Bandade otel laminata la rece nezincata (A/CYAbY, A/CYAbY-F) sau zincata (A/CYAbzY, A/CYAbzY-F) de grosime 0.2 sau 0.5 mm.	Armor	Blank (A/CYAbY,A/CYAbY-F) or zinc-plated cold-rolled (A/CYAbzY,A/CYAbzY-F) steel tape 0.2 or 0.5 mm thickness

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<b>Manta exterioara</b>	PVC tip DMV 17 negru (A/CYAbY, A/CYAbzY) sau gri (A/CYAbY-F, A/CYAbzY-F) Cablurile sunt cu rezistenta sau rezistenta marita la propagarea flacarii conf SR EN 60332-1-2(A/CYAbY,A/CYAbzY) ,SR EN 60332-3-24 /cat 3 (A/CYAbY-F, A/CYAbzY-F)	<b>Outer sheath</b>	PVC type DMV 17 black or gray The cables are flame retardant or extra flame retardant acc SR EN 60332-1-2(A/CYAbY,A/CYAbzY) ,SR EN 60332-3-24 /cat 3 (A/CYAbY-F, A/CYAbzY-F)Category C.																								
<b>Marcaj pe manta</b>	SC ELECTROPLAST SA ,simbol cablu ,tensiune de lucru, luna,an de fabricatie, ,marcaj de lungime Exemplu de marcaj : CYAbY-F 4x25 mm <sup>2</sup> 0.6/1 kV ELECTROPLAST SA 09/2012 0030	<b>Sheath marking</b>	SC ELECTROPLAST SA , cable symbol , operational voltage, months ,year of manufacture, mark length Example: CYAbY-F 4x25 mm <sup>2</sup> 0.6/1 kV ELECTROPLAST SA 09/2012 0030																								
<b>Raza minima de curbura la instalare</b>	Min. 12 x diametrul cablului	<b>Min. bending radius at installation</b>	Min. 12 x cable diameter																								
<b>Forta maxima de tractiune la pozare</b>	Max 50 N/mm <sup>2</sup> ptr cab cu cond Cu -30 N/mm <sup>2</sup> ptr cab cu cond Al	<b>Max. tensile strain during installation</b>	Max - 50 N/mm <sup>2</sup> for copper conductor cable. - 30 N/mm <sup>2</sup> for aluminum conductor cable.																								
<b>Cod de culori conf SR HD 308 S2 (nr. de conductoare)</b>	<table border="1"> <tr> <td>1</td> <td>negru / galben-verde</td> </tr> <tr> <td>2</td> <td>albastru, maro / galben-verde,negru, pt sect &gt;10mm<sup>2</sup></td> </tr> <tr> <td>3</td> <td>maro,negru,gri / galben-verde,albastru,maro</td> </tr> <tr> <td>4</td> <td>albastru,maro,negru,gri / galben-verde,maro,negru,gri</td> </tr> <tr> <td>5</td> <td>albastru,maro,negru,,gri,negru / galben-verde,albastru,maro,negru,gri</td> </tr> <tr> <td>&gt;5</td> <td>conductoare negre numerotate sau galben-verde si conductoare numerotate</td> </tr> </table>	1	negru / galben-verde	2	albastru, maro / galben-verde,negru, pt sect >10mm <sup>2</sup>	3	maro,negru,gri / galben-verde,albastru,maro	4	albastru,maro,negru,gri / galben-verde,maro,negru,gri	5	albastru,maro,negru,,gri,negru / galben-verde,albastru,maro,negru,gri	>5	conductoare negre numerotate sau galben-verde si conductoare numerotate	<b>Color coding according SR HD 308 S2 (no. of conductors)</b>	<table border="1"> <tr> <td>1</td> <td>black / yellow-green</td> </tr> <tr> <td>2</td> <td>blue,brown yellow-green,black for sect&gt;10 mm<sup>2</sup></td> </tr> <tr> <td>3</td> <td>brown,black,grey yellow-green, blue,brown</td> </tr> <tr> <td>4</td> <td>blue, brown, black,grey yellow-green, brown,black,grey</td> </tr> <tr> <td>5</td> <td>blue, brown, black, grey, black yellow-green, blue, brown,black,grey</td> </tr> <tr> <td>&gt;5</td> <td>numbered black conductors or yellow-green and numbered conductors</td> </tr> </table>	1	black / yellow-green	2	blue,brown yellow-green,black for sect>10 mm <sup>2</sup>	3	brown,black,grey yellow-green, blue,brown	4	blue, brown, black,grey yellow-green, brown,black,grey	5	blue, brown, black, grey, black yellow-green, blue, brown,black,grey	>5	numbered black conductors or yellow-green and numbered conductors
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Tipodimensiune cablu	Tip conductor	Grosime radiala izolatie	Grosime radiala manta interna nom	Grosime radiala nom/min manta exterioara	Rezistenta electrica max, la 20°C Cu/Al	Diametru exterior inf
Cable size	Type of conductor	Radial thickness of insulation	Radial thickness of inner sheath min.	Radial thickness nom/min of outer sheath	Max. resistance at 20°C	Outer diameter Inf
		mm	mm	mm	Ω/km	mm
1x16	rm	1.0	1.2	1.8/1.24	1.15/1.91	13.1
1x25	rm	1.2	1.2	1.8/1.24	0.727/1.20	14.8
1x35	rm	1.2	1.2	1.8/1.24	0.524/0.868	16.0
1x50	rm	1.4	1.2	1.8/1.24	0.387/0.641	17.7
1x70	rm	1.4	1.2	1.8/1.24	0.268/0.443	19.5
1x95	rm	1.6	1.2	1.8/1.24	0.193/0.320	21.8
1x120	rm	1.6	1.2	1.8/1.24	0.153/0.253	23.3
1x150	rm	1.8	1.2	1.8/1.24	0.124/0.206	25.3
1x185	rm	2.0	1.2	1.8/1.24	0.0991/0.164	27.6
1x240	rm	2.2	1.2	1.8/1.24	0.0754/0.125	30.5
1x300	rm	2.4	1.2	1.8/1.24	0.0601/0.100	33.5
2x1.5	re	0.8	1.2	1.8/1.24	12.1	12.2
2x2.5	re	0.8	1.2	1.8/1.24	7.41	13.0
2x4	re	1.0	1.2	1.8/1.24	4.61	14.7
2x6	re	1.0	1.2	1.8/1.24	3.08	15.9
2x10	re	1.0	1.2	1.8/1.24	1.83/3.08	18.4
2x16	rm	1.0	1.2	1.8/1.24	1.15/1.91	21.2
2x25	rm	1.2	1.2	1.8/1.24	0.727/1.20	24.2
2x35	rm	1.2	1.2	1.8/1.24	0.524/0.868	26.6
2x50	rm	1.2	1.2	1.8/1.24	0.387/0.641	28.8
2x70	rm	1.4	1.2	2.1/1.4	0.268/0.443	32.3
2x95	rm	1.6	1.2	2.2/1.54	0.193/0.320	37.7
2x120	rm	1.6	1.2	2.3/1.62	0.153/0.253	41.1
2x150	rm	1.8	1.3	2.4/1.73	0.124/0.206	45.1
2x185	rm	2.0	1.4	2.6/1.87	0.0991/0.164	50.6
2x240	rm	2.2	1.5	2.8/2.04	0.0754/0.125	57.0
3x1.5	re	0.8	1.2	1.8/1.24	12.1	12.6
3x2.5	re	0.8	1.2	1.8/1.24	7.41	13.5
3x4	re	1.0	1.2	1.8/1.24	4.61	15.4
3x6	re	1.0	1.2	1.8/1.24	3.08	16.7
3x10	re	1.0	1.2	1.8/1.24	1.83/3.08	19.4
3x16	rm	1.0	1.2	1.8/1.24	1.15/1.91	21.9
3x25	rm	1.2	1.2	1.8/1.24	0.727/1.20	25.6
3x25+16	rm	1.2;1.0	1.2	1.8/1.24	0.727;1.15 1.20/1.91	26.9
3x35	rm	1.2	1.2	1.8/1.24	0.524/0.868	28.2
3x35+16	rm	1.2;1.0	1.2	1.8/1.24	0.524;1.15 0.868/1.91	29.2
3x50	sm	1.4	1.2	1.9/1.32	0.387/0.641	28.4
3x50+25	sm/rm	1.4;1.2	1.2	2.0/1.4	0.387/0.727 0.641/1.20	31.8
3x70	sm	1.4	1.2	2.0/1.4	0.268/0.443	31.8
3x70+35	sm/rm	1.4;1.2	1.2	2.1/1.48	0.268/0.524	37.0

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<i>Cable size</i>	<i>Type of conductor</i>	<i>Radial thickness of insulation</i>	<i>Radial thickness of inner sheath min.</i>	<i>Radial thickness nom/min of outer sheath</i>	<i>Max. resistance at 20°C</i>	<i>Outer diameter Inf</i>
		mm	mm	mm	Ω/km	mm
					0.443/0.868	
3x95	sm	1.6	1.2	2.1/1.48	0.193/0.320	35.4
3x95+50	sm/sm	1.6;1.4	1.3	2.4/1.72	0.193/0.387 0.320/0.641	40.2
3x120	sm	1.6	1.3	2.2/1.56	0.153/0.253	38.0
3x120+70	sm/sm	1.6;1.4	1.3	2.4/1.72	0.153/0.268 0.253/0.443	43.6
3x150	sm	1.8	1.3	2.3/1.64	0.124/0.206	42.2
3x150+70	sm/sm	1.8;1.4	1.4	2.5/1.8	0.124/0.268 0.206/0.443	48.0
3x185	sm	2.0	1.4	2.4/1.72	0.0991/0.164	45.6
3x185+95	sm/ sm	2.0;1.6	1.5	2.7/1.96	0.0991/0.193 0.164/0.320	53.2
3x240	sm	2.2	1.5	2.6/1.88	0.0754/0.125	52.2
3x240+120	sm/sm	2.2/1.6	1.6	2.9/2.12	0.0754/0.153 0.125/0.253	60.0
4x1.5	re	0.8	1.2	1.8/1.24	12.1	13.4
4x2.5	re	0.8	1.2	1.8/1.24	7.41	14.4
4x4	re	1.0	1.2	1.8/1.24	4.61	16.5
4x6	re	1.0	1.2	1.8/1.24	3.08	17.9
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4x16	rm	1.0	1.2	1.8/1.24	1.15/1.91	23.8
4x25	rm	1.2	1.2	1.8/1.24	0.727/1.20	28.1
4x35	sm	1.2	1.2	1.8/1.24	0.524/0.868	31.2
4x50	sm	1.4	1.2	2.0/1.4	0.387/0.641	31.8
4x70	sm	1.4	1.2	2.2/1.56	0.268/0.443	37.0
4x95	sm	1.6	1.3	2.4/1.72	0.193//0.320	39.5
4x120	sm	1.6	1.4	2.5/1.8	0.153/0.253	43.8
4x150	sm	1.8	1.4	2.5/1.8	0.124/0.206	43.8
4x185	sm	2.0	1.5	2.5/1.8	0.0991/0.164	53.6
4x240	sm	2.2	1.6	2.7/1.96	0.0754/0.125	59.8
5x1.5	re	0.8	1.2	1.8/1.24	12.1	14.2
5x2.5	re	0.8	1.2	1.8/1.24	7.41	15.3
5x4	re	1.0	1.2	1.8/1.24	4.61	17.7
5x6	re	1.0	1.2	1.8/1.24	3.08	19.3
5x10	re	1.0	1.2	1.8/1.24	1.83/3.08	22.6
5x16	rm	1.0	1.2	1.8/1.24	1.15/1.91	25.8
5x25	rm	1.2	1.2	1.8/1.24	0.727/1.20	31.3
5x35	rm	1.2	1.2	1.8/1.24	0.524/0.868	34.2
5x50	rm	1.4	1.2	2.3/1.64	0.387/0.641	40.9
5x70	rm	1.4	1.3	2.4/1.72	0.268/0.443	43.5
5x95	rm	1.6	1.4	2.5/1.83	0.193//0.320	49.1
5x120	rm	1.6	1.5	2.7/1.95	0.153/0.253	53.6
5x150	rm	1.8	1.5	2.9/2.09	0.124/0.206	58.8
7x1.5	re	0.8	1.2	1.8/1.24	12.1/-	15.1

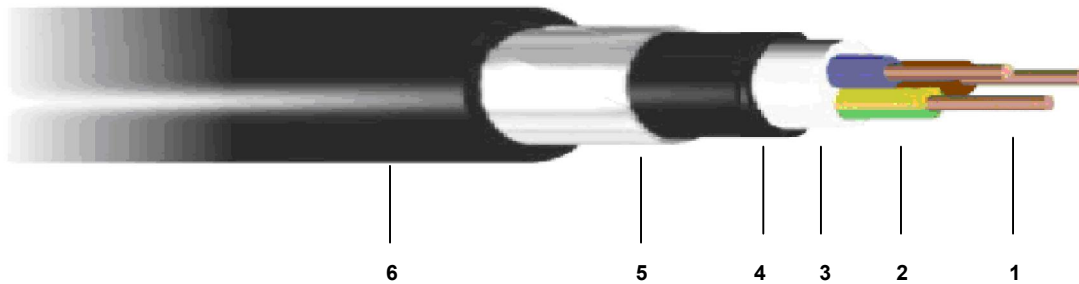
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Tipodimensiune cablu	Tip conductor	Grosime radiala izolatie	Grosime radiala manta interna nom	Grosime radiala nom/min manta exterioara	Rezistenta electrica max, la 20°C Cu/Al	Diametru exterior inf
Cable size	Type of conductor	Radial thickness of insulation	Radial thickness of inner sheath min.	Radial thickness nom/min of outer sheath	Max. resistance at 20°C	Outer diameter Inf
		mm	mm	mm	Ω/km	mm
7x2.5	re	0.8	1.2	1.8/1.24	7.41	16.3
9x1.5	re	0.8	1.2	1.8/1.24	12.1	18.2
9x2.5	re	0.8	1.2	1.8/1.24	7.41	19.7
12x1.5	re	0.8	1.2	1.8/1.24	12.1	19.2
12x2.5	re	0.8	1.2	1.8/1.24	7.41	20.9
14x1.5	re	0.8	1.2	1.8/1.24	12.1	20.0
14x2.5	re	0.8	1.2	1.8/1.24	7.41	21.7
16x1.5	re	0.8	1.2	1.8/1.24	12.1	21.0
16x2.5	re	0.8	1.2	1.8/1.24	7.41	22.9
19x1.5	re	0.8	1.2	1.8/1.24	12.1	21.9
19x2.5	re	0.8	1.2	1.8/1.24	7.41	23.9

## Forma constructiva:



1	Conductoare rotunde, unifilare sau multifilare, din cupru sau aluminiu	1	Monowire or multi wire copper, aluminium conductors
2	Conductoare izolate	2	Insulated conductors
3	Invelis comun extrudat sau din benzi	3	Filler
4	Manta interna	4	Inner sheath
5	Armatura din banda de otel sau otel zincat	5	Blank or zinc-plated cold-rolled
6	Manta exterioara	8	Outer sheath