

**Power Cables with Copper or Aluminium Conductors , PVC Insulated and Sheathed , Unarmoured or Armoured 0.6/1 kV according to SR CEI 60502**

**CYY    CYAbY    CYY- F    CYAbY- F**  
**ACYY   ACYAbY   ACYY- F   ACYAbY- F**

**Construction**

1. Stranded or solid copper or aluminium conductors according to SR CEI 60228
2. PVC insulation
3. Common covering
4. PVC inner covering (only for armoured types)
5. Armour made of two steel tapes (flat or round galvanised wires) (only for armoured types)
6. PVC outer sheath

**Application**

These cables are designed for distribution of electric power in fixed installations.

Cables are suitable for installation in ground , in cable ducts, outdoor or indoor

**Technical characteristics**

Specification SR CEI 60502

Rated voltage  $U_0/U = 0.6/1$  kV ; 50 Hz

Minimum environment temperature (on sheath):

- during laying : +5°C
- in service : - 33°C

Maximum permissible temperature (on conductor) : + 70°C

Test voltage : 3.5 kV ; 50 Hz for 5 minutes

Cables with F at the ending of symbol have improved flame retardancy (according to SR CEI 60332-3)

**CYY**

No. of conductors x cross-section	Insulation thickness	Sheath thickness	Approx. outer diameter	Approx. weight of Cu conductor	Approx. weight of cable
mm <sup>2</sup>	mm	mm	mm	kg/km	kg/km
1x1.5 re	0.8	1.4	5.8	13	51
1x2.5 re	0.8	1.4	6.2	22	64
1x4 re	1.0	1.4	7.1	35	88
1x6 re	1.0	1.4	7.6	53	112
1x10 re	1.0	1.4	8.4	87	155
1x16 r m	1.0	1.4	9.6	139	221
1x25 r m	1.2	1.4	11.1	220	325
1x35 r m	1.2	1.4	12.2	305	423
1x50 r m	1.4	1.4	13.8	415	561
1x70 r m	1.4	1.5	15.7	601	777
1x95 r m	1.6	1.5	17.7	833	1048
1x120 r m	1.6	1.6	19.4	1046	1292
1x150 r m	1.8	1.7	21.5	1287	1585
1x185 r m	2.0	1.7	23.5	1620	1967
1x240 r m	2.2	1.8	26.6	2130	2557
1x300 r m	2.4	2.0	30.4	2660	3200
1x400 r m	2.6	2.0	32.8	3405	4018
2x1.5 re	0.8	1.8	10	27	144
2x2.5 re	0.8	1.8	10.8	45	180
2x4 re	1.0	1.8	12.6	69	250
2x6 re	1.0	1.8	13.6	106	314
2x10 re	1.0	1.8	15.1	174	425
2x16 r m	1.0	1.8	17.6	278	607
3x1.5 re	0.8	1.8	10.5	40	166
3x2.5 re	0.8	1.8	11.3	67	210
3x4 re	1.0	1.8	13.2	104	297
3x6 re	1.0	1.8	14.3	159	380
3x10 re	1.0	1.8	16	261	526
3x16 r m	1.0	1.8	18.7	416	759
3x25 r m	1.2	1.8	22	660	1121
3x35 s m	1.2	1.8	21.7	914	1278
3x50 s m	1.4	1.8	25.3	1245	1720
3x70 s m	1.4	1.9	28.8	1803	2380
3x95 s m	1.6	2.0	32.8	2499	3218
3x120 s m	1.6	2.1	36.1	3138	3970
3x150 s m	1.8	2.2	38.4	3861	4816
3x185 s m	2.0	2.4	44	4860	6083
3x240 s m	2.2	2.6	50.9	6540	8122

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3x25+16	r m+r m	1.2/1.0	1.8	23.7	799	1287
3x35+16	s m+r m	1.2/1.0	1.8	24	1052	1512
3x50+25	s m+r m	1.4/1.2	1.9	28.6	1465	2018
3x70+35	s m+s m	1.4/1.2	2.0	32.3	2108	2768
3x95+50	s m+s m	1.6/1.4	2.2	38	2914	3765
3x120+70	s m+s m	1.6/1.4	2.3	41.5	3739	4729
3x150+70	s m+s m	1.8/1.4	2.4	43.5	4462	5571
3x185+95	s m+s m	2.0/1.6	2.6	49.8	5693	7103
3x240+120	s m+s m	2.2/1.6	2.8	57.2	7586	9371

**CYY**

No. of conductors x cross-section	Insulation thickness	Sheath thickness	Approx. outer diameter	Approx. weight of Cu conductor	Approx.weight of cable	
mm <sup>2</sup>	mm	mm	mm	kg/km	kg/km	
4x1.5	re	0.8	1.8	11.4	54	196
4x2.5	re	0.8	1.8	12.4	89	252
4x4	re	1.0	1.8	14.6	138	359
4x6	re	1.0	1.8	15.8	212	464
4x10	re	1.0	1.8	17.8	348	650
4x16	r m	1.0	1.8	20.9	555	944
4x25	r m	1.2	1.8	24.6	880	1403
4x35	s m	1.2	1.8	23.9	1218	1642
4x50	s m	1.4	1.9	28.2	1660	2229
4x70	s m	1.4	2	32.2	2404	3108
4x95	s m	1.6	2.1	36.7	3332	4207
4x120	s m	1.6	2.3	40.7	4184	5213
4x150	s m	1.8	2.3	43	5148	6309
4x185	s m	2.0	2.6	49.5	6480	7987
4x240	s m	2.2	2.8	57.4	8720	10663
5x1.5	re	0.8	1.8	12.1	67	224
5x2.5	re	0.8	1.8	13.2	111	292
5x4	re	1.0	1.8	15.5	173	419
5x6	re	1.0	1.8	16.9	265	546
5x10	re	1.0	1.8	19	435	771
5x16	r m	1.0	1.8	22.4	694	1125
5x25	r m	1.2	1.8	26.5	1100	1683
5x35	r m	1.2	1.9	29.6	1523	2220

**CYAbY**

No. of conductors x cross-section	Insulation thickness	Sheath thickness	Approx. outer diameter	Approx. weight of Cu conductor	Approx.weight of cable	
mm <sup>2</sup>	mm	mm	mm	kg/km	kg/km	
2x1.5	re	0.8	1.8	13.2	27	275

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2x2.5	re	0.8	1.8	14	45	320
2x4	re	1.0	1.8	15.8	69	413
2x6	re	1.0	1.8	16.8	106	489
2x10	re	1.0	1.8	18.3	174	619
2x16	r m	1.0	1.8	20.8	278	832
3x1.5	re	0.8	1.8	13.7	40	303
3x2.5	re	0.8	1.8	14.5	67	358
3x4	re	1.0	1.8	16.4	104	468
3x6	re	1.0	1.8	17.5	159	564
3x10	re	1.0	1.8	19.2	261	731
3x16	r m	1.0	1.8	21.9	416	998
3x25	r m	1.2	1.8	25.2	660	1400
3x35	s m	1.2	1.8	25	914	1553

**CYAbY**

No. of conductors X cross-section	Insulation thickness	Sheath thickness	Approx. outer diameter	Approx. weight of Cu conductor	Approx.weight of cable	
mm <sup>2</sup>	mm	mm	mm	kg/km	kg/km	
3x50	s m	1.4	1.9	28.7	1245	2054
3x70	s m	1.4	2.0	32.2	1803	2757
3x95	s m	1.6	2.2	37.6	2500	4012
3x120	s m	1.6	2.3	41.3	3138	4883
3x150	s m	1.8	2.4	43.6	3861	5780
3x185	s m	2.0	2.6	49.2	4860	7178
3x240	s m	2.2	2.8	56.5	6540	9440
3x25+16	r m+r m	1.2/1.0	1.8	25.8	799	1505
3x35+16	s m+r m	1.2/1.0	1.8	27.2	1052	1816
3x50+25	s m+r m	1.4/1.2	2.0	32	1465	2393
3x70+35	s m+s m	1.4/1.2	2.2	37.5	2108	3590
3x95+50	s m+s m	1.6/1.4	2.3	42.3	2914	4684
3x120+70	s m+s m	1.6/1.4	2.5	46.7	3739	5766
3x150+70	s m+s m	1.8/1.4	2.5	48.5	4462	6633
3x185+95	s m+s m	2.0/1.6	2.8	55.4	5693	8394
3x240+120	s m+s m	2.2/1.6	3.0	62.8	7586	10842
4x1.5	re	0.8	1.8	14.6	54	345
4x2.5	re	0.8	1.8	15.6	89	413
4x4	re	1.0	1.8	17.8	138	547
4x6	re	1.0	1.8	19	212	667
4x10	re	1.0	1.8	21	348	876
4x16	r m	1.0	1.8	24.1	555	1209
4x25	r m	1.2	1.9	28	880	1727
4x35	s m	1.2	1.9	27.3	1218	1966
5x1.5	re	0.8	1.8	15.3	67	381
5x2.5	re	0.8	1.8	16.4	111	462
5x4	re	1.0	1.8	18.7	173	618
5x6	re	1.0	1.8	20	265	761

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5x10 re	1.0	1.8	22.2	435	1012
5x16 r m	1.0	1.8	25.6	694	1410
5x25 r m	1.2	1.9	29.9	1100	2030
5x35 r m	1.2	2.0	33	1523	2608

**ACYY**

No. of conductors x cross-section	Insulation thickness	Sheath thickness	Approx. outer diameter	Approx. weight of Al conductor	Approx.weight of cable
mm <sup>2</sup>	mm	mm	mm	kg/km	kg/km
1x4 re	1.0	1.4	7.1	11	65
1x6 re	1.0	1.4	7.5	17	76
1x10 re	1.0	1.4	8.5	28	97
1x16 re	1.0	1.4	9.5	45	125
1x25 re	1.2	1.4	10.8	66	168
1x35 re	1.2	1.4	11.8	92	206
1x50 r m	1.4	1.4	13.8	124	270
1x70 r m	1.4	1.5	15.7	180	356
1x95 r m	1.6	1.5	17.7	250	465
1x120 r m	1.6	1.6	19.4	314	560
1x150 r m	1.8	1.7	21.5	385	683
1x185 r m	2.0	1.7	23.5	485	832
1x240 r m	2.2	1.8	26.6	638	1065
1x300 r m	2.4	2.0	30.2	800	1326
1x400 r m	2.6	2.0	32.8	1050	1663
2x4 re	1.0	1.8	12.6	22.6	206
2x6 re	1.0	1.8	13.5	34	242
2x10 re	1.0	1.8	15.3	55	313
2x16 re	1.0	1.8	17.3	90	408
3x4 re	1.0	1.8	13.3	34	230
3x6 re	1.0	1.8	14.2	51	268
3x10 re	1.0	1.8	16.2	83	354
3x16 re	1.0	1.8	18.3	135	466

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3x25 re	1.2	1.8	21.3	199	637
3x35 s m	1.2	1.8	21.7	273	637
3x50 s m	1.4	1.8	25.3	372	848
3x70 s m	1.4	1.9	28.8	540	1117
3x95 s m	1.6	2.0	32.8	750	1470
3x120 s m	1.6	2.1	36.1	942	1774
3x150 s m	1.8	2.2	38.4	1155	2110
3x185 s m	2.0	2.4	44	1455	2678
3x240 s m	2.2	2.6	50.4	1914	3474
3x25+16 re+re	1.2/1.0	1.8	23	244	710
3x35+16 s m+re	1.2/1.0	1.8	24	318	776
3x50+25 s m+re	1.4/1.2	1.9	28.1	438	1057
3x70+35 s m+s m	1.4/1.2	2.0	32.3	631	1292
3x95+50 s m+s m	1.6/1.4	2.2	37.3	874	1725
3x120+70 s m+s m	1.6/1.4	2.3	41.5	1122	2111
3x150+70 s m+s m	1.8/1.4	2.4	43.5	1335	2444
3x185+95 s m+s m	2.0/1.6	2.6	49.8	1705	3116
3x240+120 s m+s m	2.2/1.6	2.8	56.7	2228	3994

**ACYY**

No. of conductors x cross-section	Insulation thickness	Sheath thickness	Approx. outer diameter	Approx. weight of Al conductor	Approx.weight of cable
mm <sup>2</sup>	mm	mm	mm	kg/km	kg/km
4x4 re	1.0	1.8	14.7	45	269
4x6 re	1.0	1.8	15.8	68	320
4x10 re	1.0	1.8	18	110	420
4x16 re	1.0	1.8	20.5	180	556
4x25 re	1.2	1.8	24.6	268	791
4x35 s m	1.2	1.9	23.9	364	796

**ACYAbY**

No. of conductors x cross-section	Insulation thickness	Sheath thickness	Approx. outer diameter	Approx. weight of Al conductor	Approx.weight of cable
mm <sup>2</sup>	mm	mm	mm	kg/km	kg/km
2x4 re	1.0	1.8	15.8	23	370
2x6 re	1.0	1.8	16.8	34	417
2x10 re	1.0	1.8	18.5	55	510
2x16 re	1.0	1.8	20.5	90	629
3x4 re	1.0	1.8	16.5	34	402

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3x6	re	1.0	1.8	17.4	51	451
3x10	re	1.0	1.8	19.4	83	562
3x16	re	1.0	1.8	21.5	135	700
3x25	re	1.2	1.8	24.5	199	907
3x35	s m	1.2	1.8	24.9	273	913
3x50	s m	1.4	1.9	28.7	372	1181
3x70	s m	1.4	2.0	32.2	540	1494
3x95	s m	1.6	2.2	37.6	750	2263
3x120	s m	1.6	2.3	41.3	942	2687
3x150	s m	1.8	2.4	43.6	1155	3075
3x185	s m	2.0	2.6	49.2	1455	3774
3x240	s m	2.2	2.8	56	1914	4778
3x25+16	re+re	1.2/1.0	1.8	26.2	244	1001
3x35+16	s m+re	1.2/1.0	1.8	27.1	318	1078
3x50+25	s m+re	1.4/1.2	2.0	31.5	438	1425
3x70+35	s m+s m	1.4/1.2	2.2	37.1	631	2074
3x95+50	s m+s m	1.6/1.4	2.3	42.4	874	2644
3x120+70	s m+s m	1.6/1.4	2.5	46.7	1122	3150
3x150+70	s m+s m	1.8/1.4	2.5	48.5	1335	3506
3x185+95	s m+s m	2.0/1.6	2.8	55.4	1705	4406
3x240+120	s m+s m	2.2/1.6	3.0	62.3	2228	5453
4x4	re	1.0	1.8	17.9	45	458
4x6	re	1.0	1.8	19	68	523
4x10	re	1.0	1.8	21.2	110	650
4x16	re	1.0	1.8	23.7	180	816
4x25	re	1.2	1.8	27.0	265	1064
4x35	s m	1.2	1.9	27.1	364	1100

**Current – carrying Capacity for Power Cables**

**P V C Insulation**

Nominal cross-section of cond. mm <sup>2</sup>	Continuous operating admissible current (A)							
	U <sub>0</sub> /U = 0.6/1 kV							
	Single-core cable D.C.				Two-core cable			
	Laying in							
	Ground, at 20°C		Free air, at 30°C		Ground, at 20°C		Free air, at 30°C	
Cu	Al	Cu	Al	Cu	Al	Cu	Al	
1.5	37	-	26	-	30	-	21	-
2.5	50	-	35	-	41	-	29	-
4	65	52	46	36	53	42	38	30
6	83	68	58	46	66	52	48	38
10	110	86	80	63	88	69	66	52
16	145	113	105	82	115	90	90	70
25	190	150	140	110	150	115	120	94
35	235	180	175	135	180	140	150	115

50	280	215	215	165	210	165	180	140
70	350	270	270	210	260	200	230	180
95	420	325	335	260	315	245	275	215
120	480	375	390	300	360	275	320	250
150	540	420	445	350	400	315	375	290
185	620	480	510	400	460	355	430	335
240	720	560	620	480	530	415	510	393
300	820	640	710	550	590	465	590	460

**Cables in three-phase systems**

Nominal cross-section of cond. mm <sup>2</sup>	Continuous operating admissible current (A)							
	U <sub>0</sub> /U = 0.6/1kV				U <sub>0</sub> /U = 3.6/6kV			
	Three or four-core cable				Three-core cable			
	Laying in							
	Ground, at 20°C		Free air, at 30°C		Ground, at 20°C		Free air, at 30°C	
Cu	Al	Cu	Al	Cu	Al	Cu	Al	
1.5	27	-	18	-	-	-	-	
2.5	36	-	25	-	-	-	-	
4	46	36	34	27	-	-	-	
6	58	45	44	34	-	-	-	
10	77	60	60	47	-	-	-	



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16	100	78	80	53	-	-	-	-
25	130	100	105	82	125	97	110	87
35	155	120	130	100	150	115	135	105
50	185	145	160	125	175	135	165	130
70	230	175	200	155	220	170	205	160
95	275	215	245	190	260	200	250	195
120	315	245	285	220	295	230	285	220
150	355	275	325	250	335	260	325	250
185	400	310	370	285	370	290	370	285
240	465	360	435	340	425	330	430	310
300	520	410	500	390	475	380	490	390

**Single-core cables in three-phase systems**

Nominal cross-section of cond. mm <sup>2</sup>	Continuous operating admissible current (A)							
	U <sub>0</sub> /U = 0.6/1kV				U <sub>0</sub> /U = 3.6/6kV			
	Laying in							
	Ground, at 20°C		Free air, at 30°C		Ground, at 20°C		Free air, at 30°C	
Cu	Al	Cu	Al	Cu	Al	Cu	Al	

<b>Adjacent cables</b>								
16	120	-	100	-	-	-	-	-
25	155	120	135	105	150	115	135	105
35	185	145	170	130	180	140	165	130
50	220	170	205	160	210	165	200	155
70	270	210	260	200	260	205	255	200
95	325	250	320	245	310	240	310	240
120	370	290	375	290	350	275	360	275
150	420	325	430	335	390	305	405	315
185	470	365	490	380	445	350	465	365
240	540	420	590	460	510	405	550	435
300	620	475	680	530	570	455	640	500
<b>Trefoil cables</b>								
16	110	-	86	-	-	-	-	-
25	140	110	120	91	135	105	125	96
35	170	130	145	115	165	125	155	115
50	200	155	180	140	195	150	185	140
70	245	190	225	175	240	185	235	180
95	295	230	280	220	285	220	285	220
120	335	260	330	255	325	255	330	255
150	380	295	380	295	365	285	370	290
185	430	330	440	340	415	325	430	335
240	490	380	530	410	480	375	510	400
300	550	430	610	470	540	425	600	465

**Bundle Assembled Cores For Overhead Systems Of Rated Voltage 0.6/1 kV**

## TYIF

### Construction

PVC insulated steel-aluminium conductor  
PVC insulated aluminium conductors for three-phase systems  
PVC insulated aluminium conductors for public lighting

### Application

These cables are designed for distribution of electric power in overhead systems (single-phase or three-phase) for domestic supplying and public lighting

Cables are weather resistant and can be installed in air, outside of buildings, being sunbeam, rain and cold resistant

### Technical characteristics

Specification SP 5201:1993  
Rated voltage  $U_0/U = 0.6/1$  kV  
Minimum environment temperature (on sheath):  
- during laying : + 5°C  
- in service : - 30°C  
Maximum permissible temperature (on conductor) : + 70°C  
Test voltage : 4 kV, 50 Hz, 1 minute  
Cables are flame retardant (according to SR CEI 60332-1)

### TYIF

Construction	Approx. weight	Approx. weight	Approx. outer
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**STR. D-NA GHICA NR. 133,sector 2,Bucuresti-Romania**

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<b>Nr.of conductors x cross-section</b>	<b>of Al conductor kg/km</b>	<b>of cable kg/km</b>	<b>diameter mm</b>
10Al + 16Al	70	160	15.3
2x10Al	54	137	14.4
2x16Al	86	183	16.2
16Al + 25Al	110	215	17.3
3x16Al + 25Al	196	398	20.8
3x25Al + 16Al	243	462	22.2
3x35Al + 16Al	325	623	25.7
4x10Al	108	274	17.8
4x16Al	172	366	8.1
4x25Al + 16Al	319	664	26.4
500I-Al + 16Al	242	390	21.7
500I-Al + 16Al + 16Al	285	482	21.5
500I-Al + 25Al	266	422	22.8
500I-Al + 25Al + 25Al	332	546	23
500I-Al + 35Al	481	830	29.1
500I-Al + 3x16Al	328	573	23.5
500I-Al + 3x25Al	399	669	25.6
500I-Al + 3x35Al	481	830	29.1
500I-Al + 3x50Al	598	975	31.9
500I-Al + 3x70Al	729	1205	34.9
500I-Al + 3x95Al	968	1604	41
500I-Al + 3x16Al + 16Al	371	665	24.9
500I-Al + 3x16Al + 2x16Al	414	756	27.1
500I-Al + 3x16Al + 3x16Al	457	848	26.7
500I-Al + 3x16Al + 1x25Al	398	745	26.9
500I-Al + 3x25Al + 16Al	441	761	26.6
500I-Al + 3x25Al + 2x16Al	484	852	28.7
500I-Al + 3x25Al + 3x16Al	528	944	28.1
500I-Al + 3x35Al + 16Al	524	921	29.7
500I-Al + 3x35Al + 2x16Al	567	1013	31.6
500I-Al + 3x35Al + 3x16Al	610	1104	30.5
500I-Al + 3x35Al + 3x25Al	687	1251	33
500I-Al + 3x50Al + 16Al	603	1100	32.8
500I-Al + 3x50Al + 2x16Al	683	1191	34.4
500I-Al + 3x50Al + 3x16Al	726	1283	33
500I-Al + 3x50Al + 3x25Al	797	1379	34.4
500I-Al + 3x50Al + 3x35Al	879	1539	36.8
500I-Al + 3x70Al + 16Al	772	1297	34.8
500I-Al + 3x70Al + 2x16Al	815	1389	36.2
500I-Al + 3x70Al + 3x25Al	929	1576	36
500I-Al + 3x70Al + 3x35Al	1011	1736	38.4
500I-Al + 3x95Al	966	1604	41
500I-Al + 3x95Al + 2x16Al	1054	1787	41.2
500I-Al + 3x95Al + 3x25Al	1168	1975	40.2
500I-Al + 3x95Al + 3x35Al	1250	2135	42.6

## CONTROL CABLES

### PVC INSULATED AND SHEATHED

#### 0.6 / 1 kV

**According to:** SR – CEI 60502  
**Type:** CSYY, CSYY-F  
CSYEEY, CSYEEY-F  
CSYAbY, CSYAbY-F  
CSYEABy, CSYEABy-F

- 1- Copper conductor ( according to SR-CEI 60228)
- 2- PVC insulation
- 3- Bedding
- 4- Screen ( only for screened cables)
- 5- Inner plastic sheath (only for armoured cables)
- 6- Two steel tapes armouring (only for armoured cables)
- 7- Outer PVC sheath

### APPLICATION

In fixed instalation laid in tubes or ducts, inside or outside the buildings with no risks of mechanical deterioration during laying and operation.

### TECHNICAL CHARACTERISTICS

- Rated voltage  $U_0 / U = 0,6 / 1$  kV
- Minimum environment temperature ( on sheath):
  - during laying:  $+5^{\circ}\text{C}$
  - in service :  $-30^{\circ}\text{C}$
- Maximum permissible temperature (on conductor):  $+70^{\circ}\text{C}$

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- Test voltage: 3,5 kV , 50Hz, for 5 minutes
- Cables with F at the ending of symbol have improved flame retardancy (according to SR CEI 60332-3 )

**CSYY**

<b>No. of cond. x cross sectional area No x mm<sup>2</sup></b>	<b>Insulation thickness mm</b>	<b>Sheath thickness mm</b>	<b>Approx. outer diam. mm</b>	<b>Approx. copper weight Kg/Km</b>	<b>Approx. weight of cables Kg/Km</b>
2 x 1	0,8	1,8	10,7	18	155
3	0,8	1,8	12	27	172
4	0,8	1,8	12	36	199
5	0,8	1,8	12,5	44	223
7	0,8	1,8	12,6	62	219
9	0,8	1,8	14,5	80	270
12	0,8	1,8	15,8	106	332
14	0,8	1,8	16,5	124	371
16	0,8	1,8	17,2	141	410
19	0,8	1,8	18	168	466
21	0,8	1,8	19	185	508
24	0,8	1,8	21	212	574
27	0,8	1,8	21,2	238	627
30	0,8	1,8	21,9	264	681
33	0,8	1,8	22,6	291	737
37	0,8	1,8	23,5	326	809
42	0,8	1,8	25,3	370	908
48	0,8	1,8	27	423	1017
52	0,8	1,9	27,5	458	1100
56	0,8	1,9	28,3	493	1172
61	0,8	1,9	29,1	537	1261
2 x 1,5	0,8	1,8	11,2	27	178
3	0,8	1,8	11,7	40	200
4	0,8	1,8	12,6	54	233
5	0,8	1,8	13,3	67	264
7	0,8	1,8	13,4	93	265
9	0,8	1,8	15,4	120	329
12	0,8	1,8	16,8	160	408
14	0,8	1,8	17,6	186	459
16	0,8	1,8	18,4	213	517
19	0,8	1,8	19,3	253	584
21	0,8	1,8	20,3	280	636
24	0,8	1,8	22,8	320	721
27	0,8	1,8	22,8	359	791
30	0,8	1,8	23,6	399	862

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33	0,8	1,8	24,4	439	935
37	0,8	1,8	25,3	492	1033
42	0,8	1,9	27,5	559	1170
48	0,8	1,9	29	639	1314
52	0,8	1,9	29,7	693	1408
56	0,8	2	30,8	745	1524
61	0,8	2	31,7	811	1633

**CSYY**

No. of cond. x cross sectional area No x mm <sup>2</sup>	Insulation thickness mm	Sheath thickness mm	Approx. outer diam. mm	Approx. copper weight Kg/Km	Approx. weight of cables Kg/Km
2 x 2,5	0,8	1,8	12	44	216
3	0,8	1,8	12,5	67	248
4	0,8	1,8	13,6	89	293
5	0,8	1,8	14,3	111	335
7	0,8	1,8	14,6	155	350
9	0,8	1,8	16,8	199	436
12	0,8	1,8	18,5	266	549
14	0,8	1,8	19,4	310	621
16	0,8	1,8	20,3	354	701
19	0,8	1,8	21,3	421	800
21	0,8	1,8	22,4	465	875
24	0,8	1,8	24,7	531	994
27	0,8	1,8	25,3	597	1094
30	0,8	1,8	26,1	664	1198
33	0,8	1,8	27,1	730	1313
37	0,8	1,9	28,3	819	1453
2 x 4	1	1,8	13,7	69	294
3	1	1,8	14,4	104	342
4	1	1,8	15,8	142	409
5	1	1,8	16,7	177	467
7	1	1,8	17,2	242	503
9	1	1,8	20	311	632
12	1	1,8	22	414	802
2 x 6	1	1,8	14,8	106	361
3	1	1,8	15,5	159	421
4	1	1,8	17	212	515
5	1	1,8	18	265	594
7	1	1,8	18,7	371	664

**CSY EY**

No. of cond. x cross sectional area No x mm <sup>2</sup>	Insulation thickness mm	Sheath thickness mm	Approx. outer diam. mm	Approx. copper weight Kg/Km	Approx. weight of cables Kg/Km
2 x 1	0,8	1,8	11	18	136
3	0,8	1,8	11,2	27	158
4	0,8	1,8	12,1	36	185
5	0,8	1,8	12,7	44	209
7	0,8	1,8	13,5	62	251
9	0,8	1,8	15,3	80	306
12	0,8	1,8	16,7	106	372
14	0,8	1,8	17,4	124	413
16	0,8	1,8	18,1	141	454
19	0,8	1,8	19	168	513
21	0,8	1,8	19,8	185	556
24	0,8	1,8	21,6	212	628
27	0,8	1,8	22,1	238	681
30	0,8	1,8	22,8	264	738
33	0,8	1,8	23,5	291	795
37	0,8	1,8	24,4	326	870
42	0,8	1,8	26,2	370	973
48	0,8	1,8	27,7	423	1098
52	0,8	1,9	28,4	458	1171
56	0,8	1,9	29,2	493	1245
61	0,8	1,9	30	537	1336
2 x 1,5	0,8	1,8	11,3	27	154
3	0,8	1,8	11,8	40	181
4	0,8	1,8	12,7	54	215
5	0,8	1,8	13,4	67	245
7	0,8	1,8	14,3	93	299
9	0,8	1,8	16,3	120	368



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12	0,8	1,8	17,7	160	451
14	0,8	1,8	19,3	186	514
16	0,8	1,8	19,5	213	558
19	0,8	1,8	20,2	253	633
21	0,8	1,8	22	280	699
24	0,8	1,8	23,2	320	779
27	0,8	1,8	23,7	359	849
30	0,8	1,8	24,5	399	923
33	0,8	1,8	25,3	439	999
37	0,8	1,8	26,2	492	1095
42	0,8	1,9	28,4	559	1241
48	0,8	1,9	30	639	1389
52	0,8	2	30,8	693	1499
56	0,8	2	31,7	745	1596
61	0,8	2	32,6	811	1714

**CSYFY**

<b>No. of cond. x cross sectional area No x mm<sup>2</sup></b>	<b>Insulation thickness mm</b>	<b>Sheath thickness mm</b>	<b>Approx. outer diam. mm</b>	<b>Approx. copper weight Kg/Km</b>	<b>Approx. weight of cables Kg/Km</b>
2 x 2,5	0,8	1,8	12,1	44	185
3	0,8	1,8	12,6	67	224
4	0,8	1,8	13,7	89	269
5	0,8	1,8	14,5	111	311
7	0,8	1,8	15,5	155	387
9	0,8	1,8	17,7	199	480
12	0,8	1,8	19,4	266	597
14	0,8	1,8	20,3	310	671
16	0,8	1,8	21,2	354	747
19	0,8	1,8	22,2	421	855
21	0,8	1,8	23,3	465	933
24	0,8	1,8	25,6	531	1057
27	0,8	1,8	26,1	597	1159
30	0,8	1,8	27	664	1266
33	0,8	1,9	28,2	730	1386
37	0,8	1,9	29,2	819	1526
2 x 4	1	1,8	13,8	69	244
3	1	1,8	14,5	104	302
4	1	1,8	15,9	142	369
5	1	1,8	16,8	177	431
7	1	1,8	18,1	242	547
9	1	1,8	21	311	683

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12	1	1,8	23	414	859
2 x 6	1	1,8	14,8	106	297
3	1	1,8	15,6	159	379
4	1	1,8	17,1	212	469
5	1	1,8	18,2	265	553
7	1	1,8	19,6	371	712

**CSYAbY**

<b>No. of cond. x cross sectional area No x mm<sup>2</sup></b>	<b>Insulation thickness mm</b>	<b>Sheath thickness mm</b>	<b>Approx. outer diam. mm</b>	<b>Approx. copper weight Kg/Km</b>	<b>Approx. weight of cables Kg/Km</b>
2 x 1	0,8	1,8	13,1	18	268
3	0,8	1,8	13,5	27	291
4	0,8	1,8	14,4	36	327
5	0,8	1,8	15	44	357
7	0,8	1,8	15	62	354
9	0,8	1,8	16,8	80	424
12	0,8	1,8	18,2	106	500
14	0,8	1,8	18,9	124	547
16	0,8	1,8	20	141	597
19	0,8	1,8	20,4	168	660
21	0,8	1,8	21,7	185	733
24	0,8	1,8	23,6	212	821
27	0,8	1,8	24	238	878
30	0,8	1,8	24,7	264	942
33	0,8	1,8	25,4	291	1006
37	0,8	1,8	26,3	326	1088
42	0,8	1,9	28,3	370	1221
48	0,8	1,9	29,6	423	1347

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52	0,8	2	30,5	458	1440
56	0,8	2	31,3	493	1522
61	0,8	2	32,5	537	1652
2 x 1,5	0,8	1,8	13,6	27	297
3	0,8	1,8	14	40	325
4	0,8	1,8	15	54	368
5	0,8	1,8	15,7	67	406
7	0,8	1,8	15,8	93	408
9	0,8	1,8	17,8	120	494
12	0,8	1,8	19,2	160	588
14	0,8	1,8	20	186	647
16	0,8	1,8	21	213	708
19	0,8	1,8	22,1	253	814
21	0,8	1,8	23	280	874
24	0,8	1,8	25,1	320	987
27	0,8	1,8	26	359	1061
30	0,8	1,8	26,4	399	1143
33	0,8	1,8	27,2	439	1225
37	0,8	1,9	28,3	492	1343
42	0,8	2	30,5	559	1509
48	0,8	2	32,3	639	1704
52	0,8	2	33,1	693	1808
56	0,8	2,1	34,2	745	1930
61	0,8	2,1	36,2	811	2396

**CSYAbY**

No. of cond. x cross sectional area No x mm <sup>2</sup>	Insulation thickness mm	Sheath thickness mm	Approx. outer diam. mm	Approx. copper weight Kg/Km	Approx. weight of cables Kg/Km
2 x 2,5	0,8	1,8	14,4	44	343
3	0,8	1,8	14,9	67	382
4	0,8	1,8	16	89	439
5	0,8	1,8	16,8	111	489
7	0,8	1,8	17	155	506
9	0,8	1,8	19,2	199	617
12	0,8	1,8	20,9	266	747
14	0,8	1,8	22,14	310	852
16	0,8	1,8	23,1	354	936
19	0,8	1,8	24,1	421	1054
21	0,8	1,8	25,2	465	1142
24	0,8	1,9	27,7	531	1300
27	0,8	1,9	28,2	597	1407

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30	0,8	1,9	29,1	664	1522
33	0,8	1,9	30,1	730	1638
37	0,8	2	31,3	819	1803
2 x 4	1	1,8	16,2	69	441
3	1	1,8	16,8	104	496
4	1	1,8	18,2	142	577
5	1	1,8	19,1	177	650
7	1	1,8	19,6	242	687
9	1	1,8	22,9	311	870
12	1	1,8	25	414	1065
2 x 6	1	1,8	17,1	106	513
3	1	1,8	17,9	159	589
4	1	1,8	19,4	212	694
5	1	1,8	20,5	265	815
7	1	1,8	21,5	371	887

**CSYEAbY**

<b>No. of cond. x cross sectional area No x mm<sup>2</sup></b>	<b>Insulation thickness mm</b>	<b>Sheath thickness mm</b>	<b>Approx. outer diam. mm</b>	<b>Approx. copper weight Kg/Km</b>	<b>Approx. weight of cables Kg/Km</b>
2 x 1	0,8	1,8	13,1	18	251
3	0,8	1,8	13,6	27	277
4	0,8	1,8	14,5	36	314
5	0,8	1,8	15,1	44	344
7	0,8	1,8	15,9	62	395
9	0,8	1,8	17,7	80	470
12	0,8	1,8	19	106	550
14	0,8	1,8	19,7	124	598
16	0,8	1,8	20,5	141	648
19	0,8	1,8	21,7	168	738

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21	0,8	1,8	22,6	185	791
24	0,8	1,8	24,4	212	885
27	0,8	1,8	25	238	944
30	0,8	1,8	25,6	264	1008
33	0,8	1,8	26,3	291	1075
37	0,8	1,8	27,1	326	1159
42	0,8	1,9	29,2	370	1297
48	0,8	2	30,7	423	1441
52	0,8	2	31,5	458	1528
56	0,8	2	31,6	493	1638
61	0,8	2	33,4	537	1729
2 x 1,5	0,8	1,8	13,7	27	274
3	0,8	1,8	14,2	40	307
4	0,8	1,8	15,1	54	351
5	0,8	1,8	15,8	67	388
7	0,8	1,8	16,7	93	452
9	0,8	1,8	18,9	120	542
12	0,8	1,8	20,1	160	641
14	0,8	1,8	21	186	703
16	0,8	1,8	22,1	213	787
19	0,8	1,8	23	253	874
21	0,8	1,8	24	280	941
24	0,8	1,8	26	320	1055
27	0,8	1,8	26,5	359	1131
30	0,8	1,9	27,4	399	1226
33	0,8	1,9	28,3	439	1312
37	0,8	1,9	29,2	492	1420
42	0,8	2	31,4	559	1591
48	0,8	2	33,3	639	1781
52	0,8	2,1	34,2	693	1913
56	0,8	2,2	36,4	745	2375
61	0,8	2,2	37,3	811	2516

**CSYEAbY**

No. of cond. x cross sectional area No x mm <sup>2</sup>	Insulation thickness mm	Sheath thickness mm	Approx. outer diam. mm	Approx. copper weight Kg/Km	Approx. weight of cables Kg/Km
2 x 2,5	0,8	1,8	14,5	44	314
3	0,8	1,8	15	67	359
4	0,8	1,8	16,1	89	416
5	0,8	1,8	16,9	111	470
7	0,8	1,8	17,9	155	553
9	0,8	1,8	20,1	199	670

12	0,8	1,8	22,2	266	827
14	0,8	1,8	23,1	310	913
16	0,8	1,8	24	354	999
19	0,8	1,8	25	421	1119
21	0,8	1,8	26,2	465	1210
24	0,8	1,9	29	531	1375
27	0,8	1,9	29,2	597	1483
30	0,8	1,9	30	664	1600
33	0,8	2	31,2	730	1734
37	0,8	2	32,2	819	1887
2 x 4	1	1,8	16,2	69	392
3	1	1,8	16,9	104	457
4	1	1,8	18,3	142	539
5	1	1,8	19,2	177	612
7	1	1,8	20,5	242	740
9	1	1,8	23,7	311	932
12	1	1,8	25,9	414	1155
2 x 6	1	1,8	17,2	106	457
3	1	1,8	18	159	545
4	1	1,8	19,5	212	652
5	1	1,8	21	265	769
7	1	1,8	22,4	371	945

**SINGLE CORE NON-SHEATHED, PVC INSULATED  
FOR GENERAL PURPOSES**

**450 /750 V**

According to: SR CEI 60227-3

Type: FY ( similar H07V – U for class 1 or H07V – R for class 2 )

1 – Copper conductor ( according to SR CEI 60228)

2 – PVC insulation

#### APPLICATION

For fixed wiring.

Can be used for internal wiring ( in walls), only in protection tubes.

#### TECHNICAL CHARACTERISTICS

-Rated voltage  $U_0 / U = 450 / 750$  V

-Minimum environment temperature :

- during laying:  $+5^{\circ}\text{C}$

- in service:  $-30^{\circ}\text{C}$

-Maximum permissible temperature ( on conductor):  $+70^{\circ}\text{C}$

-Test voltage: 2500V, 50 Hz, for 5 minutes

**FY**

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<b>Cross Sectional area</b>	<b>Class of cond. according to SR CEI 60228</b>	<b>Insulated Thickness</b>	<b>Mean overall dimens. Upper limits</b>	<b>Minimum insulation resistance at 70°C</b>	<b>Approx. copper weight</b>	<b>Approx. weight of cables</b>
<b>mm<sup>2</sup></b>		<b>mm</b>	<b>mm</b>	<b>MΩKm</b>	<b>Kg/Km</b>	<b>Kg/Km</b>
1	1	0,7	3	0,011	9	15
1,5	1	0,7	3,3	0,011	13,3	20
2,5	1	0,8	3,9	0,010	22,2	32
4	1	0,8	4,4	0,0085	34,5	46
6	1	0,8	4,9	0,007	53	66
10	1	1	6,4	0,007	87	108
16	1	1	7,5	0,005	138	163
16	2	1	8	0,005	138,7	166
25	2	1,2	9,8	0,005	220	260
35	2	1,2	11	0,004	305	350
50	2	1,4	13	0,0045	415	477
70	2	1,4	15	0,0035	601	674
95	2	1,6	17	0,0035	833	930
120	2	1,6	19	0,0032	1046	1154
150	2	1,8	21	0,0032	1287	1423
185	2	2	23,5	0,0032	1620	1787
240	2	2,2	26,5	0,0032	2130	2335
300	2	2,4	29,5	0,0030	2660	2926



**SINGLE CORE NON-SHEATHED , PVC INSULATED  
FOR GENERAL PURPOSES**

**450 /750 V**

**According to: STAS 6865 - 89**

**Type: AFY**

**1 –Aluminium conductor ( according to SR-CEI 60228)**

**2 – PVC insulation**

**APPLICATION**

**For fixed wiring.**

**Can be used for internal wiring ( in walls), only in protection tubes.**

**TECHNICAL CHARACTERISTICS**

**-Rated voltage  $U_0 / U = 450 / 750$  V**

**-Minimum environment temperature:**

- during laying:  $+5^{\circ}\text{C}$
- in service:  $-30^{\circ}\text{C}$

**-Maximum permissible temperature ( on conductor):  $+70^{\circ}\text{C}$**

**-Test voltage: 2500V, 50 Hz, for 15 minutes**

**AFY**

<b>Cross sectional area</b>	<b>Class of cond. according to SR CEI 60228</b>	<b>Insulated thickness</b>	<b>Mean overall dimens. Upper limits</b>	<b>Minimum insulation resistance at 60<sup>0</sup>C</b>	<b>Approx. Al weight</b>	<b>Approx. weight of cables</b>
<b>mm<sup>2</sup></b>		<b>mm</b>	<b>mm</b>	<b>MΩKm</b>	<b>Kg/Km</b>	<b>Kg/Km</b>
2,5	1	0,7	3,5	0,009	6,8	15
4	1	0,8	4,2	0,008	11,3	23
6	1	0,8	4,7	0,008	17	30
10	1	1	6	0,007	27,5	49
16	1	1	6,9	0,006	45	71
16	2	1	7,5	0,006	43	77
25	2	1,2	9,3	0,005	67	106
35	2	1,2	10,5	0,004	91	137
50	2	1,4	12,5	0,004	124	186
70	2	1,4	14,5	0,004	180	253
95	2	1,6	17	0,004	250	347
120	2	1,6	18,5	0,004	314	422
150	2	1,8	20,5	0,004	385	521
185	2	2	22,6	0,004	485	653
240	2	2,2	26	0,003	638	850
300	2	2,4	28,5	0,003	800	1066

**SINGLE CORE NON-SHEATHED, PVC INSULATED  
WEATHER RESISTANT**

**450 /750 V**

**According to: ST 5273/2000**

**Type: A FY - I**

**1 –Aluminium conductor ( according to SR-CEI 889-93)**

**2 – PVC insulation (weather resistant) - black**

**APPLICATION**

**For fixed outdoor wiring.**

**TECHNICAL CHARACTERISTICS**

**-Rated voltage  $U_0 / U = 450 / 750$  V**

**-Minimum environment temperature:**

**- during laying: + 5<sup>0</sup>C**

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- in service: -30<sup>0</sup>C

-Maximum permissible temperature ( on conductor): +70<sup>0</sup>C

-Test voltage: 2500V, 50 Hz, for 5 minutes

**AFY – I**

<b>Cross sectional area</b>	<b>Class of cond. according to</b>	<b>Insulated thickness</b>	<b>Approx. Al weight</b>	<b>Approx. weight of cables</b>
<b>mm<sup>2</sup></b>	<b>SR CEI 889</b>	<b>mm</b>	<b>Kg/Km</b>	<b>Kg/Km</b>
10	2	1,8	26,6	75
16	2	1,8	43,5	102
25	2	1,8	69	141
35	2	1,8	94	178
50	2	2	133	237
70	2	2	177	303
95	2	2,5	257	436

**SINGLE CORE NON-SHEATHED CABLE , PVC INSULATED,  
WITH FLEXIBLE CONDUCTOR FOR GENERAL PURPOSES**

**450 /750 V**

**According to: SR CEI 60227-3**

**Type: MYf (similar H07V – K )**

- 1 – Copper conductor ( according to SR-CEI 60228 class 5 –flexible conductor)**
- 2 – PVC insulation**

**APPLICATION**

**For electrical wiring in fixed or mobile internal instalations, with increased flexibility.**

**TECHNICAL CHARACTERISTICS**

- Rated voltage  $U_0 / U = 450 / 750$  V**
- Minimum environment temperature:**

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- during laying and handling: + 5<sup>0</sup>C
- in service: -30<sup>0</sup>C

**-Maximum permissible temperature ( on conductor): +70<sup>0</sup>C**

**-Test voltage: 2500V, 50 Hz, for 5 minutes**

**MYf**

<b>Cross sectional area</b>	<b>Insulated thickness</b>	<b>Mean overall dimens. Upper limit</b>	<b>Minimum insulation resistance at 70<sup>0</sup>C</b>	<b>Approx. copper weight</b>	<b>Approx. weight of cables</b>
<b>mm<sup>2</sup></b>	<b>mm</b>	<b>Mm</b>	<b>MΩKm</b>	<b>Kg/Km</b>	<b>Kg/Km</b>
0,75	0,7	3	0,011	6,2	13
1	0,7	3,2	0,010	8,2	15
1,5	0,7	3,4	0,010	12	20
2,5	0,8	4,1	0,009	20,4	32
4	0,8	4,8	0,008	32,3	46
6	0,8	5,3	0,006	48,5	66
10	1	6,8	0,0056	85,1	111
16	1	8,1	0,0046	135	169
25	1,2	10,2	0,0044	209	260
35	1,2	11,7	0,0038	294	352
50	1,4	13,9	0,0037	422	503
70	1,4	16	0,0032	598	692
95	1,6	18,2	0,0032	790	912
120	1,6	20,2	0,0029	1020	1163
150	1,8	22,5	0,0029	1274	1449
185	2	24,9	0,0029	1565	1788
240	2,2	28,4	0,0028	2071	2347

**ORDINARY POLYVINYL CHLORIDE SHEATHED CORD**

**300 / 500 V**

**According to: SR CEI 60227-5**

**Type: MYYM**

Formatted

**According to: HD 21.5 S3**

**Type: H05VV - F**

- 1 – Copper conductor ( according to SR-CEI 60228 class 5 –flexible conductor)**
- 2 – PVC insulation**
- 3 – PVC sheath**

## APPLICATION

In mobile electric installation, as supply and connecting cable for domestic appliances and light workshop equipment where medium mechanical stresses are encountered.

## TECHNICAL CHARACTERISTICS

- Rated voltage  $U_0 / U = 300 / 500 \text{ V}$
- Minimum environment temperature ( on sheath):
  - in service:  $-10^{\circ}\text{C}$
- Maximum permissible temperature ( on conductor):  $+70^{\circ}\text{C}$
- Test voltage: 2000V, 50 Hz, for 5 minutes

## MYYM

No. of cond. x cross sectional area	Insulated thickness	Sheath thickness	Mean overall dims. Upper limit	Minimum insulation resistance at $70^{\circ}\text{C}$	Approx. copper weight	Approx. Weight of cord
No. x $\text{mm}^2$	mm	mm	mm	$\text{M}\Omega\text{Km}$	$\text{Kg/Km}$	$\text{Kg/Km}$
2 x 0,75	0,6	0,8	7,2	0,011	12,4	55
2 x 1	0,6	0,8	7,5	0,010	16,4	63
2 x 1,5	0,7	0,8	8,6	0,010	24	85
2 x 2,5	0,8	1	10,6	0,009	40	130
3 x 0,75	0,6	0,8	7,6	0,011	19	65
3 x 1	0,6	0,8	8	0,010	24,6	76



3 x 1,5	0,7	0,9	9,4	0,010	36	106
3 x 2,5	0,8	1,1	11,4	0,009	60	163
4 x 0,75	0,6	0,8	8,3	0,011	24,8	79
4 x 1	0,6	0,9	9	0,010	33	96
4 x 1,5	0,7	1	10,5	0,010	48	133
4 x 2,5	0,8	1,1	12,5	0,009	80	199
5 x 0,75	0,6	0,9	9,3	0,011	31	96
5 x 1	0,6	0,9	9,8	0,010	41	112
5 x 1,5	0,7	1,1	11,6	0,010	60	161
5 x 2,5	0,8	1,2	13,9	0,009	100	240

### **SPECIFICATIE TEHNICA NR. 5284/2002**

#### **CORDOANE FLEXIBILE MULTICONDUCTOARE CU IZOLATIE SI MANTA DE PVC , PENTRU TENSIUNI NOMINALE 300/500V**

**SIMBOL :** MYYM - M

**STANDARD :** are la baza **HD 21.13 S1**

**UTILIZARE :** instalatii electrice fixe, semimobile,de interior

#### DATE TEHNICE

Tensiune nominala  $U_0/U = 300/500$  V

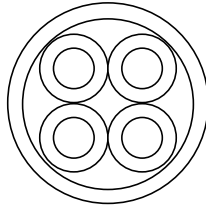
Temperatura maxima admisa pe conductor in conditii normale de exploatare :  $+70^{\circ}\text{C}$

Temperatura minima de de utilizare:  $-10^{\circ}\text{C}$  in exploatare

+5<sup>0</sup>C la pozare

#### CONSTRUCTIE

- 1- Conductoare de Cu (de la 2 la 61 conductoare) clasa 5 (flexibile) conf. CEI 228 cu sectiuni de la 0,5mm<sup>2</sup> la 2,5mm<sup>2</sup>.
- 2 - Izolatie din PVC



- 3 – Invelis comun (optional)
- 4 – Manta exterioara din PVC rezistent la ulei.

#### **Identificarea conductoarelor**

Izolatia conductoarelor este de culoare neagra cu marcare cu cifre.  
Cablurile cu 3 si mai multe conductoare au in stratul exterior un conductor verde-galben.

**Mantaua exterioara** este de culoare neagra.

#### VERIFICARI

- Conf. HD 21.13 S1:1995 , Tabel 2 si anume:  
Incerari electrice – Rezistenta electrica –pct. 1.1  
- Incercarea la tensiune pe cablu finit la 2000V – pct. 1.3  
Incerari dimensionale – pct. 2.1, 2.2 si 2.3

**LIVRARE** : in colaci sau pe tamburi

### **CORDOANE PLATE CU IZOLATIE SIMANTA DE PVC , 220/380V**

**SIMBOL:** MYYP (similar NYIFY)

**STANDARD:** are la baza VDE 0250 Teil 201

**UTILIZARE:** Instalatii electrice fixe, in interior.

## DATE TEHNICE

Tensiunea nominala:  $U_0 / U = 220/380$  V

Temperatura maxima de utilizare (la nivelul conductorului):  $+70^{\circ}\text{C}$

Temperatura minima de utilizare:  $-33^{\circ}\text{C}$  in exploatare  
 $+ 5^{\circ}\text{C}$  la pozare

Inercarea la tensiune: 2kV, 50Hz timp de 5min. pe esantion de 20m.

## CONSTRUCTIE

1. Conductoare de cupru rotund masiv (clasa 1) unifilar cu izolatie din PVC  
Conductoarele izolate se dispun in paralel, unul langa altul.  
Identificarea conductoarelor se face prin cod de culori.
2. Manta exterioara din PVC  
Peste conductoarele izolate dispuse in paralel se aplica mantaua exterioara de PVC de culoare alba.

### Caracteristici constructive:

Tipodimensiunea	Grosime rad. izolatie Val. nominala mm	Grosime rad. manta Val. nominala mm	Dimensiuni exterioare -val. max.
NYIFY 2x1,5	0,4	0,8	4,4x12
2x2,5	0,5	0,9	5,2x13,5
2x4	0,6	0,9	6x15,5
3x1,5	0,4	0,8	4,4x19
3x2,5	0,5	0,9	5,2x21,5
3x4	0,6	0,9	6x25
4x1,5	0,4	0,8	4,4x26
4x2,5	0,5	0,9	5,2x29,5
5x1,5	0,4	0,8	4,4x33
5x2,5	0,5	0,9	5,2x37

Conductoarele se pot livra pe tamburi sau in colaci.

## CABLU LAN, CATEGORIA 5, NEECRANAT

**Simbol: UTP 4x2x0.52**

**Norma: ISO/IEC 11801- EIA/TIA 568A**

### 1. DOMENIU DE UTILIZARE

Cablurile UTP se utilizeaza in cadrul retelelor locale, pentru transmitere de date cu viteza mare, in telecomunicatii, la frecvente pana la 100 MHz

## 2. DATE CONSTRUCTIVE

- 2.1** Conductor din cupru electrolitic moale, cu diametrul 0.52 mm.  
**2.2** Izolatie: polietilena masiva grosime radiala nominala : 0.205 mm  
- culori :1) alb-albastru  
2) alb-oranj  
3) alb-verde  
4) alb-marou  
**2.3** Numar de perechi:4  
**2.4** Manta : PVC , culoare gri , grosime radiala nominala: 0.55 mm  
**2.5** Diametrul exterior (informativ) : 5.2 mm  
**2.6** Greutatea informativa,kg/km: 30

## 3.CARACTERISTICI ELECTRICE

- 3.1** Rezistenta electrica ,  $\Omega$ / km, max.: 88  
**3.2** Dezechilibrul rezistiv:, max. %: 1  
**3.3** Impedanta caracteristica:  $100\Omega \pm 15\%$  la frecventa de 1-250 MHz  
 $125\Omega \pm 20\%$  la frecventa de 0.064-1MHz  
**3.4** Capacitatea mutuala, nom., la 1000 Hz, nF/km : 50.3  
**3.5** Rezistenta de izolatie la 20 ° C, 500V c c, min., M $\Omega$ Km : 10000  
**3.6** Rigiditatea dielectrica intre conductoare, in c.c= 2000V, 1 min.  
**3.7** Caracteristici de transmisie

Nr. crt.	Frecventa MHz	Atenuarea max. dB/100m	Paradiafonia (NEXT) dB	SRL dB
1	1	2	62.3	23
2	4	4.1	53.3	23
3	10	6.5	47.3	23
4	16	8.2	44.3	23
5	20	9.2	42.8	23
6	25	10.4	41.3	22
7	31.25	11.7	39.9	21.1
8	62.5	17.0	35.4	18.1
9	100	22.0	32.3	16.0

**LIVRARE:** Cablurile se livreaza in colaci de 305 m, in cutii de carton.

## TECHNICAL SPECIFICATION

### CATEGORY 5E UTP CABLES

Symbol : UTP, Cat.5E 4 x 2 x 24 AWG

Standard : TIA / EIA –568B.2: 05-2001 (Category 5E)

#### 3. OVERVIEW

**CAT 5E cables are constructed with balanced twisted pairs each consisting of insulated 24 AWG solid copper.**

**The four pairs are enclosed in a PVC jacket. Cables are suitable for 10 up to 100 Mb/s data rates .**

#### 4. CONSTRUCTION DETAILS

2.1 Wires: electrolytic soft annealed copper, plain, with diameter of 24 AWG.

2.2 Insulation: solid polyethylene

- Color code: see appendix.

2.3 Number of pairs: 4

2.4 Jacket: PVC , grey

2.5 Outer diameter, max.: 6 mm

2.6 Informative weight, kg/km: 30

#### 3. ELECTRICAL CHARACTERISTICS (at 20 °C)

3.1 Electrical resistance, D.C., max. ,  $\Omega$ / 100 m: 9.38

3.2 Unbalance resistance: max. %: 5

3.3 Characteristic impedance:  $100 \Omega \pm 15$  at 1...100 MHz

3.4 Mutual capacitance at 1000 Hz, max. , nF/ 100m: 5.6

3.5 Insulation resistance, at 500 V D.C., min. M $\Omega$ km: 10000

3.6 Electric strength: 1 min. D.C = 2000V

3.7 Transmission characteristics :

Frequency MHz	Attenuation max. dB/ 100 m	Crosstalk attenuation (NEXT) dB/ 100m, min.	PSNEXT dB	ELFEXT dB	PSELFEXT dB/ 100 m	RL dB, min.
1	2.0	65.3	62.3	63.8	60.8	20
4	4.1	56.3	53.3	51.7	48.7	23
8	5.8	51.8	48.8	45.7	42.7	24.5
10	6.5	50.3	47.3	43.8	40.8	25
16	8.2	47.3	44.3	39.7	36.7	25
20	9.3	45.8	42.8	37.7	34.7	25
25	10.4	44.3	41.4	35.8	32.8	24.3
31.25	11.7	42.9	39.9	33.9	30.9	23.6
62.5	17.0	38.4	35.4	27.8	24.8	21.5
100	22.0	35.3	32.3	23.8	20.8	20.1

- Maximum Propagation Delay (PD), at 1.0 MHz, ns/100m at 20°C: 570
- Maximum Propagation Delay (PD), at 10.0 MHz, ns/100m at 20°C: 545
- Maximum Propagation Delay (PD), at 100.0 MHz, ns/100m at 20°C: 538
- Maximum Propagation Delay Skew (PDS) ns/100m at 20°C, 1.0, 10.0, 100.0 MHz : 45
- Velocity of Propagation, at :
  - 1 MHz, min., % : 58.5
  - 10 MHz, min., % : 61.1
  - 100 MHz, min., % : 62

#### 4. MECHANICAL CHARACTERISTICS










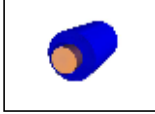














4.1 Breaking Strength of cable  
 Minimum 400 N.

4.2 Bending radius of cable  
 25.4 mm at  $-20 \pm 1$  ° C, without jacket or insulation cracking.

#### 5. Delivery

The cables are packaged in  $305 \pm 3$ m Reelex or regular Reel.

## Appendix 1. Color Code

	Pair 1	Pair 3	Pair 4
<b>white + single color stripe</b>			
<b>solid color</b>			
<b>white + double color stripe</b>			
<b>solid color</b>			
<b>color + single white stripe</b>			
<b>solid color</b>			
<b>color + double white stripe</b>			
<b>solid color</b>			

**POWER CABLES  
WITH COPPER OR ALUMINIUM CONDUCTORS,  
PVC INSULATED AND SHEATHED**

**3,6 / 6 Kv**

**According to: SR CEI 60502**

**Type : CYEY, CYEY – F  
ACYEY, ACYEY – F  
CYEAbY, CYEAbY – F  
ACYEAbY, ACYEAbY – F**

- 1- Copper or aluminium conductors
- 2- PVC insulation
- 3- Common covering
- 4- Conductive layer
- 5- Copper tape screen
- 6- PVC inner sheath ( only armoured cables)
- 7- Armouring made of two steel tapes ( only armoured cables)
- 8 – PVC outer sheath

**APPLICATION**

These cables are designed for the distribution of electric power in fixed installations.

Cables are suitable for installation in the ground, in cable ducts, outdoors or indoors.

**TECHNICAL CHARACTERISTICS**

- Minimum environment temperature ( on sheath ):
  - during laying: +5<sup>0</sup>C
  - in service: -30<sup>0</sup>C
- Maximum permissible temperature ( on conductor ): +70<sup>0</sup>C
- Electric resistance of screen: maximum 3,03 Ω / Km at 20<sup>0</sup>C.
- Test voltage: 11 kV, 50Hz, for 10 minutes.
- The cables with F at the ending of symbol have improved flame – retardancy ( tested according to SR CEI 332 – 3 ).



**CYEEY, CYEY - F**

No. of cond. x cross sectional area No x mm <sup>2</sup>	Insulation thickness mm	Sheath thickness mm	Approx. outer diam. mm	Approx. copper cond. weight Kg/Km	Approx. weight of cables Kg/Km
3x25 rm	3,4	2,1	34,1	660	2011
3x35 rm	3,4	2,2	36,7	914	2440
3x50 sm	3,4	2,2	36,5	1245	2475
3x70 sm	3,4	2,3	40	1803	3223
3x95 sm	3,4	2,4	43,5	2499	4075
3x120 sm	3,4	2,5	47	3138	4903
3x150 sm	3,4	2,5	48,1	3861	5692
3x185 sm	3,4	2,7	52,8	4860	6980
3x240 sm	3,4	2,9	59	6540	9046

**CYEAbY, CYEAbY- F**

No. of cond. x cross sectional area No x mm <sup>2</sup>	Insulation thickness mm	Sheath thickness mm	Approx. outer diam. mm	Approx. copper cond. weight Kg/Km	Approx. weight of cables Kg/Km
3x25 rm	3,4	2,2	38,7	660	2811
3x35 rm	3,4	2,3	41,5	914	3319
3x50 sm	3,4	2,3	41,3	1245	3350
3x70 sm	3,4	2,4	44,8	1803	4177
3x95 sm	3,4	2,6	48,7	2499	5157
3x120 sm	3,4	2,7	52,3	3138	6090
3x150 sm	3,4	2,7	53,5	3861	6909
3x185 sm	3,4	2,9	58,4	4860	8339
3x240 sm	3,4	3,1	64,7	6540	10586

**ACYEY, ACYEY – F**

No. of cond. x cross sectional area No x mm <sup>2</sup>	Insulation thickness mm	Sheath thickness mm	Approx. outer diam. mm	Approx. Al cond. weight Kg/Km	Approx. weight of cables Kg/Km
3x25 rm	3,4	2,1	34,1	201	1552
3x35 rm	3,4	2,2	36,7	273	1800
3x50 sm	3,4	2,2	36,5	372	1602
3x70 sm	3,4	2,3	40	540	1960
3x95 sm	3,4	2,4	43,5	750	2326
3x120 sm	3,4	2,5	47	942	2707
3x150 sm	3,4	2,5	48,1	1155	2986
3x185 sm	3,4	2,7	52,8	1455	3575
3x240 sm	3,4	2,9	59	1914	4389

**ACYEAbY, ACYEAbY- F**

No. of cond. x cross sectional area No x mm <sup>2</sup>	Insulation thickness mm	Sheath thickness mm	Approx. outer diam. mm	Approx. Al cond. weight Kg/Km	Approx. weight of cables Kg/Km
3x25 rm	3,4	2,2	38,7	201	2352
3x35 rm	3,4	2,3	41,5	273	2678
3x50 sm	3,4	2,3	41,3	372	2477
3x70 sm	3,4	2,4	44,8	540	2914
3x95 sm	3,4	2,5	48,7	750	3386
3x120 sm	3,4	2,7	52,3	942	3894
3x150 sm	3,4	2,7	53,5	1155	4203
3x185 sm	3,4	2,8	58,4	1455	4908
3x240 sm	3,4	3	64,7	1914	5887

**CABLURI DE ENERGIE PENTRU TENSIUNEA DE 3,6/6kV, CU  
CONDUCTOARE DE CUPRU SAU ALUMINIU , CU IZOLATIE DIN XLPE SI  
MANTA DE PVC, NEARMATE SAU ARMATE**

**Simbol:** (A)C2XEY pentru cabluri nearmate  
(A)C2XEAbY pentru cabluri armate

**Standard:** IEC 60502/2 –1997

**Utilizare:**

Cablurile sunt utilizate in instalatii fixe pentru transportul si distributia energiei electrice.

Cablurile sunt destinate pozarii in sol sau in conducte, in interior sau exterior.

**Date Tehnice:**

Temperatura minima a cablului, masurata pe manta:

+ 5<sup>0</sup>C la instalare

-33<sup>0</sup>C in timpul exploatarii

Temperatura maxima admisibila, masurata pe conductor:

+90<sup>0</sup>C (izolatie XLPE)

Sectiunea electrica a ecranului fiecarei faze:

16mm<sup>2</sup> pentru sectiuni pana la 120mm<sup>2</sup>, inclusiv

25mm<sup>2</sup> pentru sectiuni mai mari de 120mm<sup>2</sup>

Tensiunea de incercare: 11kV, 50Hz timp de 5 minute.

**Constructie:**

Conductoare de cupru sau aluminiu, rotund multifilare

Strat semiconductor peste conductor

Izolatie de XLPE

Strat semiconductor peste izolatie

Ecran din sarme de cupru pe fiecare faza

Invelis comun peste conductoarele infuniatare

Manta interioara PVC ( numai pentru cablurile armate)

Armatura din benzi de otel (numai pentru cablurile armate)

Manta exterioara de PVC de

Sectiunea conductoarelor de faza mm <sup>2</sup>	Diametrul ext. Val. nominala mm	Greutatea cablului Val. aproximativa Kg/Km	Greutatea cond. de cupru Kg/Km
95	50	5012	2499

**CABLURI DE ENERGIE PENTRU TENSIUNEA DE 0,6/1 kV,  
CU CONDUCTOARE DE CUPRU CU IZOLATIE DIN XLPE  
SI MANTA DIN PVC**

**Simbol:** U-1000 R2V ( U-1000 R02V si U-1000 R12V )

**Standard:** NF C 32-321 ( are la baza IEC 60502 )

**Utilizare:** Transportul si distributia energiei electrice in instalatii fixe .

**Date Tehnice:**

Tensiunea nominala:  $U_0/U = 0,6/1$  kV

Temperatura maxima de utilizare ( la nivelul conductorului):  $+90^{\circ}\text{C}$

Temperatura minima de utilizare:  $-33^{\circ}\text{C}$  in timpul exploatarii  
 $+5^{\circ}\text{C}$  la instalare

Inercarea la tensiune : 3,5kV, 50Hz timp de 5 min.

**Constructie:**

Conductoare de cupru rotund masive sau cablate

Izolatie din XLPE

Umplutura peste conductoarele infuniate ( numai pentru varianta U-1000 R02V)

Manta exterioara de PVC ( pentru cablurile tip U-1000 R12V mantaua umple  
si golurile dintre conductoare)

**U-1000 R02V**

Tipodimensiunea Nr.x mm <sup>2</sup>	Forma conductoarelor	Diam. nominal al cablului mm	Greutatea cablului Val. Calculata Kg/Km
U-1000 R02V			
2x1,5	RE(rotund unifilar)	9,12	121,34
2x2,5	RE	9,9	152,3
3x1,5	RE	9,6	139
3x2,5	RE	10,4	179
3x4	RE	11,5	239
3x6	RMC( rotund multifilar comp.)	13	321
4x1,5	RE	10,5	164
4x2,5	RE	11,4	214
4x4	RE	12,7	290
4x6	RMC	14,4	392
5x2,5	RE	12,1	247
5x4	RE	13,5	339
5x6	RMC	15,3	462
U-1000 R12V			
3x95	RMC	34	3353
3x185	RMC	47	6443
4x10	RMC	17	593
4X16	RMC	19,4	854
4X25	RMC	23,1	1285
4X35	RMC	26	1697
4X50	RMC	29,5	2267
4X70	RMC	34,5	3196
4X95	RMC	38,6	4290
4X120	RMC	43,2	5369
4X150	RMC	48,1	6602
5X35	RMC	27,8	2047
5X50	RMC	32	2754

**CABLURI DE ENERGIE PENTRU TENSIUNEA DE 0,6/1 kV CU  
IZOLATIE DIN XLPE, ARMATURA DIN SARME DE OTEL  
ZINCATE SI MANTA EXTERIOARA DIN PVC**

**Simbol: Cu/XLPE/SWA/PVC**

**Standard:** BS 5467: 1997

**Utilizare:** Transportul si distributia energiei electrice in instalatii fixe.

**Date Tehnice**

Tensiunea nominala:  $U_0/U = 0,6/1$  kV

Temperatura maxima de utilizare ( la nivelul conductorului):  $+90^{\circ}\text{C}$

Temperatura minima de utilizare:  $-33^{\circ}\text{C}$  in timpul exploatarii  
 $+5^{\circ}\text{C}$  la instalare

Inercarea la tensiune : 3,5kV, 50Hz timp de 5 min.

**Constructie**

Conductoare de cupru rotund multifilare

Izolatie din XLPE

Manta interioara de PVC

Armatura din sarme rotunde de otel zincate

Manta exterioara de PVC

**Cu/XLPE/SWA/PVC**

Tipodimensiunea Nr.x mm <sup>2</sup>	Forma conductoarelor	Diam. nominal al cablului mm	Greutatea cablului Val. calculata Kg/Km
Cu/XLPE/SWA/PVC			
3x2,5	RMC	13,5	377
4x2,5	RMC	14,5	433
4x4	RMC	15,7	531

**SINGLE PHASE CONCENTRIC CABLES****1000V****According: S.F. 5210 – 95****Type: CCBYY**

- 1- Copper conductor
- 2- PVC insulation
- 3- Concentric copper conductor
- 4- Separating layer
- 5- PVC sheath

**APPLICATION**

Single – phase connections.

**TECHNICAL CHARACTERISTICS**

- According to: S.F. 5210 - 95
- Rated voltage: up to 1000 V
- Minimum environment temperature ( on sheath ):
  - during laying: +5<sup>0</sup>C
  - in service: -30<sup>0</sup>C
- Maximum permissible temperature ( on conductor ) : +70<sup>0</sup>C
- Test voltage: 2500 V, 50 Hz, timp de 60 secunde.

**CCBYY**

No. of cond. x cross sectional area	Insulation thickness	Sheath thickness	Outer diam. Upper limits	Approx. copper cond. Weight	Approx. weight of cables
No x mm <sup>2</sup>	mm	mm	mm	Kg/Km	Kg/Km
1 x 6 / 6	1,1	1,7	12,2	108,6	193
1 x 10 / 10	1,3	2	14,5	181,6	304
1 x 16 / 16	1,3	2	16,8	289,7	431

1 x 25 / 25	1,3	2	18,4	455,9	621
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## SINGLE PHASE CONCENTRIC CABLES

### 1000V

**According: S.F. 5251 – 99**

**Type: ACCBYY**

- 1-Aluminium conductor
- 2-PVC insulation
- 3-Concentric aluminium conductor
- 4-Separating layer
- 5-PVC sheath

### APPLICATION

Single – phase connections.

### TECHNICAL CHARACTERISTICS

- According to: S.F. 5251 - 99
- Rated voltage: up to 1000 V
- Minimum environment temperature ( on sheath ):
  - during laying: +5<sup>0</sup>C
  - in service: -30<sup>0</sup>C
- Maximum permissible temperature ( on conductor ): +70<sup>0</sup>C
- Test voltage: 2500 V, 50 Hz, timp de 60 secunde.

### ACCBYY

No. of cond. x cross sectional area	Insulation thickness	Sheath thickness	Outer diam. Upper limits	Approx. Al cond. Weight	Approx. weight of cables
No x mm <sup>2</sup>	mm	mm	mm	Kg/Km	Kg/Km
1 x 10 / 10	1,3	2	14,7	55,3	188
1 x 16 / 16	1,3	2	16,2	89	240
1 x 25 / 25	1,3	2	17,5	138,6	328



**CABLES FOR PORTABLE EARTHING  
AND SHORT – CIRCUITING EQUIPMENT****ACCORDING TO: SR EN 61138****TYPE: SCY**

- 1- Flexible copper conductor ( SR CEI 60228 )
- 2- PVC insulation

**APPLICATION**

Especially designated for connecting to earth and short – circuit of electric equipment.

**TECHNICAL CHARACTERISTICS**

According to: SR EN 61138

Test voltage: 1000V, 50 Hz, for 5 minutes.

Temperatura in service: - 40 - + 60 °C

**SCY**

<b>Cross sectional area</b>	<b>Maximum diameter of copper wires</b>	<b>Insulation thickness</b>	<b>Outer diam. Upper limits</b>	<b>Electrical resistance of cond. at 20 °C Upper limits</b>	<b>Approx. copper cond. weight</b>	<b>Approx. weight of cables</b>
<b>mm<sup>2</sup></b>	<b>mm</b>	<b>mm</b>	<b>mm</b>	<b>Ω/Km</b>	<b>Kg/Km</b>	<b>Kg/Km</b>
16	0,21	1,2	8,6	1,21	137	179
25	0,21	1,2	10,2	0,78	217	269
35	0,21	1,2	11,7	0,554	307	365
50	0,21	1,5	14,2	0,386	426	515
70	0,21	1,5	16,2	0,272	610	710
95	0,21	1,8	18,7	0,206	806	953
120	0,31	1,8	20,6	0,161	1070	1236
150	0,31	1,8	22,5	0,129	1327	1503

## CABLU DE BRIDA AUTOPURTAT

**Simbol: TBLA 2x2x0.6**

**Norma: ST 1-5A rev.2000 a ROMTELECOM**

### 1.Generalitati

Brida autopurtata urbana se utilizeaza in instalatii de telecomunicatii de exterior pentru temperaturi cuprinse intre - 40° C si + 70 ° C.

#### 2.Elemente constructive

##### 2.1 Conductor: cupru cu diametrul =0.6mm

##### 2.2 Izolatie :

- material: polietilena –foam-skin
- grosime radiala, min.= 0.3 mm
- culoare: care sa permita identificarea usoara

##### 2.3 Manta:

- material: PVC tip M50
- grosime radiala,min.=0.5+/-5%

##### 2.4 Purtatorul

- material: funie de otel zincata, cu diametrul =2mm(19x0.4)

##### 2.5 Forma si dimensiuni

forma bridei autopurtate este cea a cifrei”8”,cu dimensiunile din tabelul de mai jos:

Numar perechi	D max.[mm]	l min.[mm]	L max.[mm]
2	10	3	16

### 3. Parametri electrici

#### 3.1 Rezistenta electrica ,max.[ohm/km] :

- individuala=66.6
- media =63.9

#### 3.2 Rezistenta de izolatie, min.[ MohmKm] =5 000

#### 3.3 Capacitatea mutuala,max. [nF/km] :

- individuala =64
- media=55

#### 3.4 Atenuarea de linie

Valoarea maximei individuale la 800 Hz si 20° C,este de 1.05 dB/Km.

### 4. Livrare

Cablul se livreaza in colaci de 500m.La intelegere cu Beneficiarul se admit si lungimi mai mici.

## CONDUCTE DE CONEXIUNI PENTRU TELECOMUNICATII

Norma: STAS 4037/1;2-85

**Simbol: TCY R**

### 1.DOMENIU DE UTILIZARE

Conductele de conexiuni se utilizeaza in montaje fixe de telecomunicatii, semnalizare, radiotehnica si electronica, automatizari, precum si in instalatii electrice de joasa tensiune, la legaturi in interiorul unor aparate sau intre acestea.

### 2.DATE CONSTRUCTIVE

#### 2.1 Conductor: cupru cu diametrul =0.6mm

2.2 Numar de perechi: 1

2.3 Izolatie : polielorura de vinil

### 3. CARACTERISTICI ELECTRICE

3.1 Rezistenta electrica ,max.[ohm/km] : 67.9

3.2 Rezistenta de izolatie in stare uscata, la 20° C, in c.c, la tensiunea de 500V,min.:  
-100 MQKm

3.3 Rezistenta la tensiune, fara strapungere, in c.a,1 min.,la 20 ° C,(in apa) 500V

### 4. LIVRARE

Cablurile se livreaza in colaci de 500 m.

## TECHNICAL SPECIFICATION FOR REMOTE CONTROL FLAME RETARDANT CABLES, WITH PVC INSULATION AND SHEATH

According to: STR-MIET E 1748/1-89  
Symbol: TYY-F small lay

### 1.FIELD OF APPLICATION

- 1.1 In static switching systems.
- 1.2 The cables provided in the present specification are intended to operate at voltages of 150V D.C. or AC.
- 1.3 The ambient temperature: -25°C at +60°C
- 1.4 Flame retardancy: according to SR CEI -3, category C.

### 2.STRUCTURAL ELEMENTS

#### 2.1 Conductor: solid annealed copper with diameter =0.8mm

2.2 Insulation: PVC

2.3 Screen: aluminum foil

2.4 Sheath: PVC

2.5 The length of twister lay: min.20 lay/m

The colors of pairs shall be according to the table:

No of pairs	The color of conductor (a)	The color of conductor (b)
1	Blue	Red
2	Grey	Yellow
3	Green	Braun
4	White	Black

-The colors will be repeated to the next pairs.

-The pilot pair: conductor (a) blue is marked with Braun rings.

-The identification is from the outside(from pilot) to the inside.

The dimensions are:

No.crt.	Typo-dimension	External diameter mm	Weight kg/km	The length of deliver/drum
1	2x2x0.8	8.3	93	1000/ E10
2	4x2x0.8	10.5	170	500/ E10
3	8x2x0.8	13.5	241	500/ E10

4	16x2x0.8	18.1	436	500/E12
5	24x2x0.8	21	695	500/ E14

### 3. ELECTRICAL CARACHTERISTICS

3.1 Electric resistance of pair (D.C. at 20°C), max.=74 Ω/km

3.2 Electric capacitance, max. =100nF/km

3.3 Dielectric strength, min.1 minute without breakdown, 50Hz:

- between wires:1500 V

- between wires and screen: 1000 V.

3.4 Insulation resistance, (500V D.C. at 20°C), on finished cables ready for delivery:  
min.100 MΩkm

### 4. PACKING AND DELIVERY

4.1 Packing : on drums or coils

4.2 Delivery length: min.100 m (or less than 100m for 20% of lot, but not less than 25 m).

On each drum shall be delivered max.3 length.

## CABLURI PENTRU TELECOMUNICATII URBANE, ARMATE, UMPLUTE CU GEL

**Norma:** ST 1-2 , rev.febr. 2000 a ROMTELECOM

**Simbol:**TU2YfsF(L)2YAb2Y

### 1. DOMENIU DE UTILIZARE

Cablurile pentru telecomunicatii urbane, armate, umplute cu gel, se utilizeaza in retele locale de telecomunicatii, pentru telefon, telegraf sau transmisii de date, putand fi ingropate direct in pamant .

### 2. DATE CONSTRUCTIVE

**2.1** Conductor din cupru electrolitic moale, cu diametre: 0.4 ; 0.6 ; 0.8 mm.

**2.2** Izolatie: polietilena foam-skin

**2.3** Numar de perechi: 2÷400

**2.4** Umplutura: masa petroliera- gel, cu rol de bariera de etanseitate longitudinala

**2.5** Ecran: folie de aluminiu placata cu polietilena-ALPET, cu rol de bariera de etanseitate transversala.

**2.6** Manta interioara: polietilena

**2.7** Armatura:benzi din otel zincate

**2.8** Manta exterioara : polietilena

**2.9** Diametrul exterior maxim al cablului: conform tabelului de mai jos

Nr perechi	Diametru conductor = 0.4 [mm]	Diametru conductor = 0.6 [mm]	Diametru conductor= 0.8 [mm]
0	1	2	3
2	8	10	-
5	10	12	-
10	11.5	14	17
20	13.5	17	20.5
30	15	19.5	24
40	16	21	26
50	17.5	23	29.5
70	19	26	35
100	22.5	30.5	39.5
150	25.5	34	-
200	29.5	40.5	-
300	34.5	48	-
400	39.5	-	-

**3. CARACTERISTICI ELECTRICE****3.1** Tensiune de utilizare: 150 V c.c**3.2** Rezistenta electrica max., la 20 ° C

Diametrul sarmei de cupru [mm]	Valoare[Ω/km]	
	individuala	medie
0.4	150	144
0.6	66.6	63.9
0.8	36.8	35.3

**3.3** Rezistenta la tensiune, fara strapungere, timpde 1 min., la o tensiune in c.c de:

Tip de izolatie	Intre conductoare[KV]	Intre conductoare si ecran [KV]
Foam-skin	0.5	1

**3.4** Rezistenta de izolatie la 20 ° C :mai mare de 5000 MΩKm**3.5** Capacitate mutuala, max.:

Numarul de perechi	Capacitate[nF/Km]	
	Media	Individuala
1. ≥ 20 perechi	55	64
2. < 20 perechi	-	64

**3.6** Atenuare de linie, maxima individuala la 800Hz si 20 ° C:

- 0.4 mm = 1.68 dB/Km
- 0.6 mm = 1.05 dB/Km
- 0.8 mm = 0.75 dB/Km

**4. LIVRARE****Cablurile se livreaza pe tamburi de lemn. Lungimea minima de livrare este de 250 m.**

## CABLURI PENTRU TELECOMUNICATII URBANE, AUTOPURTATE

**Norma:** ST 1-3 , rev.febr. 2000 a ROMTELECOM

**Simbol:**TU2YfsF(L)2Y-A

### 5. DOMENIU DE UTILIZARE

Cablurile pentru telecomunicatii urbane, autopurtate, se utilizeaza in retele locale de telecomunicatii, pentru telefon, telegraf sau transmisii de date, fiind instalate aerian, pe stalpi, cu deschiderea maxima de 50 m..

### 6. DATE CONSTRUCTIVE

**2.1** Conductor din cupru electrolitic moale, cu diametre:0.4 ; 0.6 ; 0.8 mm.

**2.2** Izolatie: polietilena foam-skin

**2.3** Numar de perechi:2÷400

**2.4** Ecran: folie de aluminiu placata cu polietilena-ALPET, cu rol de bariera de etanseitate transversala

**2.5** Manta exterioara : polietilena

**2.6** Purtatorul: funie din otel galvanizata

**2.7** Diametrul exterior maxim al cablului: conform tabelului de mai jos

Nr perechi	Diametru conductor = 0.4 [mm]	Diametru conductor= 0.6 [mm]	Diametru conductor= 0.8 [mm]
<b>0</b>	<b>1</b>	<b>2</b>	<b>3</b>
2	8	10	-
5	10	12	-
10	11.5	14	17
20	13.5	17	20.5
30	15	19.5	24
40	16	21	26
50	17.5	23	29.5
70	19	26	35
100	22.5	30.5	39.5
150	25.5	34	-
200	29.5	40.5	-
300	34.5	-	-
400	39.5	-	-

### 3.CARACTERISTICI ELECTRICE

**3.1** Tensiune de utilizare: 150 V c.c

**3.2** Rezistenta electrica max., la 20° C

Diametrul sarmei de cupru [mm]	Valoare[Ω/km]	
	individuala	medie



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0.4	150	144
0.6	66.6	63.9
0.8	36.8	35.3

**3.3** Rezistenta la tensiune, fara strapungere, timp de 1 min., la o tensiune in c.c de:

Tip de izolatie	Intre conductoare[KV]	Intre conductoare si ecran [KV]
Foam-skin	0.5	1

**3.4** Rezistenta de izolatie la 20 ° C :mai mare de 5000 MΩKm

**3.5** Capacitate mutuala, max.:

Numarul de perechi	Capacitate[nF/Km]	
	Media	Individuala
1. ≥ 20 perechi	55	64
2. < 20 perechi	-	64

**3.6** Atenuare de linie, maxima individuala la 800Hz si 20 ° C:

- 0.4 mm = 1.68 dB/Km
- 0.6 mm = 1.05 dB/Km
- 0.8 mm = 0.75 dB/Km

#### 4.LIVRARE

Cablurile se livreaza pe tamburi de lemn. Lungimea minima de livrare este de 250 m.

## CABLURI PENTRU TELECOMUNICATII URBANE, DE INTERIOR, CU INTARZIERE LA PROPAGAREA FLACARII

**Norma:** ST 1-4 , rev.febr. 2000 a ROMTELECOM

**Simbol:**TU2Yfs(L)Y-R

### 7. DOMENIU DE UTILIZARE

Cablurile pentru telecomunicatii urbane, de interior, cu intarziere la propagarea flacarii, se utilizeaza in retele locale de telecomunicatii, pentru telefon, telegraf sau transmisii de date, putand fi instalate in interiorul cladirilor.

### 8. DATE CONSTRUCTIVE

**2.1** Conductor din cupru electrolitic moale, cu diametrul:0.4 mm.

**2.2** Izolatie: polietilena foam-skin

**2.3** Numar de perechi:10÷2400

**2.4** Ecran: folie de aluminiu placata cu policlorura de vinil-ALVYN, cu rol de bariera de etanseitate transversala

**2.5** Manta exterioara : policlorura de vinil

**2.6** Diametrul exterior maxim al cablului: conform tabelului de mai jos

Nr perechi	Diametru conductor = 0.4 [mm]
0	1
10	11.5
20	13.5
30	15
40	16
50	17.5
70	19
100	22.5
150	25.5
200	29.5
300	34.5
400	39.5
600	46.5
800	53.5
900	56.0
1000	58.5
1200	63.5
1500	68.0
1800	72.0

2100	76.0
2400	80.0

### 3. CARACTERISTICI ELECTRICE

3.1 Tensiune de utilizare: 150 V c.c

3.2 Rezistenta electrica max., la 20° C

Diametrul sarmei de cupru [mm]	Valoare[Ω/km]	
	individuala	media
0.4	150	144
0.6	66.6	63.9
0.8	36.8	35.3

3.3 Rezistenta la tensiune, fara strapungere, timp de 1 min., la o tensiune in c.c de:

Tip de izolatie	Intre conductoare[KV]	Intre conductoare si ecran [KV]
Foam-skin	0.5	1

3.4 Rezistenta de izolatie la 20 ° C :mai mare de 5000 MΩKm

3.5 Capacitate mutuala, max.:

Numarul de perechi	Capacitate[nF/Km]	
	Media	Individuala
1. ≥ 20 perechi	55	64
2. < 20 perechi	-	64

3.6 Atenuare de linie, maxima individuala la 800Hz si 20 ° C:

- 0.4 mm = 1.68 dB/Km
- 0.6 mm = 1.05 dB/Km
- 0.8 mm = 0.75 dB/Km

### 4. LIVRARE

Cablurile se livreaza pe tamburi de lemn. Lungimea minima de livrare este de 300 m.

## CABLURI PENTRU TELECOMUNICATII URBANE, NEARMATE, UMPLUTE CU GEL

**Norma:** ST 1-1 , rev.febr. 2000 a ROMTELECOM

**Simbol:**TU2YfsF(L)2Y

### 9. DOMENIU DE UTILIZARE

Cablurile pentru telecomunicatii urbane, nearmate, umplute cu gel, se utilizeaza in retele locale de telecomunicatii, pentru telefon, telegraf sau transmisii de date, fiind folosite in canalizatii.

### 10. DATE CONSTRUCTIVE

**2.1** Conductor din cupru electrolitic moale, cu diametre:0.4 ; 0.6 ; 0.8 mm.

**2.2** Izolatie: polietilena foam-skin

**2.3** Numar de perechi:2÷2400

**2.4** Unitatea de baza: fascicol din 10 perechi rasucite impreuna, avand codul de culori conf. IEC 708-1 anexa A.Pentru cablurile intre150 si 600 de perechi, unitatea de baza : fascicol din 50 de perechi, iar pentru mai mult de 600 de perechi, fascicol din100 de perechi. Fiecare unitate de baza se identifica cu ajutorul benzilor polipropilenice colorate conf. IEC 708-1 anexa B(i).

**2.5** Umplutura: masa petroliera- gel, cu rol de bariera de etanseitate longitudinala

**2.6** Ecran: folie de aluminiu placata cu polietilena-ALPET, cu rol de bariera de etanseitate transversala

**2.7** Manta: polietilena

**2.8** Diametrul exterior maxim al cablului: conform tabelului de mai jos

Nr perechi	Diametru conductor= 0.4 [mm]	Diametru conductor= 0.6 [mm]	Diametru conductor= 0.8 [mm]
0	1	2	3
2	8	10	-
5	10	12	-
10	11.5	14	17
20	13.5	17	20.5
30	15	19.5	24
40	16	21	26
50	17.5	23	29.5
70	19	26	35
100	22.5	30.5	39.5
150	25.5	34	48
200	29.5	40.5	53.5
300	34.5	48	63.5
400	39.5	55	71.5
600	46.5	65.5	85
800	53.5	74	-
900	56	77.5	-
1000	58.5	-	-

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1200	63.5	-	-
1500	68	-	-
1800	72	-	-
2100	76	-	-
2400	80	-	-

### 3. CARACTERISTICI ELECTRICE

3.1 Tensiune de utilizare: 150 V c.c

3.2 Rezistenta electrica max., la 20° C

Diametrul sarmei de cupru [mm]	Valoare[Ω/km]	
	individuala	medie
0.4	150	144
0.6	66.6	63.9
0.8	36.8	35.3

3.3 Rezistenta la tensiune, fara strapungere, timp de 1 min., la o tensiune in c.c de:

Tip de izolatie	Intre conductoare[KV]	Intre conductoare si ecran [KV]
Foam-skin	0.5	1

3.4 Rezistenta de izolatie la 20° C :mai mare de 5000 MΩK/m

3.5 Capacitate mutuala, max.:

Numarul de perechi	Capacitate[nF/Km]	
	Media	Individuala
1. ≥ 20 perechi	55	64
2. < 20 perechi	-	64

3.6 Atenuare de linie, maxima individuala, la 800 Hz si 20° C:

- 0.4 mm = 1.68 dB/Km
- 0.6 mm = 1.05 dB/Km
- 0.8 mm = 0.75 dB/Km

### 4. LIVRARE

Cablurile se livreaza pe tamburi de lemn .Lungimea minima de livrare este de 250 m.

**HEAVY TOUGH RUBBER SHEATHED CABLES**

Type:

MCCG ; MCCGI; MC85CGI;MCCGIs - ST 5272/2000

1. Plain or tinned copper conductor, very flexible construction
2. Separating layer (optional)
3. Rubber insulation
4. Separating layer (optional )
5. Outer rubber sheath

**UTILIZATION**

In mobile electric installations, as supply connecting cables for mobile machine-tools, mobile motors, traction motors and agricultural equipment and for use on building sites where high mechanical stresses are encountered.

**TECHNICAL CHARACTERISTICS**

Rated voltage, $U_0/U$	450/750 V
Max. temperature on the conductor	+60°C (MCCG; MCCGI)
Max. temperature on the conductor	+85°C ( MC85CGI)
Environment temperature	- 30°C
Rubber sheath (MCCG) , oil and fire propagation resistant ( MCCGI; MC85CGI)	

Voltage test:

The cable should resist without breakdown to a voltage of 2500V, 50Hz, for 5 minutes.

No. and nominal cross-sectional area of conductors mm <sup>2</sup>	Thickness of insulation Specified value mm	Thickness of sheath Specified value mm	Approximate outer diameter mm	Copper weight kg/km	Approximate weight	
					MCCGI kg/km	MCCG MC85CGI kg/km
1x 1,5	0,8	1,4	6,0	12,0	56	55
1x 2,5	0,9	1,4	6,7	20,0	73	72
1x 4	1,0	1,5	7,6	32,3	99	98
1x 6	1,0	1,6	8,9	48,5	135	134
1x 10	1,2	1,8	10,6	85,1	211	208
1x 16	1,2	1,9	12,5	135,0	297	294
1x 25	1,4	2,0	15,2	209,0	436	432
1x 35	1,4	2,2	16,8	294,0	565	560
1x 50	1,6	2,4	19,4	422,0	765	758
1x 70	1,6	2,6	21,7	598,0	1011	1003
1x 95	1,8	2,8	24,2	790,0	1299	1290
1x 120	1,8	3,0	27,3	1020,0	1636	1624
1x 150	2,0	3,2	29,6	1274,0	1979	1965
1x 185	2,2	3,4	33,1	1565,0	2422	2405
1x 240	2,4	3,5	36,4	2071,0	3063	3044
2 x 1	0,8	1,3	8,4	16,4	106	104
2 x 1,5	0,8	1,5	9,4	24,0	134	131
2 x 2,5	0,9	1,7	11,1	40,0	193	189
2 x 4	1,0	1,8	12,8	64,6	262	257
2 x 6	1,0	2,0	15,5	97,0	382	375
2 x 10	1,2	3,1	20,8	170,2	715	701
2 x 16	1,2	3,3	24,6	270,0	1004	985
2 x 25	1,4	3,6	29,0	418,0	1422	1396
3 x 1	0,8	1,4	9,1	24,6	127	124
3 x 1,5	0,8	1,6	10,1	36,0	160	157
3 x 2,5	0,9	1,8	12,0	60,0	231	227
3 x 4	1,0	1,9	13,7	96,9	316	311
3 x 6	1,0	2,1	16,6	145,5	457	450
3 x 10	1,2	3,3	22,3	255,3	855	840
3 x 16	1,2	3,5	26,4	405,0	1203	1183
3 x 25	1,4	3,8	31,1	627,0	1713	1687
3 x 35	1,4	4,1	34,3	882,0	2178	2147
3 x 50	1,6	4,5	40,0	1266,0	2958	2916
3 x 70	1,6	4,8	44,5	1794,0	3852	3801
3 x 95	1,8	5,3	50,1	2370,0	4964	4901
4 x 1	0,8	1,5	10,2	32,8	156	153
4 x 1,5	0,8	1,7	11,3	48,0	197	193
4 x 2,5	0,9	1,9	13,4	80,0	283	279
4 x 4	1,0	2,0	15,4	129,2	389	383
4 x 6	1,0	2,3	18,8	194,0	570	561
4 x 10	1,2	3,4	24,8	340,4	1034	1018

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4 x 16	1,2	3,6	29,4	540,0	1459	1438
4 x 25	1,4	4,1	35,1	836,0	2160	2129
4 x 35	1,4	4,4	38,7	1176,0	2754	2718
4 x 50	1,6	4,8	45,0	1688,0	3736	3690
4 x 70	1,6	5,2	50,4	2392,0	4905	4848
4 x 95	1,8	5,9	57,0	3160,0	6381	6307

No. and nominal cross-sectional area of conductors mm <sup>2</sup>	Thickness of insulation Specified value mm	Thickness of sheath Specified value mm	Approximate outer diameter mm	Copper weight kg/km	Approximate weight	
					MCCGI MC85CGI kg/km	MCCG kg/km
3 x 25 + 16	1,4/1,2	4,1	33,9	627/135	1982	1954
3 x 35 + 16	1,4/1,2	4,4	36,7	882/135	2434	2402
3 x 50 + 25	1,6/1,4	4,8	42,8	1266/209	3333	3291
3 x 70 + 35	1,6/1,4	5,2	47,9	1794/294	4356	4304
3 x 95 + 50	1,8/1,6	5,9	54,6	2370/422	5724	5656
5 x 1	0,8	1,6	11,1	41,0	193	189
5 x 1,5	0,8	1,8	12,2	60,0	242	238
5 x 2,5	0,9	2,0	14,5	100,0	345	343
5 x 4	1,0	2,2	16,8	161,5	489	482
5 x 6	1,0	2,5	20,5	242,5	707	697
5 x 10	1,2	3,6	26,7	425,5	1263	1245
5 x 16	1,2	3,9	31,9	675,0	1805	1781
5 x 25	1,4	4,4	38,0	1045,0	2623	2590
7 x 1,5	0,8	2,5	15,2	84,0	362	356
7 x 2,5	0,9	2,6	17,4	140,0	495	488
12 x 1,5	0,8	2,8	19,5	144,0	573	564
12 x 2,5	0,9	3,1	22,9	240,0	815	803
19 x 1,5	0,8	3,1	22,8	228,0	808	796
19 x 2,5	0,9	3,4	26,8	380,0	1154	1139



**SHIP CABLES**

Type:

CNC 85C - STR E 1670/4-89

RUBBER INSULATED AND SHEATHED SHIP CABLES

CNC85CE - STR E 1670/4-89

RUBBER INSULATED AND SHEATHED SHIP CABLES WITH EXTERNAL  
TINNED-COPPER SHIELD.

CNC 85Cf - STR E 1670/4-89

RUBBER INSULATED AND SHEATHED VERY FLEXIBLE SHIP CABLES

CNC85C; CNC85CF

1. Copper conductor, normal or very-flexible construction

2. Separating layer

3. Rubber insulation

4. Separating layer

5. Outer rubber sheath

CNC5CE

1. Copper conductor, normal construction

2. Separating layer

3. Rubber insulation

4. Separating layer

5. Rubber sheath

6. Copper screen (braid)

**UTILIZATION**

These cables are designed as supply and connecting cables on ship boards as it follows:

- for fixed installations: CNC85C; CNC85CE
- for fixed or movable installations: CNC85Cf

**TECHNICAL CHARACTERISTICS**

Rated voltage ,U<sub>0</sub>/U

440/750 V

Max. temperature on the conductor

+85°C

Environment temperature

- 40°C

Insulation resistance (at 20°C )

min. 100MΩ/km

Voltage test:

The cable should resist without breakdown to a voltage of 2500V, 50Hz, for 5 min.

**CNC85C ; CNC85CE**

No. and nominal cross-sectional area of conductors mm <sup>2</sup>	Thickness of insulation Specified value mm	Thickness of sheath Specified value mm	Approximative outer diameter		Copper weight kg/km	Approximate weight	
			CNC85C	CNC85CE		CNC85C	CNC85CE
			mm			kg/km	
1x 1	1,0	1,0	5,4	6,6	8,1	45	91
1x 1,5	1,0	1,0	5,8	7,0	13,0	54	103
1x 2,5	1,0	1,0	6,2	7,4	22,0	68	120
1x 4	1,1	1,0	7,0	8,2	35,0	91	150
1x 6	1,1	1,1	7,7	8,9	52,0	120	184
1x 10	1,2	1,1	8,9	10,1	87,2	172	246
2 x 1	1,0	1,7	10,1	11,3	16,2	149	233
2 x 1,5	1,0	1,7	10,8	12,0	26,0	177	266
2 x 2,5	1,0	1,8	11,9	13,1	44,0	224	322
2 x 4	1,1	1,8	13,4	14,6	70,0	295	405
2 x 6	1,1	1,9	14,7	15,9	104,0	372	493
2 x 10	1,2	2,1	17,4	18,6	174,4	541	683
3 x 1	1,0	1,8	10,8	12,0	24,3	174	264
3 x 1,5	1,0	1,8	11,6	12,8	39,0	209	304
3 x 2,5	1,0	1,8	12,6	13,8	66,0	261	364
3 x 4	1,1	1,9	14,4	15,6	105,0	356	474
3 x 6	1,1	2,0	15,8	17,0	156,0	453	583
3 x 10	1,2	2,4	19,1	20,3	261,6	685	841
4 x 1	1,0	1,7	11,7	12,9	32,4	198	295
4 x 1,5	1,0	1,8	12,8	14,0	52,0	247	352
4 x 2,5	1,0	1,8	13,9	15,1	88,0	312	426
4 x 4	1,1	1,9	15,9	17,1	140,0	429	560
4 x 6	1,1	2,1	17,7	19,0	208,0	559	704
5 x 1	1,0	1,8	12,6	13,8	40,5	233	337
5 x 1,5	1,0	1,8	13,6	14,8	65,0	283	395
5 x 2,5	1,0	1,9	15,0	16,2	110,0	369	492
7x 1	1,0	1,8	13,6	14,8	56,7	285	397
7 x 1,5	1,0	1,8	14,7	15,9	91,0	351	472
7 x 2,5	1,0	1,9	16,2	17,4	154,0	463	596
12x 1	1,0	1,9	17,6	18,8	97,2	449	594
12 x 1,5	1,0	2,1	19,5	20,7	156,0	580	739
12 x 2,5	1,0	2,2	21,6	22,8	264,0	765	941
19x 1	1,0	2,2	21,0	22,2	153,9	657	829
19 x 1,5	1,0	2,3	23,0	24,2	247,0	835	1022
19 x 2,5	1,0	2,4	25,4	-	418,0	1112	-

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27x 1	1,0	2,4	25,2	-	218,7	909	-
27 x 1,5	1,0	2,6	27,9	-	351,0	1171	-
27 x 2,5	1,0	2,7	30,8	-	594,0	1560	-
37x 1	1,0	2,7	28,6	-	299,7	1197	-
37 x 1,5	1,0	2,7	31,1	-	481,0	1510	-
37 x 2,5	1,0	3,0	34,8	-	814,0	2062	-

**CNC85CF**

No. and nominal cross-sectional area of conductors mm <sup>2</sup>	Thickness of insulation Specified value mm	Thickness of sheath Specified value mm	Approximate outer diameter mm	Copper weight kg/km	Approximate weight kg/km
1x1	1,0	1,0	5,5	8,2	46
1x 1,5	1,0	1,0	5,8	12,0	53
1x 2,5	1,0	1,0	6,3	20,4	67
1x 4	1,1	1,0	7,0	32,3	88
1x 6	1,1	1,1	8,2	48,5	120
1x 10	1,2	1,1	9,1	85,1	175
1x 16	1,3	1,2	11,2	135,0	258
1x 25	1,4	1,3	13,1	209,0	370
1x 35	1,5	1,3	14,5	294,0	484
1x 50	1,6	1,4	16,7	422,0	653
1x 70	1,7	1,5	19,0	598,0	884
1x 95	1,9	1,6	21,3	790,0	1146
1x 120	2,0	1,7	24,4	1020,0	1462
1x 150	2,1	1,8	26,3	1274,0	1762
1x 185	2,3	1,8	29,4	1565,0	2147
1x 240	2,4	2,0	32,7	2071,0	2760
2 x 1	1,0	1,7	10,3	16,4	155
2 x 1,5	1,0	1,7	10,9	24,0	176
2 x 2,5	1,0	1,8	12,0	40,8	223
2 x 4	1,1	1,8	13,5	64,6	289
2 x 6	1,1	1,8	15,5	97,0	382
2 x 10	1,2	2,1	17,9	170,2	558
2 x 16	1,3	2,4	22,3	270,0	846
2 x 25	1,4	2,5	25,9	418,0	1178
2 x 35	1,5	2,7	29,1	588,0	1537
2 x 50	1,6	3,0	33,7	844,0	2076
2 x 70	1,7	3,3	38,5	1196,0	2780
2 x 95	1,9	3,5	43,1	1580,0	3556

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3 x 1	1,0	1,8	11,1	24,6	180
3 x 1,5	1,0	1,8	11,7	36,0	207
3 x 2,5	1,0	1,8	12,7	61,2	258
3 x 4	1,1	1,9	14,5	96,9	346
3 x 6	1,1	2,0	16,8	145,5	467
3 x 10	1,2	2,4	19,6	255,3	704
3 x 16	1,3	2,6	24,1	405,0	1042
3 x 25	1,4	2,9	28,4	627,0	1489
3 x 35	1,5	3,2	32,0	882,0	1964
3 x 50	1,6	3,5	37,0	1266,0	2645
3 x 70	1,9	3,8	43,0	1794,0	3637
3 x 95	1,9	4,2	47,4	2370,0	4589
3x 120	2,0	4,5	54,2	3060,0	5887

**CNC85CF**

No. and nominal cross-sectional area of conductors mm <sup>2</sup>	Thickness of insulation Specified value mm	Thickness of sheath Specified value mm	Approximate outer diameter mm	Copper weight kg/km	Approximate weight kg/km
4 x 1	1,0	1,7	12,0	32,8	205
4 x 1,5	1,0	1,8	12,9	48,0	245
4 x 2,5	1,0	1,8	14,0	81,6	308
4 x 4	1,1	1,9	16,1	129,2	416
4 x 6	1,1	2,1	19,0	194,0	572
5 x 1	1,0	1,8	13,0	41,0	251
5 x 1,5	1,0	1,8	13,7	60,0	291
5 x 2,5	1,0	1,9	15,0	102,0	371
7x 1	1,0	1,8	14,0	57,4	295
7 x 1,5	1,0	1,8	14,8	84,0	346
7 x 2,5	1,0	1,9	16,4	142,8	454
12x 1	1,0	1,9	18,1	98,4	465
12 x 1,5	1,0	2,1	19,7	144,0	570
12 x 2,5	1,0	2,2	21,9	244,8	749
19x 1	1,0	2,2	21,6	155,8	679
19 x 1,5	1,0	2,3	23,2	228,0	818
19 x 2,5	1,0	2,4	25,8	387,6	1084
27x 1	1,0	2,4	26,0	221,4	939
27 x 1,5	1,0	2,6	28,1	324,0	1147
27 x 2,5	1,0	2,7	31,2	550,8	1520
37x 1	1,0	2,7	29,4	303,4	1237
37 x 1,5	1,0	2,7	31,4	444,0	1475
37 x 2,5	1,0	3,0	35,3	754,8	2006

**FLEXIBLE SHIELDED MINING CABLES**

Type:

CMCCGCEf 1kV - STR 6069/1-83

Flexible shielded mining cables; rated voltage 1kV

Similar NSS Hou; standard VDE 0250

CMCCGCEf 6kV - STR 6069/1-83

Flexible shielded mining cables; rated voltage 6kV

Similar NTSCGEWou; standard VDE 0250

CMCCGCEf 1kV; CMCCGCEf 6kV

1. Tinned copper phase conductor, very flexible construction
2. Separating layer
3. Rubber insulation
4. Separating layer of rubber-impregnated cloth and polyester tape (optional)
5. Tinned copper wire shield
6. Separating layer of polyester tape (optional)
7. Outer rubber sheath

**UTILIZATION**

In mobile or semi-stationary equipment.

**TECHNICAL CHARACTERISTICS**

Rated voltage	1000V	:	CMCCGCEf - 1kV
	6000V	:	CKCCGCEf - 6kV

Max. temperature on the conductor: +60°C

Environment temperature : - 30°C

Test voltage :

- Cable should resist without breakdown to a voltage of 2500V, 50Hz, for 5 minutes. (CMCCGCEf- 1Kv)
- Cable should resist without breakdown to a voltage of 11000V, 50Hz, for 5 minutes. (CMCCGCEf- 6kV)

 Insulation resistance : transversal resistivity of the insulation of finished cable should be minimum  $10^{12} \Omega \text{xcm}$ 

### CMCCGCEf 1kV

No. and nominal cross-sectional area of conductors mm <sup>2</sup>	Thickness of insulation Specified value mm	Thickness of sheath Specified value mm	Approximate outer diameter mm	Copper weight kg/km	Approximate weight kg/km
3x2,5+3x2,5/3E	0,9	2,6	17,4	143,5	472
3x4+3x4/3E	1,0	3,2	20,2	192,2	640
3x6+3x6/3E	1,0	3,2	23,2	301,3	865
3x10+3x10/3E	1,2	3,6	25,9	440,8	1180
3x16+3x16/3E	1,2	3,6	29,6	634,9	1528
3x25+3x16/3E	1,4	4,1	35,2	979,1	2238
3x35+3x16/3E	1,4	4,8	39,1	1279,6	2860
3x50+3x25/3E	1,6	5,5	45,3	1733,2	3801
3x70+3x35/3E	1,6	5,5	49,4	2329,3	4737
3x95+3x50/3E	1,8	6,4	55,7	2979,7	6109

### CMCCGCEf 6kV

No. and nominal cross-sectional area of conductors mm <sup>2</sup>	Thickness of insulation Specified value mm	Thickness of sheath Specified value mm	Approximate outer diameter mm	Copper weight kg/km	Approximate weight kg/km
3x6+3x6/3E	3,8	5,5	40,5	318,5	2208
3x10+3x10/3E	3,8	6,4	43,9	472,3	2722
3x16+3x16/3E	3,8	6,4	47,5	666,3	3221
3x25+3x16/3E	4,1	6,4	52,5	976,3	3986
3x35+3x16/3E	4,1	7,3	56,9	1233,9	4781
3x50+3x25/3E	4,1	7,3	60,8	1764,6	5767
3x70+3x35/3E	4,1	7,3	64,9	2312,2	6794
3x95+3x50/3E	4,4	8,2	71,7	3179,8	8686

### ELECTRIC WELDING CABLES IN UNIQUE RUBBER SHEATH

Type:

MSudC ; MSudC-IU - ST 5226-97

1. Copper conductor, finely stranded – class 6 SR CEI 60228 + A<sub>1</sub>
2. Separating layer
3. Unique rubber sheath

#### UTILIZATION

As supply and connecting cable of the welding aggregate to the electrode holder.

#### TECHNICAL CHARACTERISTICS

Rated voltage : 120V

Max. temperature on the conductor : +60°C

Voltage test:

-after an immersion in water for 4 hours, the cable should resist without breakdown to a voltage of 1000V, 50Hz, for 15 minutes.

<b>No. and nominal cross-sectional area of conductors</b>	<b>Thickness of unique rubber sheath Specified value</b>	<b>Approximate outer diameter</b>	<b>Copper weight</b>	<b>Approximate weight</b>
<b>mm<sup>2</sup></b>	<b>mm</b>	<b>mm</b>	<b>kg/km</b>	<b>kg/km</b>
1x 16	2,0	10,3	137	229
1x 25	2,0	12,0	211	322
1x 35	2,0	13,0	297	419
1x 50	2,2	15,2	426	584
1x 70	2,4	18,0	615	822
1x 95	2,6	20,5	798	1054
1x 120	2,6	22,3	1030	1312
1x 150	3,0	24,6	1286	1641

**FLEXIBLE CABLES HAVING POLYCHLOROPRENIC ELASTOMER  
HEAVY DUTY SHEATH – 450/750 V**

Type:

**H07RN-F - HD 22.4 S3**

1. Tinner copper conductor, very flexible construction
2. Separating layer (optional)
3. Rubber insulation
4. Separating layer (optional)
5. Outer polychloroprenic rubber sheath

UTILIZATION

This cables is used for electric installations, rated voltage 450/750V.



**TECHNICAL CHARACTERISTICS**

 Rated voltage,  $U_0/U$  450/750 V

Max. temperature on the conductor: +60°C

Voltage test:

The cable should resist without breakdown to a voltage of 2500V, 50Hz, for 15 minutes.

No. and nominal cross-sectional area of conductors $\text{mm}^2$	Thickness of insulation Specified value  $\text{mm}$	Thickness of sheath Specified value  $\text{mm}$	Approximate outer diameter  $\text{mm}$	Copper weight  $\text{kg/km}$	Approximate weight  $\text{kg/km}$
1x 1,5	0,8	1,4	6,1	12,1	54
1x 25	1,4	2,0	14,4	211,1	392
1x 35	1,4	2,2	16,1	296,9	517
1x 50	1,6	2,4	18,7	426,2	713
1x 70	1,6	2,6	21,0	603,9	948
1x 120	1,8	3,0	26,6	1030,2	1540
1x 150	2,0	3,2	28,9	1286,7	1886
1x 240	2,4	3,5	35,7	2091,7	2944
2 x 1	0,8	1,3	8,4	16,6	98
2 x 1,5	0,8	1,5	9,4	24,2	125

**H07RN-F**

No. and nominal cross-sectional area of conductors $\text{mm}^2$	Thickness of insulation Specified value  $\text{mm}$	Thickness of sheath Specified value  $\text{mm}$	Approximate outer diameter  $\text{mm}$	Copper weight  $\text{kg/km}$	Approximate weight  $\text{kg/km}$
3x 1,5	0,8	1,6	10,1	36,4	149
3x 2,5	0,9	1,8	11,9	60,6	216
3x 6	1,0	2,1	16,3	146,9	417
4x 1,5	0,8	1,7	11,3	48,7	184
4x 2,5	0,9	1,9	13,4	80,8	271
4x 4	1,0	2,0	15,4	130,5	376
4x 6	1,0	2,3	18,5	195,9	534
4x 10	1,2	3,4	23,4	343,8	899
4x 16	1,2	3,6	28,2	545,4	1306
4x 25	1,4	4,1	33,9	844,4	1921
4x 50	1,6	4,8	44,0	1704,9	3435

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5x 1,5	0,8	1,8	12,2	60,6	225
5x 2,5	0,9	2,0	14,5	101,0	327
5x 4	1,0	2,2	16,8	163,1	465
5x 6	1,0	2,5	20,1	244,9	655
5x 10	1,2	3,6	25,4	429,8	1097
5x 16	1,2	3,9	30,7	681,8	1598
5x 25	1,4	4,4	36,8	1055,5	2344

### **CABLES FOR ELECTRODE HOLDERS 100/100V**

Type:

H01N2-D - HD 22.6 S2

H01N2-E - HD 22.6 S2

- 1.Copper conductor, finely stranded – class 6 SR CEI 60228 + A<sub>1</sub>
- 2.Separating layer
- 3.Outer rubber sheath

#### **UTILIZATION**

As supply and connecting cable of the welding aggregate to the electrode holder.

**TECHNICAL CHARACTERISTICS**Rated voltage,  $U_0/U$  100/100 V

Max. temperature on the conductor: +60°C

Voltage test:

-after an immersion in water for 24 hours, the cable should resist without breakdown to a voltage of 1000V, 50Hz, for 15 minutes.

**H01N2-D**

No. and nominal cross-sectional area of conductors $\text{mm}^2$	Thickness of rubber sheath Specified value $\text{mm}$	Approximate outer diameter $\text{mm}$	Copper weight $\text{kg/km}$	Approximate weight $\text{kg/km}$
1x 10	2,0	8,4	85,5	152
1x 16	2,0	10,1	140,5	225
1x 25	2,0	11,8	217,0	318
1x 35	2,0	12,8	307,0	418
1x 50	2,2	15,2	426,0	574
1x 70	2,4	17,2	610,0	796
1x 95	2,6	20,3	806,0	1044
1x 120	2,8	22,5	1020,0	1305
1x 150	3,0	24,4	1274,0	1608

**H01N2-E**

No. and nominal cross-sectional area of conductors $\text{mm}^2$	Thickness of rubber sheath Specified value $\text{mm}$	Approximate outer diameter $\text{mm}$	Copper weight $\text{kg/km}$	Approximate weight $\text{kg/km}$
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1x 10	1,2	6,8	86,8	122
1x 16	1,2	8,7	142,0	190
1x 25	1,2	10,1	217,0	274
1x 35	1,2	11,7	306,0	373
1x 50	1,5	13,9	435,5	534
1x 70	1,5	15,7	621,5	734
1x 95	1,8	18,2	827,6	983
1x 120	1,8	20,1	1058,0	1231
1x 150	1,8	22,5	1316,5	1513

**CONDUCTORS WITH SILICONIC RUBBER INSULATION FOR  
FIXED INSTALLATIONS**

Type:

**FSiff ; FffSi - STR MIET E 1170/1-88**

1. Plain or tinned copper conductor, very flexible construction
2. Rubber insulation

#### UTILIZATION

For fixed wiring in electric equipment where low mechanical stress are encountered ,  
 for a temperature range  $-55^{\circ}\text{C}$  up to  $+180^{\circ}\text{C}$ .

#### TECHNICAL CHARACTERISTICS

Rated voltage : 660 V  
 Temperature allowed on the conductor +180°C  
 Environment temperature - 55°C

#### Voltage test:

-after an immersion in water for 24 hours, the cable should resist without  
 breakdown to a voltage of 2000V, 50Hz, for 15 minutes.

#### Fsiff

No. and nominal cross-sectional area of conductors $\text{mm}^2$	Thickness of insulation Specified value	Approximate outer diameter	Copper weight	Approximate weight
	mm	mm	kg/km	kg/km
1x0,75	0,6	2,3	6,2	11
1x1	0,6	2,5	8,2	14
1x1,5	0,85	3,3	12,0	22
1x2,5	1,0	4,1	20,4	35
1x4	1,0	4,6	32,3	48
1x6	1,2	6,0	48,5	74
1x10	1,45	7,2	85,1	128
1x16	1,8	9,6	135,0	206
1x25	2,0	11,5	209,0	306
1x35	2,0	12,7	294,0	406