FIREBAR®

TOTAL SAFETY
FIRE RESISTANT CABLE

WATER SPRAY
WATER IMMERSION

LOW VOLTAGE
BS 7846:2000 CAT. F3

MEDIUM VOLTAGE
BS 7846:2009 CAT. F60 BS 8491:2008

CABLESERVICE
CCI
ControlCavi Industria

FIREBAR® LOW VOLTAGE CABLES - TOTAL SAFETY

Anti-fire devices are usually powered by Fire Resistant cables.

During a fire and the subsequent operations to put it out the continuos efficiency of such devices guarantees reduction in the loss of human lives.

Traditional electric Fire Resistant cables, even if of an excellent quality and still functioning, can do nothing against the sprays of water from the Fire Fighters' fire hydrants : one single spray results in an instantaneous short circuit in the cables and the simultaneous halt of the above mentioned anti-fire devices.

If these devices do not function continuously, it may be impossible for Fire Fighters to rescue in time all the people involved, with tragic results.

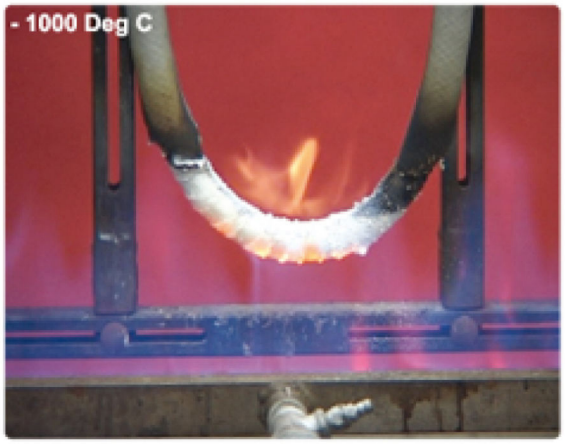
Taking as reference Standard BS 7846 cat. F3, that also stipulates resistance to Water Spray, CCI has developed FIREBAR®, the new generation Fire Resistant cable that guarantees total safety

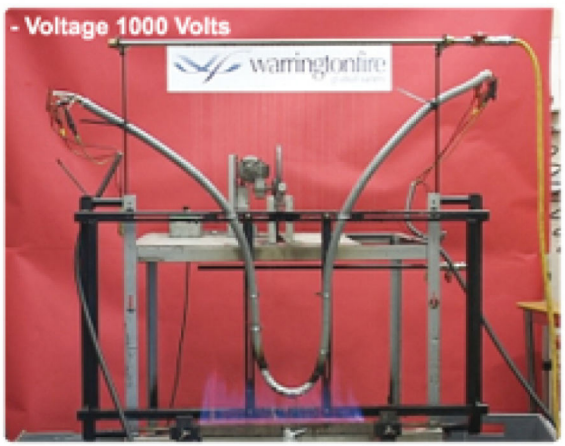
European Patent n° 06023303.8
U.S.A. Patent n° US 7,378,595 B2

After simulating the mechanical "pulling & bending" stresses, inevitable during installation, seven different formations of cable have been tested at the laboratories of WARRINGTONFIRE Global Safety in Warrington - ENGLAND, with the request to exasperate the parameters prescribed by Standard BS 7846 cat. F3 (as shown by the official Test Reports).

FIREBAR® protection can be used in the production of either thermoplastic or elastomeric cables.
(see official WARRINGTONFIRE Test Reports).

This result was achieved without making any changes to the dimensions and handling capacities of traditional Fire Resistant cables, with a negligible increase in cost.





FIREBAR® - THE TOTAL SAFETY CABLE

CABLESERVICE
CCI
ControlCavi Industria

FIREBAR® MEDIUM VOLTAGE CABLES - TOTAL SAFETY

Following the success of the Low Voltage FIREBAR® Control Cavi Industria extended such manufacturing concepts to Medium Voltage cables, up to the level of 12/20 KV.
Since no external laboratories existed, equipped with specific Fire Testing apparatus beyond the voltage level of 0.6/1 KV, the test equipment prescribed by BS 7846:2009 and BS 8491:2008 standards had to be strengthened in order to be also able to carry out tests on cables that easily reach considerable external diameters and Weight/meter, witnessed by three Certification Body Surveyors.

The test procedures of the above mentioned BS 7846 Category F60 standard are a severe test for a Medium Voltage Fire Resistant cable, to a flame temperature beyond 830°C, mechanical shocks applied straight onto the cable for a period of 60 minutes and subsequent jets of water.

Therefore, as in the case of FIREBAR® Low Voltage cables, the burned part of medium voltage cables is also deliberately immersed in water while still carrying Tension, with the specific purpose of demonstrating that the cable remains electrically intact for the duration of the Fire Fighters' labour, offering assistance in their crucial job, continuously supplying the whole electrical system including fire-fighting equipments and the emergency lights indicating escape routes.

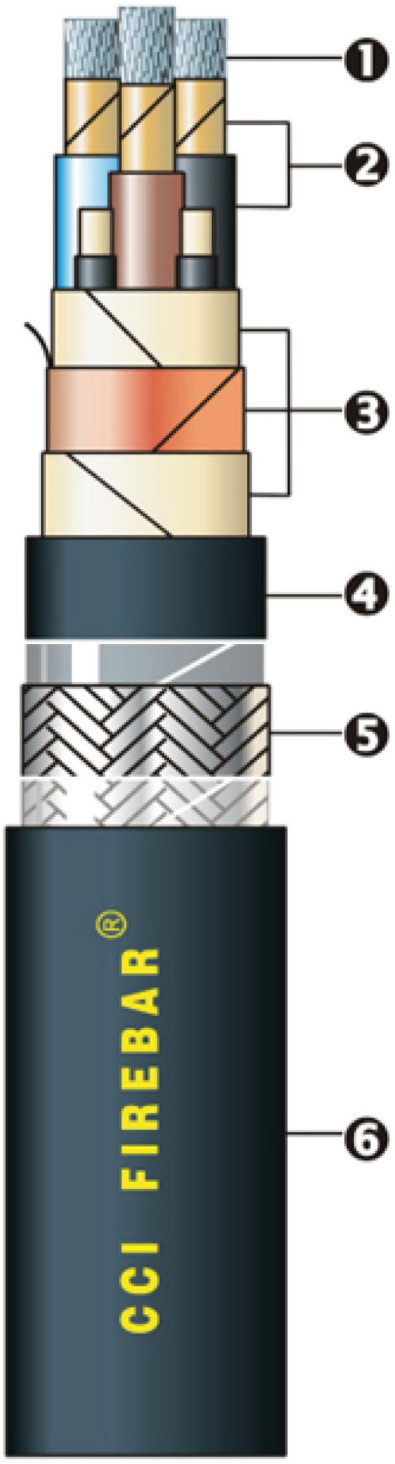
FIREBAR® - THE TOTAL SAFETY CABLE

CABLESERVICE reserves the right to modify at any time the technical characteristics shown in this brochure anyhow always in accordance to the mentioned Standards in case it improves the features of its products.

Flexible FIREBAR®

POWER & CONTROL 0,6/1 kV

FIRE & WATER SPRAY RESISTANT to BS 7846:2000 Cat. F3



Design and construction	IEC 60092-353
Nominal voltage **Uo/U/Um**	**0,6 / 1 /1,2 kV**
Maximum rated temperature	95° C
Flame retardancy	IEC 60332-3-22 Cat A
Fire Resistance - Mechanical Shocks - Water Spray	**BS 7846 : 2000 Cat F3**
Corrosivity	IEC 60754-1 / 2
Smoke density	IEC 61034-1 / 2
on request:	
• MUD resistance	NEK 606:2009 (par. 3) when SHF2 MUD
• Cold Bend and Impact test (-40°C)	CSA C 22.2 N° 0.3-01 & N° 38-05

Construction Data

1 CONDUCTOR	Tinned annealed **Flexible** copper **class 2** IEC 60228
2 INSULATION	Mica-glass tape + enhanced Silicon rubber
FILLERS **(≥ 10 mm²)**	Fibreglass ropes, silicon sheathed
3 **FIREBAR® protection**	• Fibreglass tapes overlapped 50 % • Cu-PET tapes with tinned copper drain wire • Fibreglass tapes overlapped 50 %
4 INNER SHEATH	LSOH compound
5 ARMOUR	TCWB or GSWB or PBWB
6 OUTER SHEATH	**SHF1** or **SHF2** or **SHF MUD**

Core identification

1 core	black	**4 cores**	black brown white light blue
2 cores	black light blue	**5 cores and above**	white & numbered
3 cores	black brown light blue		

Sheath colour	black

Minimal Sheath Marking

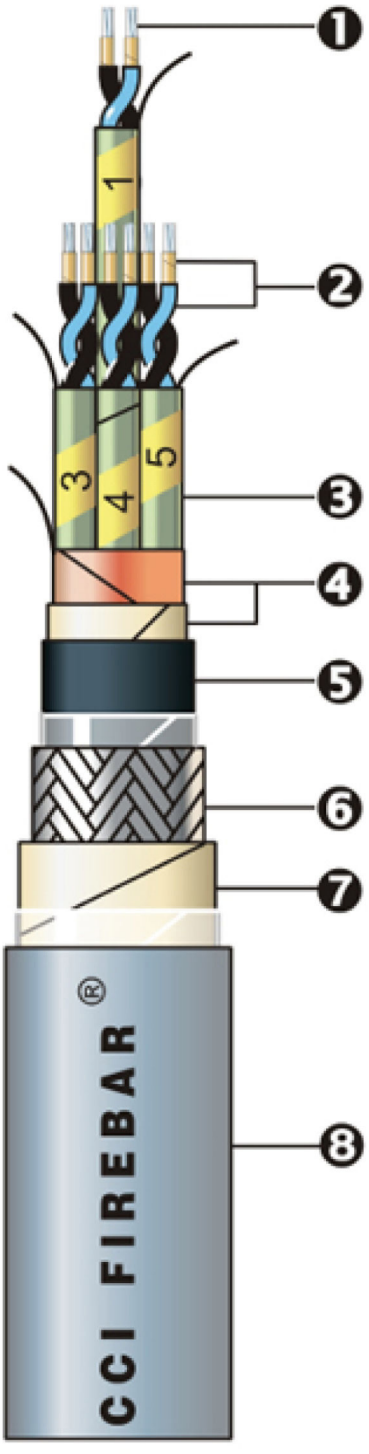
CCI FIREBAR® voltage rate IEC 60092-353 IEC 60332-2-22 Cat A
BS 7846:2000 Cat F3 meter marking year QA n°

CABLESERVICE
CCI
ControlCavi Industria

Flexible FIREBAR®

INSTRUMENTATION (ic) 150/250 V

FIRE & WATER SPRAY RESISTANT to BS 7846:2000 Cat. F3



Design and construction	IEC 60092-376
Nominal voltage **Uo / U**	**150/250 V**
Maximum rated temperature	95° C
Flame retardancy	IEC 60332-3-22 Cat A
Fire Resistance - Mechanical Shocks - Water Spray	**BS 7846 : 2000 Cat F3**
Corrosivity	IEC 60754-1/2
Smoke density	IEC 61034-1/2
on request:	
• MUD resistance	NEK 606:2009 (par. 3) when SHF2 MUD
• Cold Bend and Impact test (-40°C)	CSA C 22.2 N° 0.3-01 & N° 38-05

Construction Data

1 CONDUCTOR	Tinned annealed F**lexible** copper **class 2** IEC 60228
2 INSULATION	Mica-glass tape + Fibreglass tape + Enhanced Silicon rubber
3 INDIVIDUAL SCREEN	PET tape + Al-PET tape with tinned copper drain wire + overall PET tape
4 COLLECTIVE SCREEN	Cu-PET tapes with tinned copper drain wire + overall fibreglass tapes overlapped 50 %
5 INNER SHEATH	LSOH compound
6 ARMOUR	TCWB or GSWB
7 **FIREBAR® protection**	Fibreglass tapes overlapped 50 %
8 OUTER SHEATH	**SHF1** or **SHF2** or **SHF MUD**

Core identification

Pair	black	light blue	
Triple	black	ligth blue	brown

Individual pair/triple progressively identified by PET yellow tapes numbered in black and protected by additional transparent PET tape

Sheath colour Grey

Minimal Sheath Marking

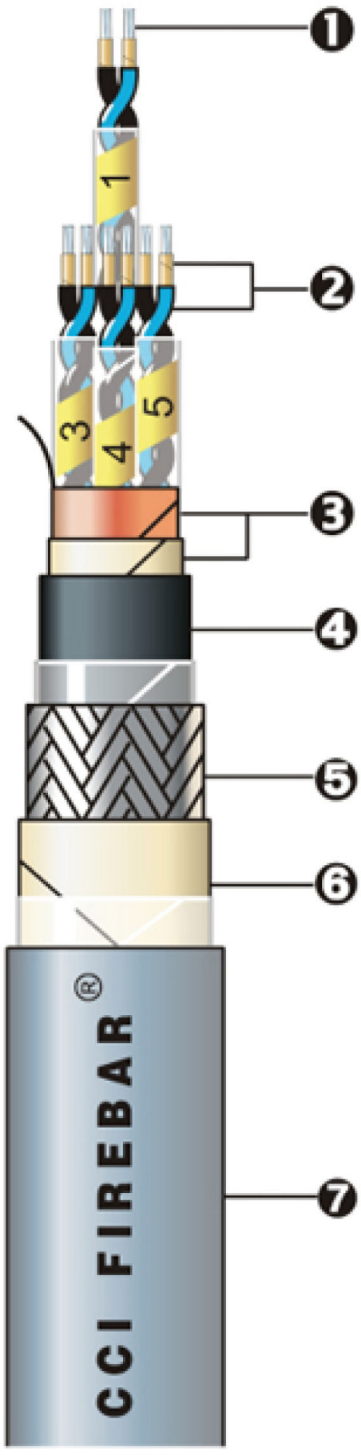
CCI FIREBAR® (IC) 150/250 V IEC 60092-376 IEC 60332-3-22 Cat A
BS 7846:2000 Cat F3 meter marking year QA n°

CABLESERVICE
CCI
ControlCavi Industria

Flexible FIREBAR®

INSTRUMENTATION (c) 150/250 V

FIRE & WATER SPRAY RESISTANT to BS 7846:2000 Cat. F3



Design and construction	IEC 60092-376
Nominal voltage **Uo / U**	**150/250 V**
Maximum rated temperature	95° C
Flame retardancy	IEC 60332-3-22 Cat A
Fire Resistance - Mechanical Shocks - Water Spray	**BS 7846 : 2000 Cat F3**
Corrosivity	IEC 60754-1/2
Smoke density	IEC 61034-1/2
on request:	
• MUD resistance	NEK 606:2009 (par. 3) when SHF2 MUD
• Cold Bend and Impact test (-40°C)	CSA C 22.2 N° 0.3-01 & N° 38-05

Construction Data

1 CONDUCTOR	Tinned annealed F**lexible** copper **class 2** IEC 60228
2 INSULATION	Mica-glass tape + Fibreglass braid + Enhanced Silicon rubber
3 COLLECTIVE SCREEN	Cu-PET tapes with tinned copper drain wire + overall fibreglass tapes overlapped 50 %
4 INNER SHEATH	LSOH compound
5 ARMOUR	TCWB or GSWB
6 **FIREBAR® protection**	Fibreglass tapes overlapped 50 %
7 OUTER SHEATH	**SHF1** or **SHF2** or **SHF MUD**

Core identification

Pair	black	light blue	
Triple	black	ligth blue	brown

Individual pair/triple progressively identified by PET yellow tapes numbered in black and protected by additional transparent PET tape

Sheath colour	Grey

Minimal Sheath Marking

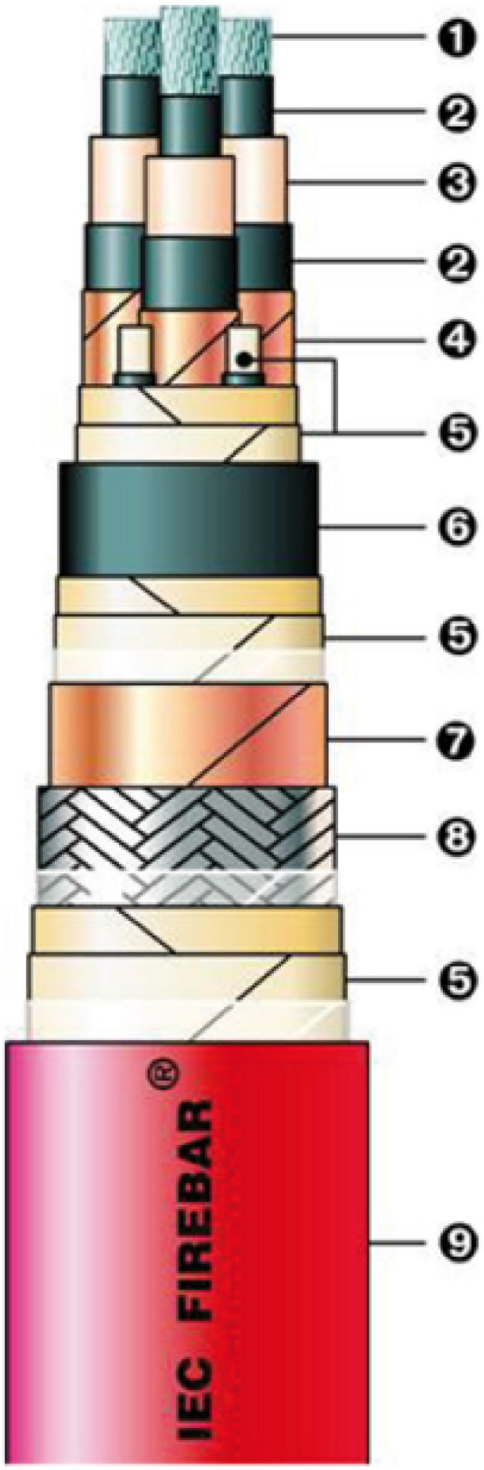
CCI FIREBAR® (C) 150/250 V IEC 60092-376 IEC 60332-3-22 Cat A
BS 7846:2000 Cat F3 meter marking year QA n°

CABLESERVICE
CCI
ControlCavi Industria

Flexible FIREBAR® MV

3,6/6 kV 6/10 kV 8,7/15 kV 12/20 kV

FIRE & WATER SPRAY RESISTANT to BS 7846:2009 Cat. F60



Design and construction	IEC 60092-354
Nominal voltage **Uo / U**	**3,6/ 6 6/10 8,7/15 12/20 kV**
Maximunm voltage **Umax**	7,2 12 17,5 24 kV
Maximum rated temperature	90° C
Flame retardancy	IEC 60332-3-22 Cat A
Fire Resistance - Mechanical Shocks - Water Spray	**BS 7846:2009 F60 & BS 8491:2008**
Corrosivity	IEC 60754-1/2
Smoke density	IEC 61034-2
on request:	
• MUD resistance	NEK 606:2009 (par. 3) when SHF2 MUD
• Cold Bend and Impact test (-40°C)	CSA C 22.2 N° 0.3-01 & N° 38-05

Construction Data

1	CONDUCTOR	tinned annealed **Flexible** copper IEC 60228 - **Class 2**
2	SEMICONDUCTORS	extruded LSOH - easy stripping
3	INSULATION	**HF HEPR**
4	PHASE SCREEN	plain copper tape
5	**FIREBAR® protection**	fibreglass (tapes + fillers)
6	INNER SHEATH	LSOH compound
7	EMC protection	Cu-PET tapes– overlapping 50%
9	ARMOUR	TCWB
10	OUTER SHEATH	**SHF1** or **SHF2** or **SHF MUD**

Core Identification — by tapes (coloured or numbered)

Sheath colour — red

Minimal Sheath Marking

CCI FIREBAR® - MV voltage rate n x s mm² IEC 60092-354 IEC 60332-3-22 Cat A BS 7846:2009 F60 meter marking year QA n°

CABLESERVICE
CCI
ControlCavi Industria

CABLESERVICE
CCI
ControlCavi Industria

The next generation of Flexible Class 2 Offshore & Marine cables

"so fast and... easy to install"

CCI-CABLESERVICE
Strada Provinciale n. 117
20010 BERNATE TICINO (MI)
ph +39 02 97255817 -fax +39 02 97255754
e-mail: cci@cableservice.com www.firebarcable.com