

U-1000 AR2V

Product group 173(E):2024-01
Rated Voltage U0/U 0,6/1 kV

CABLE STANDARDS

Table with 2 columns: Construction, Fire performance. Rows include NF C 32-321, IEC 60502-1, HD 603 S1, NF C 32-070 Cat 2, EN 60332-1 / IEC 60332-1 Flame non-propagation, EN 50575:2014+A1:2016 (CPR).

CABLE DESIGN

- 1. Conductor: Aluminium stranded class 2 according to IEC 60228 and EN 60228
2. Insulation: Cross-linked polyethylene type DIX-3 according to HD 603-1 and type (XLPE) according to IEC 60502-1. Core: Identification based to HD 308 S2. The order of the colours without Green/Yellow is as follows: 1 Core x Natural, 2 Core x Blue + Brown, 3 Core x Brown + Black + Grey, 4 Core x Blue + Brown + Black + Grey, 5 Core x Blue + Brown + Black + Grey + Black. The order of the colours with Green/Yellow is as follows: 3 Core G Blue + Brown + Green/Yellow, 4 Core G Brown + Black + Grey + Green/Yellow, 5 Core G Blue + Brown + Black + Grey + Green/Yellow.
3. Outer sheath: PVC polyvinyl chloride, type DMV-18 according to HD 603 S1, and type ST2 according to IEC 60502-1. Normal colour Black.



Marking of cables by printing on the outer sheath, according to the standard, or customer upon agreement.
The packaging labels of these cables include the CE marking according to the Construction Product Regulation UE N. 305/2011 articles 8 and 9.
Minimum content for the external marking of the cable. There may be additional marks respecting what is indicated in the cable construction regulations

GENERAL APPLICATIONS

Aluminium cable for power transmission
Low voltage power distribution cable for use in low voltage power distribution in permanent indoor and outdoor fixed installations, protected or not, in industrial areas, buildings, and similar applications.
Suitable for photovoltaic installations.

APPROVALS

Range NF USE: 1 x (16-400) mm² ; 2 x (16-35) mm² ; 3-4 x (16-240) mm² ; 5 x (16-25) mm²



CABLE SPECIFICATIONS & OTHER CHARACTERISTICS



ELECTRICAL PERFORMANCE

Rated Voltage: 0,6/1 kV A.C. (U_0/U) / 1,2 kV (U_m)
1,8 kV D.C. (U_{max})

Voltage test: Alternating Current 3,5 kV
Direct Current: 8,5 kV



CHEMICAL PERFORMANCE

Chemical & Oil resistance: good
UV resistant based on EN 50618



FIRE PERFORMANCE

Flame non-propagation
based on UNE-EN 60332-1 / IEC 60332-1 ($H \leq 425$ mm)

Reduced halogen emission. Chlorine <15%



REACTION TO FIRE (EN 50575:2014+A1:2016)

Class E_{ca}

E_{ca}: It satisfies the non-flame propagation test, without additional classifications



DECLARATION of PERFORMANCE

DoP: 007/rev.**

System 3 Notified body N. 0028



APPLICATIONS (FIXED INSTALLATION)

Industrial use

Distribution network.



APPROVALS

NF USE / CE / REACH / RoHS / CPR



PACKAGING

Available in drums.



INSTALLATION CONDITIONS

In conduit

Open Air

Buried in ground (directly or in conduit)

Suitable methods of installation

It must be respected the methods of installation established by the standards and regulations that will affect each individual case.

Minimum temperature during installation: 0°C
(on cable surface)



MECHANICAL PERFORMANCE

Impact resistance
AG2 Medium severity



MINIMUM BENDING RADIUS

D= Overall diameter of the outer cable (in mm)

Handling, during Installation and fixed:
15xD (D mm)

Minimum bending radii at cable temperature: 20 °C (± 10°C)



MAXIMUM PULLING FORCE (N)

The maximum pulling force must not exceed:

$F = 30 \times S$ (N), where "S" is the cross-sectional area of the conductors (mm²) and 30 N/mm² is the permissible tensile stress for cables with copper conductors. If the traction force is applied on the conductors

$F = 3 \times (N)$, where D = overall diameter of the cable (mm) If the traction D² force is applied on the oversheath



THERMAL PERFORMANCE

Maximum conductor temperatures:

Normal operation: 90°C

Short circuit: 250°C (t≤5s)



MINIMUM SERVICE TEMPERATURE

-40 °C (fixed and protected installations)



WATER PERFORMANCE

Water resistance:

AD7 (immersion, limited to 2 months)



OTHERS

Meter by meter marking

PHYSICAL AND ELECTRICAL CHARACTERISTICS

Alcobre Code	Cross Section	Thickness of insulation	Nominal insulation diameter	Thickness of sheath	Nominal over sheath	Nominal weight	Max. DC resistance conductor at 20°C	Max. current rating		Voltage drop
	nc x mm ²	mm	mm	mm	mm	kg/km	Ω/km	Air 30 °C	Buried 20 °C	Cos φ= 0,8 V/A.km
15102001	1x16	0,7	6,1	1,4	8,9	104	1,91	88	64	3,918
15103001	1x25	0,9	7,7	1,4	10,5	146	1,20	138	82	2,462
15104001	1x35	0,9	8,8	1,4	11,6	183	0,868	172	98	1,781
15105001	1x50	1,0	10,0	1,4	12,8	226	0,641	210	117	1,315
15106001	1x70	1,1	12,1	1,4	14,9	307	0,443	271	144	0,909
15107001	1x95	1,1	13,7	1,5	16,7	402	0,320	332	172	0,656
15108001	1x120	1,2	14,8	1,5	17,8	495	0,253	387	197	0,519
15109001	1x150	1,4	17,1	1,6	20,3	600	0,206	448	220	0,423
15110001	1x185	1,6	19,2	1,6	22,4	742	0,164	515	250	0,336
15111001	1x240	1,7	21,8	1,7	25,2	955	0,125	611	290	0,256
15112001	1x300	1,8	24,3	1,8	27,9	1.161	0,100	708	326	0,205
15129001	1x400	2,0	27,3	1,9	31,1	1.482	0,0778	856	379	0,160

- On the Air the current rating is in according to IEC 60364-5-52 table B.52.13, installation method F, for single cores.
- Buried the current rating is in accordance to IEC 60364-5-52, table B.52.5 method of installation D1 for single cores.
- Nominal values subject to variation depending on manufacturing or standard tolerance.

PHYSICAL AND ELECTRICAL CHARACTERISTICS

Alcobre Code	Cross Section	Thickness of insulation	Nominal insulation diameter	Thickness of sheath	Nominal over sheath	Nominal weight	Max. DC resistance conductor at 20°C	Max. current rating		Voltage drop
	nc x mm²	mm	mm	mm	mm	kg/km	Ω/km	Air 30 °C	Buried 20 °C	Cos φ= 0,8 V/A.km
15113001	2x16	0,7	6,1	1,8	15,8	317	1,91	91	71	3,985
15119001	2x25	0,9	7,7	1,8	18,9	462	1,20	108	90	2,548
15120001	2x35	0,9	8,8	1,8	21,2	590	0,868	174	108	1,850
15122701	3x16	0,7	6,1	1,8	16,8	361	1,91	77	59	3,482
15123001	3x25	0,9	7,7	1,8	20,2	528	1,20	97	75	2,211
15123401	3x35	0,9	8,8	1,8	22,7	678	0,868	120	90	1,632
15134001	3x50	1,0	10,0	1,8	25,2	852	0,641	146	106	1,221
15140001	3x70	1,1	12,1	1,9	29,9	1.199	0,443	187	130	0,867
15151301	3x95	1,1	13,7	2,0	33,5	1.556	0,320	227	154	0,645
15152001	3x120	1,2	14,8	2,1	36,2	1.956	0,253	263	174	0,526
15158001	3x150	1,4	17,1	2,3	41,6	2.396	0,206	304	197	0,443
15158401	3x185	1,6	19,2	2,4	46,3	3.005	0,164	347	220	0,368
15169001	3x240	1,7	21,8	2,6	52,3	3.882	0,125	409	253	0,298
15121001	3x25+16	0,9	7,7	1,8	21,2	589	1,20	110	150	1,368
15125001	3x35+16	0,9	8,8	1,8	23,3	734	0,868	135	180	1,007
15126001	3x50+25	1,0	10,0	1,8	26,4	944	0,641	149	160	1,228
15141001	3x70+35	1,1	14,3	2,0	30,5	1.117	0,443	192	197	0,874
15133001	3x95+50	1,1	16,9	2,1	34,0	1.433	0,320	235	234	0,653
15153001	3x120+70	1,2	18,8	2,2	37,7	1.848	0,253	273	266	0,533
15159001	3x150+70	1,4	21,2	2,4	42,3	2.197	0,206	316	300	0,450
15165001	3x185+95	1,6	24,0	2,5	47,3	2.808	0,164	363	337	0,375
15170001	3x240+120	1,7	27,7	2,7	53,9	3.574	0,125	430	388	0,305
15116001	4x16	0,7	6,1	1,8	18,3	426	1,91	77	59	3,482
15123501	4x25	0,9	7,7	1,8	22,2	628	1,20	97	75	2,211
15130501	4x35	0,9	8,8	1,8	24,9	810	0,868	120	90	1,632
15137501	4x50	1,0	10,0	1,9	28,0	1.035	0,641	146	106	1,221
15143501	4x70	1,1	14,3	2,0	30,6	1.230	0,443	187	130	0,867
15146501	4x95	1,1	16,9	2,1	34,1	1.583	0,320	227	154	0,645
15155501	4x120	1,2	18,8	2,3	38,0	2.043	0,253	263	174	0,526
15161001	4x150	1,4	21,2	2,4	42,4	2.455	0,206	304	197	0,443
15166501	4x185	1,6	24,0	2,6	47,5	3.159	0,164	347	220	0,368
15172001	4x240	1,7	27,7	2,8	54,1	4.016	0,125	409	253	0,298

PHYSICAL AND ELECTRICAL CHARACTERISTICS

Alcobre Code	Cross Section	Thickness of insulation	Nominal insulation diameter	Thickness of sheath	Nominal over sheath	Nominal weight	Max. DC resistance conductor at 20°C	Max. current rating		Voltage drop
	nc x mm ²	mm	mm	mm	mm	kg/km	Ω/km	Air 30 °C	Buried 20 °C	Cos φ= 0,8 V/A.km
15117501	5x16	0,7	6,1	1,8	20,0	496	1,91	77	59	3,482
15124101	5x25	0,9	7,7	1,8	24,3	735	1,20	97	75	2,211
15131001	5x35	0,9	8,8	1,8	27,4	951	0,868	120	90	1,632
15137801	5x50	1,0	10,0	2,0	31,0	1.232	0,641	146	106	1,221
15143901	5x70	1,1	12,1	2,1	36,8	1.732	0,443	187	130	0,867
15149501	5x95	1,1	13,7	2,3	41,5	2.277	0,320	227	154	0,645
15155801	5x120	1,2	14,8	2,3	44,6	2.803	0,253	263	174	0,526
15155901	5x150	1,4	17,1	2,4	51,0	3.439	0,206	304	197	0,443
15167201	5x185	1,6	19,2	2,9	57,7	4.441	0,164	347	220	0,368

- On the Air the current rating is in according to IEC 60364-5-52 table B.52.13, installation method E.
- Buried the current rating is in according to IEC 60364-5-52, table B.52.5 method of installation D1.
- Nominal values subject to variation depending on manufacturing or standard tolerance.