



Construction: **CENELEC HD 22.4.S3**  
CEI 20-19/4  
Flame propagation: **CEI EN 60332-1-2**  
Low Voltage directive: **2006/95/EC**  
RoHS directive: **2011/65/EC**

## DESCRIPTION

**Conductor:** class 5, flexible plain copper wire

**Insulation:** rubber compound

**Outer sheath:** polychloroprene or equivalent synthetic elastomer

Colour: black

Colours for core identification:

Single core: black. Two cores: blue-brown.

Three cores: brown-black-grey or blue-brown-yellow/green.

Four cores: blue-brown-black-grey or brown-black-grey-yellow/green.

Five cores: blue-brown-black-grey-black or blue-brown-black-grey-yellow/green.

Multicores: black with numbers, with or without yellow/green core.

## FUNCTIONAL CHARACTERISTICS

Rated voltage  $U_0/U$ : 450/750 V a.c. (600/1000 V d.c.)

Max. operating temperature: 60 °C (\*)

Min. operating temperature (without mechanical shocks): -40 °C

Max. short circuit temperature: 200 °C

(\*) In fixed and protected installations, the cable can be used up to 85 °C

## SPECIAL FEATURES

Good flexibility (resistant to frequent bendings) and mechanical resistance to abrasion, crushing and lacerations.

Good resistance to atmospheric agents, grease and mineral oils. Good resistance to water (AD2, AD6).

Resistant to corrosive substances (AF3). Resistant to medium severity shocks (AG2).

## INSTALLATION CONDITIONS

Minimum installation temperature: -25 °C

Recommended minimum bending radius: 6 x overall cable diameter for mobile use, 4 x overall cable diameter for static use

Recommended maximum tensile stress: 15 N/mm<sup>2</sup> of the cross-section of the copper for mobile use, 50 N/mm<sup>2</sup> for static use

## USE AND INSTALLATION METHOD

Suitable for heavy duty and mobile connections, for use indoors, outdoors, and in workshops with explosive atmospheres. Suitable for connections subject to moderate mechanical loads including electrical tools, motors, or portable machines on building sites, or agricultural applications. Can be used in temporary buildings or work site sheds. Suitable for connecting the constructional elements of lifting devices and machines. Up to 1000 V alternating or direct current in static, protected installations inside pipes or equipment, and for connecting the motors of lifting equipment.

Cables with numbered black cores are particularly suitable for connecting machine tools and for the transmission of signals and command.


**DATA SHEET**
**ST-602-001-E**
**H07RN-F**
**LOW VOLTAGE**
**Rev. 3  
13/03/2012**

Formation	Approx. conductor diameter	Average insulation thickness	Average sheath thickness	Max. overall diameter	Max. electrical resistance at 20°C	Approx. cable weight	Current rating in air at 30°C
n° x mm <sup>2</sup>	mm	mm	mm	mm	Ω/km	kg/km	A
1 x 1,5	1,5	0,8	1,4	7,1	13,3	51	16
1 x 2,5	2,0	0,9	1,4	7,9	7,98	67	25
1 x 4	2,5	1,0	1,5	9,0	4,95	92	30
1 x 6	3,0	1,0	1,6	9,8	3,30	121	38
1 x 10	4,0	1,2	1,8	11,9	1,91	186	53
1 x 16	5,0	1,2	1,9	13,4	1,21	256	71
1 x 25	6,2	1,4	2,0	15,8	0,780	368	94
1 x 35	7,4	1,4	2,2	17,9	0,554	485	117
1 x 50	8,9	1,6	2,4	20,6	0,386	668	148
1 x 70	10,5	1,6	2,6	23,3	0,272	905	185
1 x 95	12,2	1,8	2,8	26,0	0,206	1180	222
1 x 120	13,8	1,8	3,0	28,6	0,161	1460	260
1 x 150	15,4	2,0	3,2	31,4	0,129	1810	300
1 x 185	16,9	2,2	3,4	34,4	0,106	2165	341
1 x 240	19,5	2,4	3,5	38,3	0,0801	2750	407
1 x 300	21,60	2,60	3,6	41,9	0,0641	3271	468
1 x 400	24,80	2,80	3,8	46,8	0,0486	4286	553
1 x 500	28,50	3,00	4,0	52,0	0,0384	5301	634
1 x 630	32,80	3,00	4,1	57,0	0,0287	6959	742
2 x 1	1,3	0,8	1,3	10,0	19,5	93	10
2 x 1,5	1,5	0,8	1,5	11,0	13,3	115	16
2 x 2,5	2,0	0,9	1,7	13,1	7,98	165	20
2 x 4	2,5	1,0	1,8	15,1	4,95	225	34
2 x 6	3,0	1,0	2,0	16,8	3,30	300	43
2 x 10	4,0	1,2	3,1	22,6	1,91,	550	60
2 x 16	5,0	1,2	3,3	25,7	1,21	745	79
2 x 25	6,2	1,4	3,6	30,7	0,780	1060	105

Note Current ratings refer to following conditions:  
 - 3 loaded cores for single-core cables  
 - 2 loaded cores for two-core cables


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n° x mm <sup>2</sup>	mm	mm	mm	mm	Ω/km	kg/km	A
3 G 1	1,3	0,8	1,4	10,7	19,5	120	10
3 G 1,5	1,5	0,8	1,6	11,9	13,3	150	16
3 G 2,5	2,0	0,9	1,8	14,0	7,98	200	20
3 G 4	2,5	1,0	1,9	16,2	4,95	295	29
3 G 6	3,0	1,0	2,1	18,0	3,30	380	36
3 G 10	4,0	1,2	3,3	24,2	1,91	675	51
3 G 16	5,0	1,2	3,5	27,6	1,21	950	67
3 G 25	6,2	1,4	3,8	33,0	0,780	1355	89
3 G 35	7,4	1,4	4,1	37,1	0,554	1765	110
3 G 50	8,9	1,6	4,5	42,9	0,386	2415	138
3 G 70	10,5	1,6	4,8	48,3	0,272	3230	172
3 G 95	12,2	1,8	5,3	54,0	0,206	4225	204
3 G 120	13,8	1,8	5,6	60,0	0,161	5190	238
3 G 150	15,4	2,0	6,0	66,0	0,129	6415	273
3 G 185	16,9	2,2	6,4	72,0	0,106	7700	309
3 G 240	19,5	2,4	7,1	82,0	0,0801	9458	365
3 G 300	21,6	2,6	7,7	90,0	0,0641	11613	415
4 G 1	1,3	0,8	1,5	11,9	19,5	145	10
4 G 1,5	1,5	0,8	1,7	13,1	13,3	175	16
4 G 2,5	2,0	0,9	1,9	15,5	7,98	255	20
4 G 4	2,5	1,0	2,0	17,9	4,95	355	30
4 G 6	3,0	1,0	2,3	20,0	3,30	485	37
4 G 10	4,0	1,2	3,4	26,5	1,91	845	52
4 G 16	5,0	1,2	3,6	30,1	1,21	1185	69
4 G 25	6,2	1,4	4,1	36,6	0,780	1730	92
4 G 35	7,4	1,4	4,4	41,1	0,554	2250	114
4 G 50	8,9	1,6	4,8	47,5	0,386	3085	143
4 G 70	10,5	1,6	5,2	54,0	0,272	4145	178
4 G 95	12,2	1,8	5,9	61,0	0,206	5465	210
4 G 120	13,8	1,8	6,0	66,0	0,161	6670	246
4 G 150	15,4	2,0	6,5	73,0	0,129	8290	282
4 G 185	16,9	2,2	7,0	80,0	0,106	9385	319
4 G 240	19,5	2,4	7,7	91,0	0,0801	12225	377
4 G 300	21,6	2,6	8,4	100,0	0,0641	15071	430

(\*) available also without green/yellow core

 Note Current ratings refer to following conditions:  
 - 3 loaded cores

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LOW VOLTAGERev. 3  
13/03/2012

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n° x mm <sup>2</sup>	mm	mm	mm	mm	Ω/km	kg/km	A
5 G 1	1,3	0,8	1,6	13,1	19,5	180	10
5 G 1,5	1,5	0,8	1,8	14,4	13,3	220	16
5 G 2,5	2,0	0,9	2,0	17,0	7,98	310	20
5 G 4	2,5	1,0	2,2	19,9	4,95	445	30
5 G 6	3,0	1,0	2,5	22,2	3,30	605	38
5 G 10	4,0	1,2	3,6	29,1	1,91	1035	54
5 G 16	5,0	1,2	3,9	33,3	1,21	1465	71
5 G 25	6,2	1,4	4,4	40,4	0,780	2145	94

(\*) available also without green/yellow core

Note Current ratings refer to following conditions:  
- 3 loaded cores



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n° x mm <sup>2</sup>	mm	mm	mm	mm	Ω/km	kg/km	A
7 G 1,5	1,5	0,8	2,5	17,2	13,3	355	11
12 G 1,5	1,5	0,8	2,9	22,4	13,3	505	9
19 G 1,5	1,5	0,8	3,2	26,3	13,3	725	8
24 G 1,5	1,5	0,8	3,5	30,7	13,3	915	7
36 G 1,5	1,5	0,8	3,8	35,2	13,3	1300	5
7 G 2,5	2,0	0,9	2,7	20,0	7,98	495	15
12 G 2,5	2,0	0,9	3,1	26,2	7,98	710	12
19 G 2,5	2,0	0,9	3,5	30,9	7,98	1035	10
24 G 2,5	2,0	0,9	3,9	36,4	7,98	1325	9
36 G 2,5	2,0	0,9	4,3	41,8	7,98	2000	7

(\*) available also without green/yellow core

Note Current ratings refer to following conditions:  
- all cores loaded (except for the green/yellow)

**REVISION LEVEL**

3	13/03/2012	Data update	Generic application	UP03	R&I	QAC	R&IC
<b>Rev.</b>	<b>Date</b>	<b>Reason</b>	<b>Application</b>	<b>Units</b>	<b>Red.</b>	<b>Ver.</b>	<b>App.</b>