PRYSMIAN
CABLES & SYSTEMS

FIRE RESISTANT CABLES

FP100®

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FIRE RESISTANT CABLES

FP100®

Certificate No 077c

FP100®

> Prysmian FP100® is the original fire resistant single core cable for use in metal conduits or trunking to achieve a highly robust fire resistant wiring system. It maintains circuit integrity during a fire both when tested in free air or in a metallic conduit. When burnt, it produces very low levels of smoke and virtually no (less than 0.5%) acidic gases, thus safeguarding human life and protecting equipment.

Through the use of a dual layer insulation system, FP100® offers fire resistance combined with abrasion and damage resistance, making it an excellent choice both for upgrading existing conduit based systems to current essential safety circuit standards or new installations.

Systems based upon standard pvc cables, even when protected by metal conduit, have been shown to fail within minutes in a fire. Therefore they are no longer permitted by BS5839-1 or BS5266-1 for fire alarm or emergency lighting systems, as they do not ensure prolonged operation in the event of a fire.

APPROVALS

> Prysmian FP100® is Loss Prevention Certification Board (LPCB) listed as a fire resistant cable. The LPCB range approval is given on the basis of (i) satisfactory testing at an enhanced voltage of 600/1000V to BS6387 category CWZ when tested in steel conduit and the conduit is considered as the metallic layer required by BS6387, for those sizes capable of fitting within the test conduit, and (ii) satisfactory testing to IEC60331-21 at an enhanced temperature of 950°C for those sizes too large to fit in the test conduit.

Additional tests have demonstrated the ability of FP100® to achieve a 120 minute rating (PH120) to BS EN50200 and a 120 minute rating to BS8434-2 when tested in a steel conduit. These tests demonstrate the ability of FP100® to meet the fire resistance requirements necessary for use in "enhanced" installations in accordance with BS5839-1:2002 and "Cable systems with an inherently high resistance to attack by fire" in accordance with BS5266-1:2005.

Prysmian FP100® cables are manufactured under an ISO9001 Quality Management System certified by BASEC and LPCB.

INSTALLATION

> Prysmian FP100® may be considered as a low smoke conduit wire to BS7211 for the purposes of installation, and should be installed in accordance with BS7671/IEE Wiring Regulations, or any other appropriate national regulations. It is suitable for installation in surface mounted or embedded conduits and trunking, or other similar fixed protected installations. For surface systems, the use of a metallic conduit or trunking is recommended to ensure integrity of the system in the event of fire. For fully embedded systems protected by a non combustible layer, non metallic conduit or trunking may be used.

CABLE CHARACTERISTICS

Temperature Range
-25 to +90°C

Bending Radius
up to 8mm diameter r=4D
above 8mm diameter r=6D

Mechanical impact
Requires protection

Fire Performance
BSEN60332-1-2

Flexibility
Semi-flexible

Halogen Free
BSEN50267-2-1

Low Smoke Emissions
BSEN61034-2

Fire Resistant
IEC 60331-21
BS6387 Category CWZ*
EN50200 PH120*
BS8434-2 120min*
*When tested in Steel Conduit

PRYSMIAN CABLES & SYSTEMS

FIRE RESISTANT CABLES 600/1000V

KEY APPLICATIONS

> Essential safety circuits where the cable is protected by metal conduit or trunking.

> May be used for emergency lighting, fire alarm systems not requiring a twisted cable or other essential services.

CABLE DESCRIPTION

CONDUCTOR

Plain annealed copper stranded (class 2) conductor for flexibility.

PRIMARY INSULATION

Mineral ceramic (Mica/Glass) fire resistant tape.

SECONDARY INSULATION

90°C high performance cross linked mineral filled insulation.

CORE IDENTIFICATION

o red o brown o black o yellow o orange

o grey o blue o green/yellow

Other core colours available on request

Nominal cross sectional area	Approximate overall diameter	Approximate cable weight	Maximum conductor resistance at 20°C	Short circuit rating (1 sec)	Current rating DC or single phase AC	Current rating Three phase AC	Volt drop DC	Volt drop Single phase AC	Volt drop Three phase AC
mm²	mm	kg/km	ohms/km	Amps	Amps	Amps	mV/A/m	mV/A/m	mV/A/m
Single Core									
1 .5*	3.5	26	12.1	215	23	20	31	31	27
2.5*	4.1	38	7.41	360	31	28	19	19	16
4*	4.6	54	4.61	570	42	37	12	12	10
6*	5.2	75	3.08	860	54	48	7.9	7.9	6.8
10*	6.6	120	1.83	1425	75	66	4.7	4.7	4
16	7.7	180	1.15	2275	100	88	2.9	2.9	2.5
25	9.0	270	0.727	3375	133	117	1.85	1.9	1.65
35	10.0	360	0.524	5000	164	144	1.35	1.35	1.15
50	11.7	490	0.387	7150	198	175	0.99	1.05	0.9
70	13.2	680	0.268	10000	253	222	0.68	0.75	0.65
95	15.3	940	0.193	13575	306	269	0.49	0.58	0.5
120	16.8	1160	0.153	17150	354	312	0.39	0.48	0.42
150	18.7	1440	0.124	21450	393	342	0.32	0.43	0.37
185	20.8	1800	0.0991	26450	449	384	0.25	0.37	0.32
240	23.5	2350	0.0754	34325	528	450	0.19	0.33	0.29
300	27.3	3000	0.0601	42925	603	514	0.155	0.31	0.27
400	32.5	3970	0.0470	57225	683	584	0.120	0.29	0.25
500	36.0	4980	0.0366	71525	783	666	0.093	0.28	0.24
630	40.0	6340	0.0283	90125	900	764	0.072	0.27	0.23

* Sizes 1.5 - 10mm² are rated at 450/750V.
Installation methods for current rating "Enclosed in conduit on a wall or in trunking" in accordance with BS7671/IEE Wiring Regulations.
Minimum recommended installation temperature -5°C.
The tabulated ratings are based upon a 30°C ambient temperature at 90°C operating temperature.
For other ambient temperatures or where several circuits are grouped together, the following rating factors should be applied.

Temperature rating factors

Ambient Temperature°C	25	30	35	40	45	50	55	60
Rating factor	1.02	1.00	0.96	0.91	0.87	0.82	0.76	0.71

Rating factors for groupings

Number of circuits	2	3	4	5	6	7	8	9
Rating factor	0.80	0.70	0.65	0.60	0.57	0.54	0.52	0.50