



INNOVCABLE EXTREME FIRE RESISTANT CONTROL SHIELD - IEC60331 - 0,6/1KV



- 1 -) Conductor: bare copper wires twisted in layers, class 2 - NM-280.
 - 2 -) Fire Barrier: Fire resistant mineral ceramic. IEC 60331
 - 3 -) Insulation: special cross-linked polyethylene (XLPE) 90°C, black or white colours numbered sequentially.
 - 4 -) Filament (filling) in LSZH compound, low smoke emission and halogen free
 - 5 -) Special Polyester Ribbon (if necessary)
 - 6 -) Intermediate layer: LSZH compound, low smoke emission and halogen free.
 - 7 -) Copper Tape Shielding
 - 8 -) Special Polyester Tape (if required)
 - 9 -) Outer Jacket: LSZH compound, low smoke emission and halogen free, orange colour.
- Voltage test: 3.5KV

Identification

INNOVCABLE EXTREME FIRE RESISTANT CONTROL SHIELD - IEC 60331 - _ x _mm²
_0,6/1KV - 90°C - OF XXXX: YEAR

Applicable Specifications



Construction: IEC 60228

Construction: IEC 60502-1

Flame propagation: IEC 60332-1

Flame propagation: IEC 60332-3 Categories A, B, C

Circuit Integrity: BS 6387 Categories C, W, Z

Circuit Integrity: IEC 60331 at 750°C for 3 hours

Acid gas emission: IEC 60754-2

Smoke Emission: IEC 61034

Applications

Extreme Fire Resistant Cables, are designed for exceptional flame performance. Tested according to IEC 60331, these cables withstand flames of 750°C for at least 180 minutes without short circuits and with continuity integrity (0.25mA). Cables that protect lives and assets at the highest degree of innovation and technology. They are successfully used in many applications such as foundries, steel plants, glass production, chemical industry, in the military field, among others, also used in areas where, in case of fire, all kinds of vital equipment need to remain operational. The excellent fire performance of the cable allows extra time for equipment to be saved or shut down, thus limiting unnecessary damage. It also has obvious advantages over high temperature cable types. With a life cycle that is 5 times longer than other high temperature cables the replacement of these cables is less frequent. This offers considerable cost savings along with reduced threat of degradation



situations and loss of production. They contain no asbestos and are unable to propagate fire. Are flame retardant and highly temperature resistant. Low installation and running costs.

Due to extreme high temperature performance, experience has shown that they can often be installed completely exposed. This makes installation quicker and means that the cable can be easily inspected, so that damage can be easily found.

Use and specify INNOVCABLE EXTREME FIRE RESISTANT - IEC 60331 cables in your project.

Maximum Conductor Temperature

+ 90°C, for circuit voltages (U) not exceeding 1200 volts.

Notes

OTHER CONFIGURATIONS CAN BE MANUFACTURED ON REQUEST:

1- Tinned copper conductor.

Stranding class 1, 4 or 5.

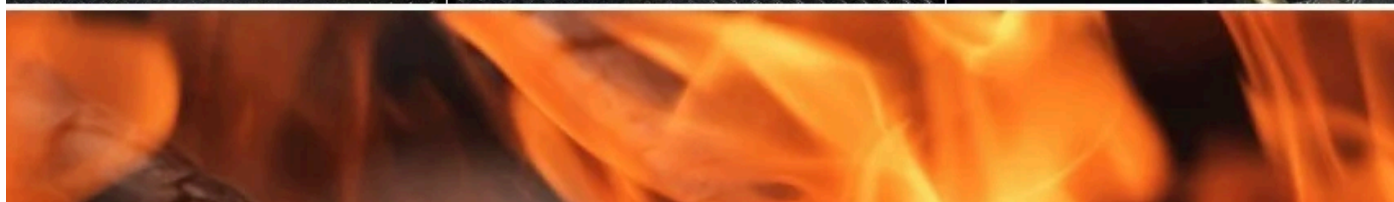
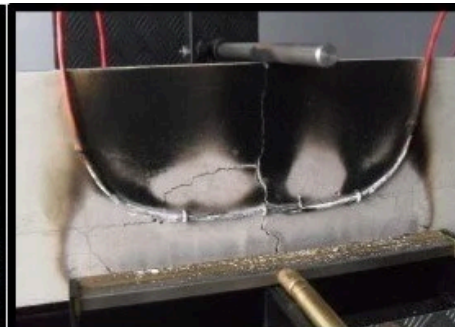
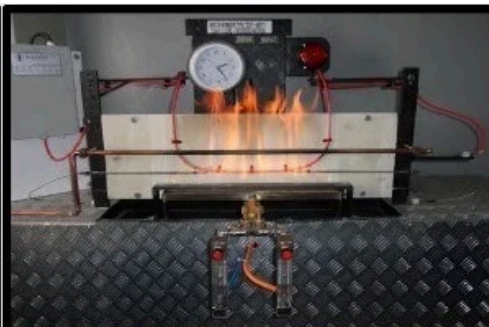
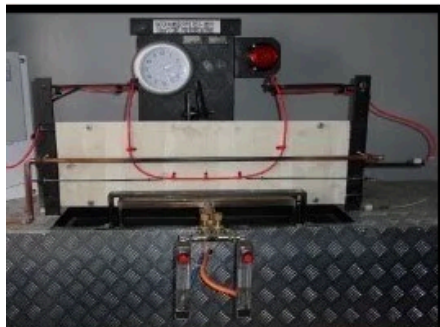
2- Vein insulation material / other temperatures.

Innovcable reserves the right to modify this catalogue without prior notice.

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innovcable





Controle 2 condutores



Controle 3 condutores



Controle 4 condutores



Controle 5 condutores



Controle 6 condutores



Controle 7 condutores



Controle 8 condutores



Controle 9 condutores



Controle 10 condutores



Controle 12 condutores



Controle 14 condutores



Controle 16 condutores



Controle 19 condutores



Controle 20 condutores



Controle 21 condutores



Controle 24 condutores



Controle 27 condutores



Controle 30 condutores



Numero de condutores	Formação			Diametro nominal isolamento mm	Diametro nominal capa intermediaria mm	Diametro nominal da capa externa mm	Diametro nominal final (Aprox.) mm	Peso do cabo (Aprox.) kg/km	Resistencia maxima condutor a 20 °C (Ω/km)	Minima resistencia isolamento a 20 °C (MΩ/km)
	Area (mm²)	Numero minimo de fios	Diametro (Aprox.) mm							
2	1.5	7	1.56	0.7	1.0	1.8	15	246	12.1	2,5
	2.5	7	2.01	0.7	1.0	1.8	16	286	7.41	2,1
	4	7	2.55	0.7	1.0	1.8	17	341	4.61	1,8
	6	7	3.12	0.7	1.0	1.8	19	407	3.08	1,5
	10	6	3.70	0.7	1.0	1.8	20	530	1.83	1,2
3	1.5	7	1.56	0.7	1.0	1.8	16	279	12.1	2,5
	2.5	7	2.01	0.7	1.0	1.8	17	331	7.41	2,1
	4	7	2.55	0.7	1.0	1.8	18	403	4.61	1,8
	6	7	3.12	0.7	1.0	1.8	19	489	3.08	1,5
	10	6	3.70	0.7	1.0	1.8	21	655	1.83	1,2
4	2	7	1.56	0.7	1.0	1.8	17	324	12.1	2,5
	2.5	7	2.01	0.7	1.0	1.8	18	389	7.41	2,1
	4	7	2.55	0.7	1.0	1.8	19	479	4.61	1,8
	6	7	3.12	0.7	1.0	1.8	21	590	3.08	1,5
	10	6	3.70	0.7	1.0	1.8	23	800	1.83	1,2
5	1.5	7	1.56	0.7	1.0	1.8	18	372	12.1	2,5
	2.5	7	2.01	0.7	1.0	1.8	19	451	7.41	2,1
	4	7	2.55	0.7	1.0	1.8	21	561	4.61	1,8
	6	7	3.12	0.7	1.0	1.8	22	696	3.08	1,5
	10	6	3.70	0.7	1.0	1.8	25	954	1.83	1,2
6	1.5	7	1.56	0.7	1.0	1.8	19	422	12.1	2,5
	2.5	7	2.01	0.7	1.0	1.8	21	516	7.41	2,1
	4	7	2.55	0.7	1.0	1.8	22	646	4.61	1,8
	6	7	3.12	0.7	1.0	1.8	24	806	3.08	1,5
	10	6	3.70	0.7	1.0	1.8	27	1,113	1.83	1,2
7	1.5	7	1.56	0.7	1.0	1.8	19	441	12.1	2,5
	2.5	7	2.01	0.7	1.0	1.8	21	544	7.41	2,1
	4	7	2.55	0.7	1.0	1.8	22	688	4.61	1,8
	6	7	3.12	0.7	1.0	1.8	24	866	3.08	1,5
	10	6	3.70	0.7	1.0	1.8	27	1,21	1.83	1,2



Numero de condutores	Formação			Diametro nominal isolamento mm	Diametro nominal capa intermediaria mm	Diametro nominal da capa externa mm	Diametro nominal final (Aprox.) mm	Peso do cabo (Aprox.) kg/km	Resistencia maxima condutor a 20 °C (Ω/km)	Minima resistencia isolamento a 20 °C (MΩ/km)
	Area (mm²)	Numero minimo de fios	Diametro (Aprox.) mm							
8	1.5	7	1.56	0.7	1.0	1.8	21	493	12.1	2,5
	2.5	7	2.01	0.7	1.0	1.8	22	610	7.41	2,1
	4	7	2.55	0.7	1.0	1.8	24	775	4.61	1,8
	6	7	3.12	0.7	1.0	1.8	26	979	3.08	1,5
	10	6	3.70	0.7	1.0	1.9	29	1,387	1.83	1,2
9	1.5	7	1.56	0.7	1.0	1.8	22	546	12.1	2,5
	2.5	7	2.01	0.7	1.0	1.8	23	678	7.41	2,1
	4	7	2.55	0.7	1.0	1.8	25	866	4.61	1,8
	6	7	3.12	0.7	1.0	1.8	27	1,095	3.08	1,5
	10	6	3.70	0.7	1.0	1.9	31	1,562	1.83	1,2
10	1.5	7	1.56	0.7	1.0	1.8	23	611	12.1	2,5
	2.5	7	2.01	0.7	1.0	1.8	25	760	7.41	2,1
	4	7	2.55	0.7	1.0	1.8	27	970	4.61	1,8
	6	7	3.12	0.7	1.0	1.9	30	1,243	3.08	1,5
	10	6	3.70	0.7	1.0	2.0	34	1,776	1.83	1,2
11	1.5	7	1.56	0.7	1.0	1.8	23	629	12.1	2,5
	2.5	7	2.01	0.7	1.0	1.8	25	788	7.41	2,1
	4	7	2.55	0.7	1.0	1.8	27	1,013	4.61	1,8
	6	7	3.12	0.7	1.0	1.9	30	1,303	3.08	1,5
	10	6	3.70	0.7	1.0	2.0	34	1,873	1.83	1,2
12	1.5	7	1.56	0.7	1.0	1.8	24	667	12.1	2,5
	2.5	7	2.01	0.7	1.0	1.8	26	838	7.41	2,1
	4	7	2.55	0.7	1.0	1.8	28	1,08	4.61	1,8
	6	7	3.12	0.7	1.0	1.9	31	1,4	3.06	1,5
	10	6	3.70	0.7	1.2	2.1	36	2,062	1.83	1,2
13	1.5	7	1.56	0.7	1.0	1.8	25	718	12.1	2,5
	2.5	7	2.01	0.7	1.0	1.8	27	904	7.41	2,1
	4	7	2.55	0.7	1.0	1.8	29	1,168	4.61	1,8
	6	7	3.12	0.7	1.0	1.9	32	1,514	3.08	1,5
	10	6	3.70	0.7	1.2	2.1	37	2,23	1.83	1,2



Numero de condutores	Formação			Diametro nominal isolamento mm	Diametro nominal capa intermediaria mm	Diametro nominal da capa externa mm	Diametro nominal final (Aprox.) mm	Peso do cabo (Aprox.) kg/km	Resistencia maxima condutor a 20 °C (Ω/km)	Minima resistencia isolamento a 20 °C (MΩ/km)
	Area (mm²)	Numero minimo de fios	Diametro (Aprox.) mm							
14	2	7	1.56	0.7	1.0	1.8	25	737	12.1	2,5
	2.5	7	2.01	0.7	1.0	1.8	27	932	7.41	2,1
	4	7	2.55	0.7	1.0	1.9	30	1,224	4.61	1,8
	6	7	3.12	0.7	1.0	2.0	32	1,59	3.08	1,5
	10	6	3.70	0.7	1.2	2.1	37	2,327	1.83	1,2
15	1.5	7	1.56	0.7	1.0	1.8	26	792	12.1	2,5
	2.5	7	2.01	0.7	1.0	1.8	28	1,003	7.41	2,1
	4	7	2.55	0.7	1.0	1.9	31	1,323	4.61	1,8
	6	7	3.12	0.7	1.0	2.0	34	1,719	3.08	1,5
	10	6	3.70	0.7	1.2	2.1	39	2,506	1.83	1,2
16	1.5	7	1.56	0.7	1.0	1.8	26	811	12.1	2,5
	2.5	7	2.01	0.7	1.0	1.8	28	1,031	7.41	2,1
	4	7	2.55	0.7	1.0	1.9	31	1,366	4.61	1,8
	6	7	3.12	0.7	1.0	2.0	34	1,779	3.08	1,5
	10	6	3.70	0.7	1.2	2.2	39	2,622	1.83	1,2
17	2	7	1.56	0.7	1.0	1.8	27	869	12.1	2,5
	2.5	7	2.01	0.7	1.0	1.8	30	1,106	7.41	2,1
	4	7	2.55	0.7	1.0	1.9	33	1,463	4.61	1,8
	6	7	3.12	0.7	1.2	2.1	36	1,959	3.08	1,5
	10	6	3.70	0.7	1.2	2.2	41	2,808	1.83	1,2
18	1.5	7	1.56	0.7	1.0	1.8	27	887	12.1	2,5
	2.5	7	2.01	0.7	1.0	1.9	30	1,148	7.41	2,1
	4	7	2.55	0.7	1.0	2.0	33	1,522	4.61	1,8
	6	7	3.12	0.7	1.2	2.1	36	2,019	3.08	1,5
	10	6	3.70	0.7	1.2	2.2	41	2,906	1.83	1,2
19	1.5	7	1.56	0.7	1.0	1.8	27	906	12.1	2,5
	2.5	7	2.01	0.7	1.0	1.9	30	1,176	7.41	2,1
	4	7	2.55	0.7	1.0	2.0	33	1,564	4.61	1,8
	6	7	3.12	0.7	1.2	2.1	36	2,08	3.08	1,5
	10	6	3.70	0.7	1.2	2.2	41	3,002	1.83	1,2



Numero de condutores	Formação			Diametro nominal isolamento mm	Diametro nominal capa intermediária mm	Diametro nominal da capa externa mm	Diametro nominal final (Aprox.) mm	Peso do cabo (Aprox.) kg/km	Resistencia maxima condutor a 20 °C (Ω/km)	Minima resistencia isolamento a 20 °C (MΩ/km)
	Area (mm²)	Numero minimo de fios	Diametro (Aprox.) mm							
20	1.5	7	1.56	0.7	1.0	1.8	29	966	12.1	2,5
	2.5	7	2.01	0.7	1.0	1.9	31	1,26	7.41	2,1
	4	7	2.55	0.7	1.0	2.0	34	1,672	4.61	1,8
	6	7	3.12	0.7	1.2	2.1	38	2,214	3.08	1,5
	10	6	3.70	0.7	1.2	2.3	43	3,214	1.83	1,2
21	1.5	7	1.56	0.7	1.0	1.8	29	985	12.1	2,5
	2.5	7	2.01	0.7	1.0	1.9	31	1,288	7.41	2,1
	4	7	2.55	0.7	1.0	2.0	34	1,715	4.61	1,8
	6	7	3.12	0.7	1.2	2.1	38	2,274	3.08	1,5
	10	6	3.70	0.7	1.2	2.3	43	3,311	1.83	1,2
22	1.5	7	1.56	0.7	1.0	1.8	30	1,047	12.1	2,5
	2.5	7	2.01	0.7	1.0	1.9	33	1,367	7.41	2,1
	4	7	2.55	0.7	1.2	2.1	37	1,873	4.61	1,8
	6	7	3.12	0.7	1.2	2.2	40	2,43	3.08	1,5
	10	6	3.70	0.7	1.2	2.3	45	3,508	1.83	1,2
23	1.5	7	1.56	0.7	1.0	1.9	30	1,079	12.1	2,5
	2.5	7	2.01	0.7	1.0	2.0	33	1,411	7.41	2,1
	4	7	2.55	0.7	1.2	2.1	37	1,914	4.61	1,8
	6	7	3.12	0.7	1.2	2.2	40	2,49	3.08	1,5
	10	6	3.70	0.7	1.2	2.4	46	3,627	1.83	1,2
24	1.5	7	1.56	0.7	1.0	1.9	32	1,16	12.1	2,5
	2.5	7	2.01	0.7	1.0	2.0	35	1,513	7.41	2,1
	4	7	2.55	0.7	1.2	2.1	38	2,041	4.61	1,8
	6	7	3.12	0.7	1.2	2.3	42	2,672	3.08	1,5
	10	6	3.70	0.7	1.4	2.5	49	3,926	1.83	1,2
25	1.5	7	1.56	0.7	1.0	1.9	32	1,18	12.1	2,5
	2.5	7	2.01	0.7	1.0	2.0	35	1,542	7.41	2,1
	4	7	2.55	0.7	1.2	2.1	38	2,083	4.61	1,8
	6	7	3.12	0.7	1.2	2.3	42	2,732	3.08	1,5
	10	6	3.70	0.7	1.4	2.5	49	4,024	1.83	1,2



Numero de condutores	Formação			Diametro nominal isolamento mm	Diametro nominal capa intermediaria mm	Diametro nominal da capa externa mm	Diametro nominal final (Aprox.) mm	Peso do cabo (Aprox.) kg/km	Resistencia maxima condutor a 20 °C (Ω/km)	Minima resistencia isolamento a 20 °C (MΩ/km)
	Area (mm²)	Numero minimo de fios	Diametro (Aprox.) mm							
26	1.5	7	1.56	0.7	1.0	1.9	32	1,198	12.1	2,5
	2.5	7	2.01	0.7	1.0	2.0	35	1,57	7.41	2,1
	4	7	2.55	0.7	1.2	2.1	38	2,126	4.61	1,8
	6	7	3.12	0.7	1.2	2.3	42	2,792	3.08	1,5
	10	6	3.70	0.7	1.4	2.5	49	4,12	1.83	1,2
27	2	7	1.56	0.7	1.0	1.9	32	1,24	12.1	2,5
	2.5	7	2.01	0.7	1.0	2.0	35	1,626	7.41	2,1
	4	7	2.55	0.7	1.2	2.2	39	2,221	4.61	1,8
	6	7	3.12	0.7	1.2	2.3	43	2,895	3.08	1,5
	10	6	3.70	0.7	1.4	2.5	50	4,273	1.83	1,2
28	1.5	7	1.56	0.7	1.0	1.9	33	1,305	12.1	2,5
	2.5	7	2.01	0.7	1.0	2.0	36	1,701	7.41	2,1
	4	7	2.55	0.7	1.2	2.2	41	2,323	4.61	1,8
	6	7	3.12	0.7	1.2	2.3	45	3,026	3.08	1,5
	10	6	3.70	0.7	1.4	2.5	51	4,464	1.83	1,2
29	1.5	7	1.56	0.7	1.0	1.9	33	1,323	12.1	2,5
	2.5	7	2.01	0.7	1.2	2.1	37	1,784	7.41	2,1
	4	7	2.55	0.7	1.2	2.2	41	2,366	4.61	1,8
	6	7	3.12	0.7	1.2	2.3	45	3,087	3.08	1,5
	10	6	3.70	0.7	1.4	2.5	51	4,561	1.83	1,2
30	1.5	7	1.56	0.7	1.0	2.0	34	1,359	12.1	2,5
	2.5	7	2.01	0.7	1.2	2.1	37	1,812	7.41	2,1
	4	7	2.55	0.7	1.2	2.2	41	2,407	4.61	1,8
	6	7	3.12	0.7	1.2	2.3	45	3,147	3.08	1,5
	10	6	3.70	0.7	14.0	2.6	52	4,683	1.83	1,2