



FIRE RESISTANT CABLE



FIRE RESISTANT CONTENTS



General Introduction	4
Fire Resistant & Fire Retardant Test	7
Ramfirecro-F3, FIRE PLANET, BS 6387 CWZ PH120	10
Ramfirecro-F3, STANDARD FIRE SUN, BS 7629 PH120	14
Ramfirecro-F3, FIRE SAFE, IEC 60331-21	18
Ramfirecro-F3, FIRE GROUND, BS 7846	22
Ramfirecro-F3, FIRE MOON ENHANCED, EN 50200 PH120	24
Lanfirecro-F3, DATA LAN Cable, FIRE RESISTANT	26
Ramfirecro-F3, FIRE COMET, EN 50200 PH30	28
Ramfirecro-F3, FIRE COMET, FG4OHM1, CE 20-105, CEI 20-36/4-0 (PH30) - IMQ	30
Ramfirecro-F3, FIRE COMET, FG4OHM1, CE 20-105, CEI 20-36/4-0 (PH120)	32
Ramfirecro-F3, FIRE COMET, FTE4OHM1, CE 20-105, CEI 20-36/4-0 (PH30)	34
Ramfirecro-F3, FIRE COMET, FTE4OHM1, CE 20-105, CEI 20-36/4-0 (PH120)	36
Ramfirecro-F3, TELRAMFEU - NBN 713-020	38
Ramfirecro-F3, PUISSRAMFEU - NBN 713-020	40
Ramfirecro-F3, FIRE STAR, BS 8434-2	42
Ramfirecro-F3, Fire Alarm Cable FPLR, UL 1424	44
Ramfirecro-F3, Fiber Optic Fire Resistant	48
Ramcro cable approval for Fire Resistant Cable	50

Fire Resistant Cable

Used for fire resistant and circuit integrity, essentially to prevent life from smoke and noxious fumes, and where sensitive equipment maybe damage by acid forming gases.

All RAMCRO fire resistant cable are with sub-brand RAMFIRECRO-F3, are manufactured in according to the major international standard; BS 6387 C-W-Z - BS 7629 - IEC 60331-21 - EN 50200 - BS 8434-2 etc.

The material and the structure used for this type of cables depends on the performance required: fire time exposition, fire temperature and extra burning events.

Fire performance classes: Flame retardant (FRLS), Low smoke fumes (LS), Fire resistant (FRHF), Low smoke, Halogen free and Fire retardant (HF).

The typically applications for this type of cable are the transmission of analogue and digital signal and control systems.

Allowed for use in zone 1 and 2, group II, classified areas (IEC 60079-14).

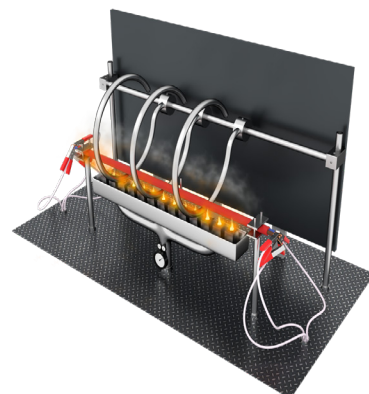


FIRE RESISTANT TEST

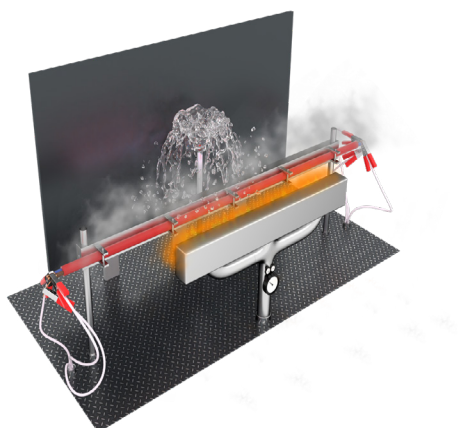
All the fire resistant test are carried out in RAMCRO LAB

FIRE RESISTANCE (Cat. C)

The cable is exposed to fire at the 950°C for 180 minutes.



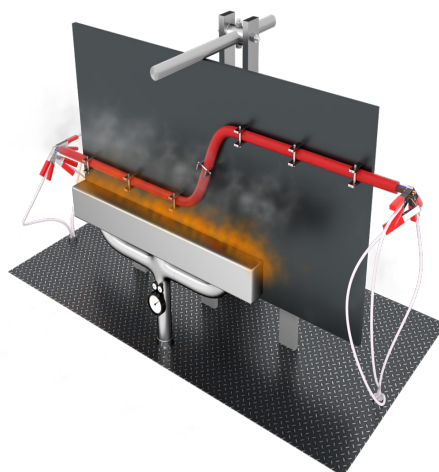
FIRE AND WATER RESISTANCE (Cat. W)



The cable is exposed for 15 minutes to flame at 650°C and for additional 15 minutes to fire and water spray.

FIRE RESISTANCE WITH MECHANICAL SHOCKS (Cat. Z)

The cable is mounted on a vertical panel and shocked with a steel bar for 15 minutes while submitted to the action of a flame.

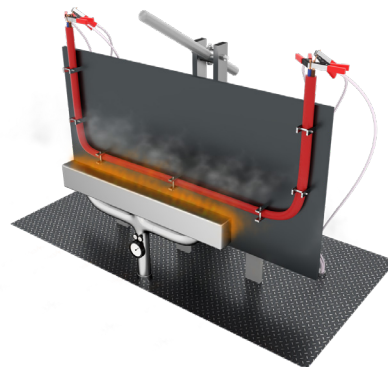


FIRE RESISTANT TEST

All the fire resistant test are carried out in RAMCRO LAB

FIRE RESISTANCE (EN 50200 PH 15-30-60-90-120)

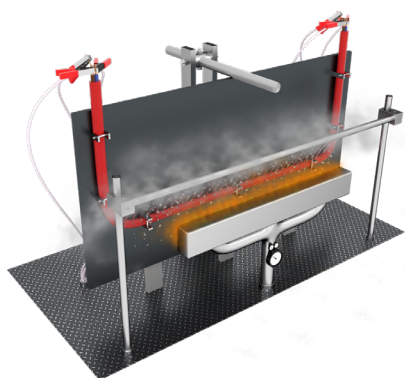
This test is carried out to verify the circuit integrity of cables exposed to fire at 830°C and mechanical shocks.



CLASSIFICATION

EN 50200 PH 15	Flame exposure for 15 min
EN 50200 PH 30	Flame exposure for 30 min
EN 50200 PH 60	Flame exposure for 60 min
EN 50200 PH 90	Flame exposure for 90 min
EN 50200 PH 120	Flame exposure for 120 min

FIRE RESISTANCE BS EN 50200 annex E



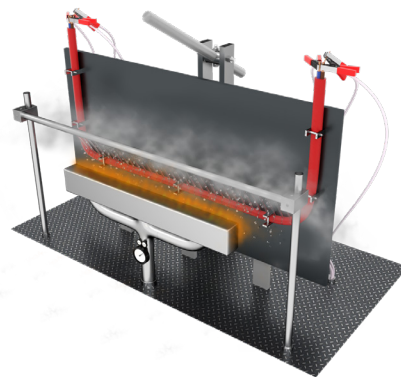
This test is carried out to verify circuit integrity during a fire. The cable is exposed to a flame at 830°C and mechanical shocks for 15 minutes and additional 15 minutes to flame, mechanical shocks and water spray.

FIRE RESISTANT TEST

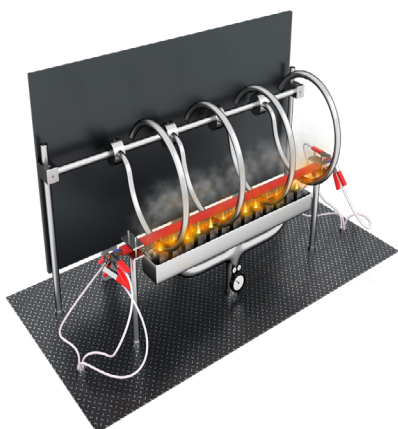
All the fire resistant test are carried out in RAMCRO LAB

FIRE RESISTANCE (BS 8434-2)

This test is carried out to verify circuit integrity during a fire. The cable is exposed to a flame at 930°C and mechanical shocks for 60 minutes and additional 60 minutes to flame, mechanical shocks and water spray.



FIRE RESISTANCE (IEC 60331-21, CEI 20-36)



This test is carried out to verify circuit integrity even during a fire. A sample of cable is held on a flame at about 750°C for a period of minimum 90 min, under rated voltage.

FIRE RETARDANT TEST

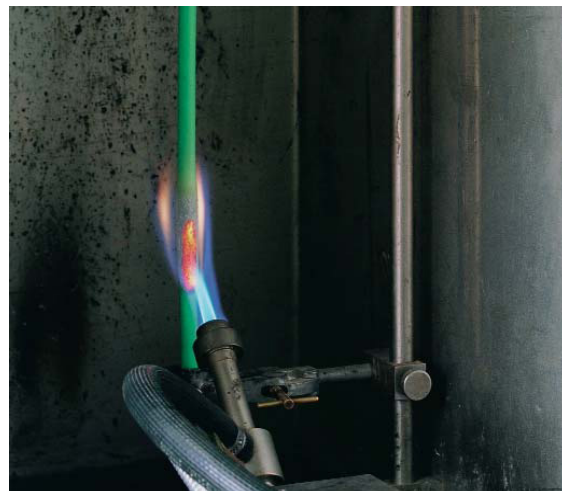
All the fire resistant test are carried out in RAMCRO LAB

FLAME PROPAGATION TEST ON A SINGLE CABLE (IEC 60332-1)

A 60 cm long sample of cable is vertically fixed with two clamps inside a small cabin, open on the front. The cable is subjected to the action of a flame produced by a calibrated Bunsen burner.

The application time of the flame is according to the cable diameter (60-480 seconds).

At the end of the test the burnt portion of cable must not be 50 mm close to the higher clamp.



FIRE RETARDANT TEST

All the fire resistant test are carried out in RAMCRO LAB

FIRE PROPAGATION TEST ON BUNCHED CABLES (IEC 60332-3)



Samples of cables 3,5 m long in quantities required by standard are installed on a ladder inside a metallic cabinet. They are subjected to the action of a flame at 750°C for a specific time (20 or 40 minutes).

Cables must not burn for more than 2,5 m.

FIRE RESISTANT

CABLE

BS 6387:2013 Cat. C-W-Z

Multi-Core, Solid CU, Silicon Rubber-Insulation, Collective Screen, LSZH-Sheath

RAMFIRECRO-F3 - FIRE PLANET - BS 6387:2013



CONSTRUCTION

Formation:

Plain annealed copper wire, solid

Insulation:

Special mix silicon rubber

Wrapping:

at least 1 layer of plastic tape 0,023 mm

Collective Screen:

0,026 mm Aluminium / PETP tape over copper drain wire

Outer Sheath:

Thermoplastic Low Smoke, Halogen Free

Colour Outer Sheath:

Red or White

STANDARD REFERENCES

- BS 6387:2013 Cat. C-W-Z
- IEC 60754-1:2014
- BS EN 61034-2:2005
- EN 50200:2015 (Class PH30/PH120)

IDENTIFICATION OF CORES

2 cores: ● ●

3 cores: ● ● ●

4 cores: ● ● ● ●

up/from 5 cores: Black Numbered

CPR CLASSIFICATION

EN 50575:2016 - C_{CA} s1A, d0, a1

TEMPERATURE RANGE

During Operation:

-30° C up to +180°C

During Installation:

-5° C up to +50°C



CABLE PRINTING

RAMFIRECRO-F3 - FIRE RESISTANT – LSZH – LPCB 568a/02 – BS EN 50267-2-1 – BS 6387 C-W-Z – EN 50200 PH 120 – 300/500V – CONDxAREA + E BATCH N. + MADE IN ITALY

ELECTRICAL DATA

Insulation Resistance @ 20°C:

> 200 MOhm*Km

Test Voltage Core-Core:

2000 V

Test Voltage Core-Screen:

2000 V

Mutual Capacitance:

< 150 nF/km

Inductance:

< 1 mH/km

Operating Voltage:

300/500 V

CHARACTERISTICS

Fire Resistant



Min. Bending Radius
8 x cable diameter



Low Smoke Halogen Free



BS 6387:2013 Cat. C-W-Z

Multi-Core, Solid CU, Silicon Rubber-Insulation, Collective Screen, LSZH-Sheath

RAMCRO CODE	FORMATION [n° x mm ²]	OUTER DIAMETER [mm]	WEIGHT [kg/km]	MAX RESISTANCE AT 20°C [Ohm/km]
SAR0211HFESL-F3(IE)	2x1.00*	6.2*	56	18.5
SAR0311HFESP-F3(IE)	3x1.00*	6.3*	72	18.5
SAR0411HFESQ-F3(IE)	4x1.00*	6.9*	91	18.5
SAR0511HFESD-F3(IE)	5x1.00	7.8	113	18.5
SAR0711HFESD-F3(IE)	7x1.00	8.4	147	18.5
SAR1211HFESD-F3(IE)	12x1.00	11.0	238	18.5
SAR1911HFESD-F3(IE)	19x1.00	12.8	357	18.5
SAR0214HFESL-F3(IE)	2x1.50**	6.6**	67	12.3
SAR0314HFESP-F3(IE)	3x1.50**	6.8**	88	12.3
SAR0414HFESQ-F3(IE)	4x1.50**	7.4**	111	12.3
SAR0514HFESD-F3(IE)	5x1.50	8.3	138	12.3
SAR0714HFESD-F3(IE)	7x1.50	9.0	181	12.3
SAR1214HFESD-F3(IE)	12x1.50	11.8	296	12.3
SAR1914HFESD-F3(IE)	19x1.50	14.2	461	12.3
SAR0218HFESL-F3(IE)	2x2.50**	7.4**	89	7.6
SAR0318HFESP-F3(IE)	3x2.50**	7.7**	123	7.6
SAR0418HFESQ-F3(IE)	4x2.50**	8.4**	157	7.6
SAR0518HFESD-F3(IE)	5x2.50	9.2	191	7.6
SAR0718HFESD-F3(IE)	7x2.50	10.1	254	7.6
SAR1218HFESD-F3(IE)	12x2.50	13.2	418	7.6
SAR1918HFESD-F3(IE)	19x2.50	16.0	654	7.6

* Cables certified by LPCB BRE GLOBAL

* if the cables are with a WHITE outer sheath the RAMCRO CODE will change in: SAR__HCESL-F3(IE)

BS 6387:2013 Cat. C-W-Z

Multi-Core, Stranded CU, Silicon Rubber-Insulation, Collective Screen, LSZH-Sheath

RAMFIRECRO-F3 - FIRE PLANET - BS 6387:2013



CONSTRUCTION

Formation:

Plain annealed copper wire, 7 strand

Insulation:

Special mix silicon rubber

Wrapping:

at least 1 layer of plastic tape 0,023 mm

Collective Screen:

0,026 mm Aluminium / PETP tape over copper drain wire

Outer Sheath:

Thermoplastic Low Smoke, Halogen Free

Colour Outer Sheath:

Red or White

STANDARD REFERENCES

- BS 6387:2013 Cat. C-W-Z
- IEC 60754-1:2014
- BS EN 61034-2:2005
- EN 50200:2015 (Class PH30/PH120)

IDENTIFICATION OF CORES

2 cores: ● ●

3 cores: ● ● ●

4 cores: ● ● ● ●

up/from 5 cores: Black Numbered

CPR CLASSIFICATION

EN 50575:2016 - C_{CA} s1A, d0, a1

TEMPERATURE RANGE

During Operation:

-30° C up to +180°C

During Installation:

-5° C up to +50°C



CABLE PRINTING

RAMFIRECRO-F3 - FIRE PLANET – LSZH – LPCB 568a/02 – EN 60754-1 – BS 6387 C-W-Z – EN 50200 PH30/PH120 – 300/500V – CONDxAREA + E BATCH N. + MADE IN ITALY

ELECTRICAL DATA

Insulation Resistance @ 20°C:

> 200 MOhm*Km

Test Voltage Core-Core:

2000 V

Test Voltage Core-Screen:

2000 V

Mutual Capacitance:

< 150 nF/km

Inductance:

< 1 mH/km

Operating Voltage:

300/500 V

CHARACTERISTICS

Fire Resistant



Min. Bending Radius
8 x cable diameter



Low Smoke Halogen Free



BS 6387:2013 Cat. C-W-Z

Multi-Core, Stranded CU, Silicon Rubber-Insulation, Collective Screen, LSZH-Sheath

RAMCRO CODE	FORMATION [n° x mm²]	OUTER DIAMETER [mm]	WEIGHT [kg/km]	MAX RESISTANCE AT 20°C [Ohm/km]
SAS0210HFESL-F3(IE)	2x1.00*	6.5*	59	18.5
SAS0310HFESP-F3(IE)	3x1.00*	6.6*	76	18.5
SAS0410HFESQ-F3(IE)	4x1.00*	7.2*	95	18.5
SAS0510HFESD-F3(IE)	5x1.00	8.1	118	18.5
SAS0710HFESD-F3(IE)	7x1.00	8.8	154	18.5
SAS1210HFESD-F3(IE)	12x1.00	11.5	248	18.5
SAS1910HFESD-F3(IE)	19x1.00	13.5	372	18.5
SAS0215HFESL-F3(IE)	2x1.50*	7.0*	72	12.3
SAS0315HFESP-F3(IE)	3x1.50*	7.2*	95	12.3
SAS0415HFESQ-F3(IE)	4x1.50*	8.1*	123	12.3
SAS0515HFESD-F3(IE)	5x1.50	8.8	148	12.3
SAS0715HFESD-F3(IE)	7x1.50	9.6	196	12.3
SAS1215HFESD-F3(IE)	12x1.50	12.6	319	12.3
SAS1915HFESD-F3(IE)	19x1.50	15.2	498	12.3
SAS0225HFESL-F3(IE)	2x2.50*	8.1*	101	7.6
SAS0325HFESP-F3(IE)	3x2.50*	8.3*	135	7.6
SAS0425HFESQ-F3(IE)	4x2.50*	9.1*	170	7.6
SAS0525HFESD-F3(IE)	5x2.50	9.9	207	7.6
SAS0725HFESD-F3(IE)	7x2.50	10.8	277	7.6
SAS1225HFESD-F3(IE)	12x2.50	14.7	470	7.6
SAS1925HFESD-F3(IE)	19x2.50	17.2	713	7.6
SAS0240HFESL-F3(IE)	2x4.00*	10.0*	151	4.7
SAS0340HFESP-F3(IE)	3x4.00*	10.2*	205	4.7
SAS0440HFESQ-F3(IE)	4x4.00*	11.2*	263	4.7
SAS0540HFESD-F3(IE)	5x4.00	12.3	322	4.7

* Cables certified by LPCB BRE GLOBAL

* if the cables are with a WHITE outer sheath the RAMCRO CODE will change in: SAS___HCESL-F3(IE)

RAMFIRECRO-F3 - STANDARD FIRE SUN - BS 7629-1:2008



CONSTRUCTION

Formation:

Plain annealed copper wire, solid

Insulation:

Special mix silicon rubber

Wrapping:

at least 1 layer of plastic tape 0,023 mm

Collective Screen:

0,026 mm Aluminium / PETP tape over tinned copper drain wire

Outer Sheath:

Thermoplastic Low Smoke, Halogen Free

Colour Outer Sheath:

Red or White

STANDARD REFERENCES

- BS 7629-1:2008
- BS 6387:2013 (CWZ)
- EN 50200:2006 (Class PH30/PH120)
- EN 50200:2006 Annex E (30 mins)
- BS 5839-1:2013 (Clause 26.2d Standard)

IDENTIFICATION OF CORES

2 cores: ● ●

3 cores: ● ● ●

4 cores: ● ● ● ●

up/from 5 cores: Black Numbered

CPR CLASSIFICATION

EN 50575:2016 - C_{CA} s1A, d0, a1

TEMPERATURE RANGE

During Operation:

-30° C up to +180°C

During Installation:

-5° C up to +50°C



CABLE PRINTING

RAMFIRECRO –F3 STANDARD FIRE SUN - FIRE RESISTANT ELECTRIC CABLE – LSZH - 300/500V - BS 7629-1:2008 - BS EN50200 PH30/120 - BS 6387 CWZ - 2x1,5 mmq + E - LPCB 568c/02 - MADE IN ITALY - BATCH N°

ELECTRICAL DATA

Insulation Resistance @ 20°C:

> 200 MOhm*Km

Test Voltage Core-Core:

2000 V

Test Voltage Core-Screen:

2000 V

Mutual Capacitance:

< 150 nF/km

Inductance:

< 1 mH/km

Operating Voltage:

300/500 V

CHARACTERISTICS

Fire Resistant



Min. Bending Radius
8 x cable diameter



Low Smoke Halogen Free



BS 7629-1:2008

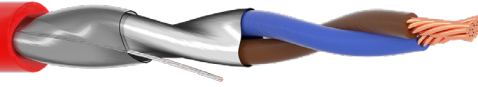
Multi-Core, Solid CU, Silicon Rubber-Insulation, Collective Screen, LSZH-Sheath

RAMCRO CODE	FORMATION [n° x mm ²]	OUTER DIAMETER [mm]	WEIGHT [kg/km]	MAX RESISTANCE AT 20°C [Ohm/km]
SAR0211HFESL-F3PH120	2x1.00*	6.4*	66	18.5
SAR0311HFESP-F3PH120	3x1.00*	6.5*	83	18.5
SAR0411HFESQ-F3PH120	4x1.00*	7.1*	101	18.5
SAR0511HFESD-F3PH120	5x1.00	7.8	120	18.5
SAR0711HFESD-F3PH120	7x1.00	8.4	155	18.5
SAR1211HFESD-F3PH120	12x1.00	11.2	251	18.5
SAR1911HFESD-F3PH120	19x1.00	13.0	370	18.5
SAR0214HFESL-F3PH120	2x1.50*	7.3*	88	12.3
SAR0314HFESP-F3PH120	3x1.50*	7.4*	111	12.3
SAR0414HFESQ-F3PH120	4x1.50*	8.1*	137	12.3
SAR0514HFESD-F3PH120	5x1.50	8.8	162	12.3
SAR0714HFESD-F3PH120	7x1.50	9.6	211	12.3
SAR1214HFESD-F3PH120	12x1.50	12.9	342	12.3
SAR1914HFESD-F3PH120	19x1.50	15.1	510	12.3
SAR0218HFESL-F3PH120	2x2.50*	8.6*	129	7.6
SAR0318HFESP-F3PH120	3x2.50*	8.7*	166	7.6
SAR0418HFESQ-F3PH120	4x2.50*	9.6*	205	7.6
SAR0518HFESD-F3PH120	5x2.50	10.7	251	7.6
SAR0718HFESD-F3PH120	7x2.50	11.7	326	7.6
SAR1218HFESD-F3PH120	12x2.50	15.4	523	7.6
SAR1918HFESD-F3PH120	19x2.50	18.1	787	7.6

* Cables certified by LPCB BRE GLOBAL

* if the cables are with a WHITE outer sheath the RAMCRO CODE will change in: SAR__HCESL-F3PH120

RAMFIRECRO-F3 - STANDARD FIRE SUN - BS 7629-1:2008



CONSTRUCTION

Formation:

Plain annealed copper wire, 7 strand

Insulation:

Special mix silicon rubber

Wrapping:

at least 1 layer of plastic tape 0,023 mm

Collective Screen:

0,026 mm Aluminium / PETP tape over tinned copper drain wire

Outer Sheath:

Thermoplastic Low Smoke, Halogen Free

Colour Outer Sheath:

Red or White

STANDARD REFERENCES

- BS 7629-1:2008
- BS 6387:2013 (CWZ)
- EN 50200:2006 (Class PH30/PH120)
- EN 50200:2006 Annex E (30 mins)
- BS 5839-1:2013 (Clause 26.2d Standard)

IDENTIFICATION OF CORES

2 cores: ● ●

3 cores: ● ● ●

4 cores: ● ● ● ●

up/from 5 cores: Black Numbered

CPR CLASSIFICATION

EN 50575:2016 - C_{CA} s1A, d0, a1

TEMPERATURE RANGE

During Operation:

-30° C up to +180°C

During Installation:

-5° C up to +50°C



CABLE PRINTING

RAMFIRECRO –F3 STANDARD FIRE SUN - FIRE RESISTANT ELECTRIC CABLE – LSZH - 300/500V - BS 7629-1:2008 - BS EN50200 PH30/120 - BS 6387 CWZ - 2x1,5 mmq + E - LPCB 568c/02 - MADE IN ITALY - BATCH N°

ELECTRICAL DATA

Insulation Resistance @ 20°C:

> 200 MOhm*Km

Test Voltage Core-Core:

2000 V

Test Voltage Core-Screen:

2000 V

Mutual Capacitance:

< 150 nF/km

Inductance:

< 1 mH/km

Operating Voltage:

300/500 V

CHARACTERISTICS

Fire Resistant



Min. Bending Radius
8 x cable diameter



Low Smoke Halogen Free



BS 7629-1:2008

Multi-Core, Stranded CU, Silicon Rubber-Insulation, Collective Screen, LSZH-Sheath

RAMCRO CODE	FORMATION [n° x mm ²]	OUTER DIAMETER [mm]	WEIGHT [kg/km]	MAX RESISTANCE AT 20°C [Ohm/km]
SAS0210HFESL-F3PH120	2x1.00*	6.7*	69	18.5
SAS0310HFESP-F3PH120	3x1.00*	6.8*	86	18.5
SAS0410HFESQ-F3PH120	4x1.00*	7.4*	105	18.5
SAS0510HFESD-F3PH120	5x1.00	8.1	125	18.5
SAS0710HFESD-F3PH120	7x1.00	8.8	160	18.5
SAS1210HFESD-F3PH120	12x1.00	11.7	261	18.5
SAS1910HFESD-F3PH120	19x1.00	13.7	386	18.5
SAS0215HFESL-F3PH120	2x1.50*	7.6*	92	12.3
SAS0315HFESP-F3PH120	3x1.50*	7.8*	116	12.3
SAS0415HFESQ-F3PH120	4x1.50*	8.5*	143	12.3
SAS0515HFESD-F3PH120	5x1.50	9.3	171	12.3
SAS0715HFESD-F3PH120	7x1.50	10.3	227	12.3
SAS1215HFESD-F3PH120	12x1.50	13.6	362	12.3
SAS1915HFESD-F3PH120	19x1.50	15.9	540	12.3
SAS0225HFESL-F3PH120	2x2.50*	9.0*	135	7.6
SAS0325HFESP-F3PH120	3x2.50*	9.2*	174	7.6
SAS0425HFESQ-F3PH120	4x2.50*	10.3*	220	7.6
SAS0525HFESD-F3PH120	5x2.50	11.3	262	7.6
SAS0725HFESD-F3PH120	7x2.50	12.3	343	7.6
SAS1225HFESD-F3PH120	12x2.50	16.3	350	7.6
SAS1925HFESD-F3PH120	19x2.50	19.2	827	7.6
SAS0240HFESL-F3PH120	2x4.00*	10.2*	189	4.7
SAS0340HFESP-F3PH120	3x4.00*	10.4*	244	4.7
SAS0440HFESQ-F3PH120	4x4.00*	11.4*	302	4.7
SAS0540HFESD-F3PH120	5x4.00	12.5	362	4.7

* Cables certified by LPCB BRE GLOBAL

* if the cables are with a WHITE outer sheath the RAMCRO CODE will change in: SAS___HCESL-F3PH120

IEC 60331-21:1999

Multi-Core, Solid CU, Silicon Rubber-Insulation, Collective Screen, LSZH-Sheath

RAMFIRECRO-F3 - FIRE SAFE - IEC 60331-21:1999



CONSTRUCTION

Formation:

Plain annealed copper wire, solid

Insulation:

Special mix silicon rubber

Wrapping:

at least 1 layer of plastic tape 0,023 mm

Collective Screen:

0,026 mm Aluminium / PETP tape over copper drain wire

Outer Sheath:

Thermoplastic Low Smoke, Halogen Free

Colour Outer Sheath:

Red or White

STANDARD REFERENCES

- IEC 60331-21:1999

- EN 50267-2-1:1999

- EN 61034-2:2005

IDENTIFICATION OF CORES

2 cores: ● ●

3 cores: ● ● ●

4 cores: ● ● ● ●

up/from 5 cores: Black Numbered

CPR CLASSIFICATION

EN 50575:2016 - C_{CA} s1A, d0, a1

TEMPERATURE RANGE

During Operation:

-30° C up to +180°C

During Installation:

-5° C up to +50°C



CABLE PRINTING

RAMFIRECRO-F3 -FIRE SAFE- IEC 60331 N° COND. X AREA + E – LSZH 1 1/2 H 750 - LPCB 568d/01 - IEC 60331-21 - 300/500 V - BATCH N°

ELECTRICAL DATA

Insulation Resistance @ 20°C:

> 200 MOhm*Km

Test Voltage Core-Core:

2000 V

Test Voltage Core-Screen:

2000 V

Mutual Capacitance:

< 150 nF/km

Inductance:

< 1 mH/km

Operating Voltage:

300/500 V

CHARACTERISTICS

Fire Resistant



Min. Bending Radius
8 x cable diameter



Low Smoke Halogen Free



IEC 60331-21:1999

Multi-Core, Solid CU, Silicon Rubber-Insulation, Collective Screen, LSZH-Sheath

RAMCRO CODE	FORMATION [n° x mm ²]	OUTER DIAMETER [mm]	WEIGHT [kg/km]	MAX RESISTANCE AT 20°C [Ohm/km]
SAR0211HFEEL-F3	2x1.00*	6.8*	62	18.5
SAR0311HFEEL-F3	3x1.00*	7.2*	80	18.5
SAR0411HFEEL-F3	4x1.00*	7.9*	100	18.5
SAR0511HFEEL-F3	5x1.00	9.0	128	18.5
SAR0711HFEEL-F3	7x1.00	9.8	165	18.5
SAR1211HFEEL-F3	12x1.00	12.7	264	18.5
SAR1911HFEEL-F3	19x1.00	15.2	407	18.5
SAR0214HFEEL-F3	2x1.50*	7.3*	73	12.3
SAR0314HFEEL-F3	3x1.50*	7.7*	97	12.3
SAR0414HFEEL-F3	4x1.50*	8.4*	122	12.3
SAR0514HFEEL-F3	5x1.50	9.6	156	12.3
SAR0714HFEEL-F3	7x1.50	10.4	203	12.3
SAR1214HFEEL-F3	12x1.50	13.6	329	12.3
SAR1914HFEEL-F3	19x1.50	16.3	508	12.3
SAR0218HFEEL-F3	2x2.50*	8.1*	98	7.6
SAR0318HFEEL-F3	3x2.50*	8.6*	131	7.6
SAR0418HFEEL-F3	4x2.50*	9.8*	177	7.6
SAR0518HFEEL-F3	5x2.50	10.7	213	7.6
SAR0718HFEEL-F3	7x2.50	11.6	282	7.6
SAR1218HFEEL-F3	12x2.50	15.7	476	7.6
SAR1918HFEEL-F3	19x2.50	18.7	734	7.6

* Cables certified by LPCB BRE GLOBAL

* if the cables are with a WHITE outer sheath the part RAMCRO CODE will change in: SAR___HCEEL-F3

IEC 60331-21:1999

Multi-Core, Stranded CU, Silicon Rubber-Insulation, Collective Screen, LSZH-Sheath

RAMFIRECRO-F3 - FIRE SAFE - IEC 60331-21:1999



CONSTRUCTION

Formation:

Plain annealed copper wire, 7 strand

Insulation:

Special mix silicon rubber

Wrapping:

at least 1 layer of plastic tape 0,023 mm

Collective Screen:

0,026 mm Aluminium / PETP tape over copper drain wire

Outer Sheath:

Thermoplastic Low Smoke, Halogen Free

Colour Outer Sheath:

Red or White

STANDARD REFERENCES

- IEC 60331-21:1999
- EN 50267-2-1:1999
- EN 61034-2:2005

IDENTIFICATION OF CORES

2 cores: ● ●

3 cores: ● ● ●

4 cores: ● ● ● ●

up/from 5 cores: Black Numbered

CPR CLASSIFICATION

EN 50575:2016 - C_{CA} s1A, d0, a1

TEMPERATURE RANGE

During Operation:

-30° C up to +180°C

During Installation:

-5° C up to +50°C



CABLE PRINTING

RAMFIRECRO-F3 -FIRE SAFE- IEC 60331 N° COND. X AREA + E – LSZH 1 1/2 H 750 - LPCB 568d/01 - IEC 60331-21 - 300/500 V - BATCH N°

ELECTRICAL DATA

Insulation Resistance @ 20°C:

> 200 MOhm*Km

Test Voltage Core-Core:

2000 V

Test Voltage Core-Screen:

2000 V

Mutual Capacitance:

< 150 nF/km

Inductance:

< 1 mH/km

Operating Voltage:

300/500 V

CHARACTERISTICS

Fire Resistant



Min. Bending Radius
8 x cable diameter



Low Smoke Halogen Free



IEC 60331-21:1999

Multi-Core, Stranded CU, Silicon Rubber-Insulation, Collective Screen, LSZH-Sheath

RAMCRO CODE	FORMATION [n° x mm ²]	OUTER DIAMETER [mm]	WEIGHT [kg/km]	MAX RESISTANCE AT 20°C [Ohm/km]
SAS0210HFEEL-F3	2x1.00*	7.1*	64	18.5
SAS0310HFEEL-F3	3x1.00*	7.5*	83	18.5
SAS0410HFEEQ-F3	4x1.00*	8.2*	104	18.5
SAS0510HFEED-F3	5x1.00	9.4	133	18.5
SAS0710HFEED-F3	7x1.00	10.2	172	18.5
SAS1210HFEED-F3	12x1.00	13.3	276	18.5
SAS1910HFEED-F3	19x1.00	15.9	424	18.5
SAS0215HFEEL-F3	2x1.50*	7.6*	77	12.3
SAS0315HFEEL-F3	3x1.50*	8.1*	102	12.3
SAS0415HFEEQ-F3	4x1.50*	9.3*	137	12.3
SAS0515HFEED-F3	5x1.50	10.1	165	12.3
SAS0715HFEED-F3	7x1.50	11.0	215	12.3
SAS1215HFEED-F3	12x1.50	14.8	362	12.3
SAS1915HFEED-F3	19x1.50	17.2	537	12.3
SAS0225HFEEL-F3	2x2.50*	8.3*	103	7.6
SAS0325HFEEL-F3	3x2.50*	9.4*	147	7.6
SAS0425HFEEQ-F3	4x2.50*	10.3*	186	7.6
SAS0525HFEED-F3	5x2.50	11.3	224	7.6
SAS0725HFEED-F3	7x2.50	12.3	297	7.6
SAS1225HFEED-F3	12x2.50	16.6	502	7.6
SAS1925HFEED-F3	19x2.50	19.8	773	7.6

* Cables certified by LPCB BRE GLOBAL

* if the cables are with a WHITE outer sheath the part RAMCRO CODE will change in: SAS___HCEEL-F3

BS 6387:2013 Cat. C-W-Z

Multi-Core, Multistrand CU, Silicon Rubber-Insulation, Steel Wire Armour, LSZH-Sheath

RAMFIRECRO-F3 - FIRE GROUND - BS 6387:2013



CONSTRUCTION

Formation:

Plain annealed copper wire, Multistrand

Insulation:

Special mix silicon rubber

Wrapping:

at least 1 layer of plastic tape 0,023 mm

Inner Sheath:

Thermoplastic Low Smoke, Halogen Free

Armour:

Galvanized steel wire

Outer Sheath:

Thermoplastic Low Smoke, Halogen Free

Colour Outer Sheath:

Red

STANDARD REFERENCES

- BS 6387:2013 Cat. C-W-Z
- EN 60754-1:2014
- EN 61034-2:2005+A1:2013
- EN 60754-2:2014
- EN 60332-3-24:2009
- EN 60332-1-2:2004

IDENTIFICATION OF CORES

- 2 cores: ● ●
 3 cores: ● ● ●
 4 cores: ● ● ● ●
 5 cores: ● ● ● ● ●

TEMPERATURE RANGE

During Operation:

-30° C up to +180°C

During Installation:

-5° C up to +50°C



CABLE PRINTING

RAMFIRECRO –F3 - FIRE RESISTANT – LSZH – LPCB 568e/01 - BS 6387 CWZ - IEC 60332-3-24 - IEC 60332-1-2 - IEC 60502 - BS 7846 - 0,6/1 kV - 5x1,5 mmq - CU/Sil/LSZH/SWA/LSZH - ARMoured - MADE IN ITALY + BATCH N.

ELECTRICAL DATA

Insulation Resistance @ 20°C:

> 200 MOhm*Km

Test Voltage Core-Core:

5000 V

Mutual Capacitance:

< 150 nF/km

Inductance:

< 1 mH/km

Operating Voltage:

600/1000 V

CHARACTERISTICS

Fire Resistant



Min. Bending Radius
8 x cable diameter



Power Cable



BS 6387:2013 Cat. C-W-Z

Multi-Core, Multistrand CU, Silicon Rubber-Insulation, Steel Wire Armour, LSZH-Sheath

RAMCRO CODE	FORMATION [n° x mm ²]	OUTER DIAMETER [mm]	WEIGHT [kg/km]	MAX RESISTANCE AT 20°C [Ohm/km]
SSS0215AFESH-F3(FG)	2x1.50	14.2*	373	13.8
SSS0315AFESP-F3(FG)	3x1.50	14.3*	395	13.8
SSS0415AFESQ-F3(FG)	4x1.50	15.1*	440	13.8
SSS0515AFESD-F3(FG)	5x1.50	16.6*	563	13.8
SSS0225AFESH-F3(FG)	2x2.50	16.2*	530	8.3
SSS0375AFESP-F3(FG)	3x2.50	16.4*	566	8.3
SSS0475AFESQ-F3(FG)	4x2.50	17.3*	635	8.3
SSS0575AFESD-F3(FG)	5x2.50	18.3*	709	8.3
SSS0240AFESL-F3(FG)	2x4.00	17.1*	592	5.1
SSS0340AFESP-F3(FG)	3x4.00	17.3*	640	5.1
SSS0440AFESQ-F3(FG)	4x4.00	18.3*	725	5.1
SSS0540AFESD-F3(FG)	5x4.00	19.4*	815	5.1
SSS0260AFESL-F3(FG)	2x6.00	18.6*	716	3.4
SSS0360AFESP-F3(FG)	3x6.00	18.8*	786	3.4
SSS0460AFESQ-F3(FG)	4x6.00	20.0**	902	3.4
SSS0560AFESD-F3(FG)	5x6.00	22.0**	1132	3.4
SSS0211AFESL-F3(FG)	2x10.00	20.6**	910	2.0
SSS0311AFESP-F3(FG)	3x10.00	20.9**	1021	2.0
SSS0411AFESQ-F3(FG)	4x10.00	23.1**	1303	2.0
SSS0511AFESD-F3(FG)	5x10.00	24.6**	1492	2.0
SSS0216AFESL-F3(FG)	2x16.00	24.1**	1306	1.3
SSS0316AFESP-F3(FG)	3x16.00	24.4**	1479	1.3
SSS0416AFESQ-F3(FG)	4x16.00	26.2**	1737	1.3
SSS0516AFESD-F3(FG)	5x16.00	28.3**	2022	1.3
SSS0227AFESL-F3(FG)	2x25.00	26.1**	1627	0.8
SSS0327AFESP-F3(FG)	3x25.00	26.5**	1888	0.8
SSS0427AFESQ-F3(FG)	4x25.00	28.8**	2266	0.8
SSS0527AFESD-F3(FG)	5x25.00	31.2**	2663	0.8

* Cables certified by LPCB BRE GLOBAL

** The Ramfirecro-F3 FIRE GROUND range with diameters greater than 20mm were tested in accordance with clause 17.4.2 annex L BS 7846:2015

*** If the cable SSS___ACESL-F3(FG)

EN 50200:2015 Class PH 120

Multi-Core, Solid or Stranded CU, Silicon Rubber-Insulation, Collective Screen, LSZH-Sheath

RAMFIRECRO-F3 - FIRE MOON ENHANCED - EN 50200:2015 PH 120



CONSTRUCTION

Formation:

Plain annealed copper wire, solid and stranded

Insulation:

Special mix silicon rubber

Wrapping:

at least 1 layer of plastic tape 0,023 mm

Collective Screen:

0,026 mm Aluminium / PETP tape over copper drain wire

Outer Sheath:

Thermoplastic Low Smoke, Halogen Free

Colour Outer Sheath:

Red or White

STANDARD REFERENCES

- EN 50200:2015 (Class PH120)
- IEC 60754-1:2014
- EN 61034-2:2005+A1:2013

IDENTIFICATION OF CORES

2 cores: ● ●

3 cores: ● ● ●

4 cores: ● ● ● ●

up/from 5 cores: Black Numbered

CPR CLASSIFICATION

EN 50575:2016 - C_{CA} s1A, d0, a1

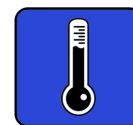
TEMPERATURE RANGE

During Operation:

-30° C up to +180°C

During Installation:

-5° C up to +50°C



CABLE PRINTING

RAMFIRECRO – F3 ENHANCED – FIRE MOON – LSZH - LPCB 568f/01 - EN 50200 PH120 0.6/1 kV - coresXsec mmq + E BATCH N. + MADE IN ITALY

ELECTRICAL DATA

Insulation Resistance @ 20°C:

> 200 MOhm*Km

Test Voltage Core-Core:

5000 V

Test Voltage Core-Screen:

5000 V

Mutual Capacitance:

< 150 nF/km

Inductance:

< 1 mH/km

Operating Voltage:

600/1000 V

CHARACTERISTICS

Fire Resistant



Min. Bending Radius
8 x cable diameter



Power Cable



EN 50200:2015 Class PH 120

Multi-Core, Solid or Stranded CU, Silicon Rubber-Insulation, Collective Screen, LSZH-Sheath

Solid Version (Bare Copper Cl.1)

RAMCRO CODE	FORMATION [n° x mm ²]	OUTER DIAMETER [mm]	WEIGHT [kg/km]	MAX RESISTANCE AT 20°C [Ohm/km]
SAR0211IF-WFA10210	2x1.00*	8.0*	81	18.8
SAR0311IF-WFA10210	3x1.00	8.5	101	18.8
SAR0411IF-WFA10210	4x1.00	9.2	124	18.8
SAR0214IF-WFA10215	2x1.50*	8.7*	97	12.6
SAR0214IF-WFA10215	3x1.50	9.2	124	12.6
SAR0214IF-WFA10215	4x1.50	10.0	153	12.6
SAR0218IF-WFA10225	2x2.50*	9.7*	126	7.7
SAR0218IF-WFA10225	3x2.50	10.2	166	7.7
SAR0218IF-WFA10225	4x2.50	11.1	207	7.7

* Cables certified by LPCB BRE GLOBAL

* if the cables are with a WHITE outer sheath the part RAMCRO CODE will change in: SAR____IC-WFA____

Stranded Version (Bare Copper Cl.2)

RAMCRO CODE	FORMATION [n° x mm ²]	OUTER DIAMETER [mm]	WEIGHT [kg/km]	MAX RESISTANCE AT 20°C [Ohm/km]
SAS0210IF-WFA10210	2x1.00*	8.3*	84	18.8
SAS0310IF-WFA10210	3x1.00	8.8	106	18.8
SAS0410IF-WFA10210	4x1.00	9.5	129	18.8
SAS0215IF-WFA10215	2x1.50*	9.0*	102	12.6
SAS0215IF-WFA10215	3x1.50	9.5	130	12.6
SAS0215IF-WFA10215	4x1.50	10.4	161	12.6
SAS0225IF-WFA10225	2x2.50*	10.1*	133	7.7
SAS0225IF-WFA10225	3x2.50	10.7	174	7.7
SAS0225IF-WFA10225	4x2.50	11.7	218	7.7

* Cables certified by LPCB BRE GLOBAL

* if the cables are with a WHITE outer sheath the RAMCRO CODE will change in: SAS____IC-WFA____

LANFIRECRO-F3

LPCB 568g/01

EIA/TIA 568A, ISO/IEC 11801

Multi-Core, Solid CU, Silicon Rubber-Insulation, Collective Screen, LSZH-Sheath

LANFIRECRO-F3 - EIA/TIA 568A - ISO/IEC 11801



CONSTRUCTION

Formation:

Plain annealed copper wire, solid

Insulation:

- Polyethylene - PE
- Fiber Glass Tape

Wrapping:

at least 1 layer of plastic tape 0,023 mm

Collective Screen:

0,026 mm Aluminium / PETP tape over copper drain wire

Outer Sheath:

Thermoplastic Low Smoke, Halogen Free

Colour Outer Sheath:

Red

STANDARD REFERENCES

- IEC 60331-21:1999
- IEC 60332-1-2:2004
- IEC 61034-2:2005
- EN 60754-1:2014

IDENTIFICATION OF CORES

- 1 pair:
- 2 pair:
- 3 pair:
- 4 pair:

TEMPERATURE RANGE

During Operation:

-30° C up to +180°C

During Installation:

-5° C up to +50°C



CABLE PRINTING

LANFIRECRO-F3 IEC 60331 - FIRE RESISTANT Data Cable Cat. 6 - 4x2x22AWG + E - LPCB 568g/01 – LSZH 90 min. 750 - IEC 60331-21 - 300 V - BATCH N° + METER MARKING

ELECTRICAL DATA

Insulation Resistance @ 20°C:

> 200 MOhm*Km

Test Voltage Core-Core:

2000 V

Test Voltage Core-Screen:

2000 V

Mutual Capacitance:

< 150 nF/km

Inductance:

< 1 mH/km

Operating Voltage:

300 V

CHARACTERISTICS

Fire Resistant



Min. Bending Radius
8 x cable diameter



Data LAN



EIA/TIA 568A, ISO/IEC 11801

Multi-Core, Solid CU, Silicon Rubber-Insulation, Collective Screen, LSZH-Sheath

RAMCRO CODE	FORMATION [n° x mm²]	OUTER DIAMETER [mm]	WEIGHT [kg/km]	MAX RESISTANCE AT 20°C [Ohm/km]
SAM0406HFEDX-F3CAT.6	4x2x22AWG*	11.0*	92	75.0

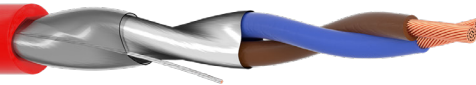
Frenquency (MHz)	Max. Insetion Loss (dB/100 m)	Min. NEXT (dB)	Min. PSNEXT (dB)	Min. ACR (dB)	Min. PSACR (dB)	Min. ACFR (ELFEXT) (dB)	Min. PSACRF (PSELFEXT) (dB)	Nin.RL (Return Loss) (dB)
1	2	74.3	72.3	72.3	70.3	70	68	20
4	3.8	65.3	63.3	61.5	59.5	58	56	23
8	5.3	60.8	58.8	55.5	53.5	51.9	49.9	24.5
10	6	59.3	57.3	53.3	51.3	50	48	25
16	7.6	56.2	54.3	48.6	46.6	45.9	43.9	25
20	8.5	54.8	52.8	46.3	44.3	44	42	25
25	9.5	53.3	51.3	43.8	41.8	42	40	24.3
31.25	10.7	51.9	49.9	41.2	39.2	40.1	38.1	23.6
62.5	15.4	47.4	45.4	32	30	34.1	32.1	21.5
100	19.8	44.3	42.3	24.5	22.5	30	28	20.1
155	25.2	41.5	39.5	16.2	14.2	26.2	24.2	18.8
200	29	39.8	37.8	10.8	8.8	24	22	18
250	32.8	38.3	36.3	5.5	32.5	22	20	17.3
300	36.4	37.1	35.1	0.7	-	20.5	18.5	16.8

* Cables certified by LPCB BRE GLOBAL

EN 50200:2015 Class PH 30

Multi-Core, Multistrand CU, Silicon Rubber-Insulation, Collective Screen, LSZH-Sheath

RAMFIRECRO-F3 - FIRE COMET - EN 50200:2015 PH 30



CONSTRUCTION

Formation:

Plain annealed copper wire, Multistrand

Insulation:

Special mix silicon rubber

Wrapping:

at least 1 layer of plastic tape 0,023 mm

Collective Screen:

0,026 mm Aluminium / PETP tape over copper drain wire

Outer Sheath:

Thermoplastic Low Smoke, Halogen Free

Colour Outer Sheath:

Red or White

STANDARD REFERENCES

- EN 50200:2015 (Class PH30)
- EN 61034-2:2005+A1:2013
- EN 60754-1:2014

IDENTIFICATION OF CORES

2 cores: ● ●

CPR CLASSIFICATION

EN 50575:2016 - C_{CA} s1A, d0, a1

TEMPERATURE RANGE

During Operation:

-30° C up to +180°C

During Installation:

-5° C up to +50°C



CABLE PRINTING

RAMFIRECRO-F3 - FIRE COMET LSZH - EN 50200 PH30 - IEC 61034-2 - EN 60754-1 - 2x1.00 sqmm LPCB 568i/01 + BATCH + METER MARKING + MADE IN ITALY

ELECTRICAL DATA

Insulation Resistance @ 20°C:

> 200 MOhm*Km

Test Voltage Core-Core:

2000 V

Test Voltage Core-Screen:

2000 V

Mutual Capacitance:

< 150 nF/km

Inductance:

< 1 mH/km

Operating Voltage:

100/100 V

CHARACTERISTICS

Fire Resistant



Min. Bending Radius
8 x cable diameter



Low Smoke Halogen Free



EN 50200:2015 Class PH 30

Multi-Core, Multistrand CU, Silicon Rubber-Insulation, Collective Screen, LSZH-Sheath

RAMCRO CODE	FORMATION [n° x mm ²]	OUTER DIAMETER [mm]	WEIGHT [kg/km]	MAX RESISTANCE AT 20°C [Ohm/km]
SAS0210HFESL-F3FG4	2x1.00*	7.6*	67	19.9
SAS0215HFESL-F3FG4	2x1.50*	8.6*	88	13.6
SAS0225HFESL-F3FG4	2x2.50*	10.1*	129	8.1

* Cables certified by LPCB BRE GLOBAL

* if the cables are with a WHITE outer sheath the part RAMCRO CODE will change in: SAR___HCESL-F3(IE)

CEI 20-105 - FG4OHM1 PH30/90

Multi-Core, Multistrand CU, Silicon Rubber-Insulation, Collective Screen, LSZH-Sheath

RAMFIRECRO-F3 - FIRE COMET - CEI 20-105 - FG4OHM1



CA01.00716

CONSTRUCTION

Formation:

Plain annealed copper wire, Multistrand

Insulation:

Special mix silicon rubber

Wrapping:

at least 1 layer of plastic tape 0,023 mm

Collective Screen:

0,026 mm Aluminium / PETP tape over copper drain wire

Outer Sheath:

Thermoplastic Low Smoke, Halogen Free

Colour Outer Sheath:

Red or Violet

STANDARD REFERENCES

- CEI 20-105
- UNI 9795
- CEI 20-36 PH 30 / 90
- EN 50200 PH 30 / 90
- CEI EN 60332-3-25

IDENTIFICATION OF CORES

2 cores: ● ●

4 cores: ● ● ○ ●

CPR CLASSIFICATION

EN 50575:2016 - C_{CA} s1A, d0, a1

TEMPERATURE RANGE

Fixed Installation:

-30° C up to +70°C

During Installation:

-5° C up to +50°C



CABLE PRINTING

RAMFIRECRO-F3 FIRE COMET CEI 20-105 FG4OHM1 2x1.00 mmq UNI9795 CEI 20-36/4-0 PH30/90
CEI EN 60332-3-25 EN 50575:2014+A1:2016 CPR Class Cca - s1a, d0, a1 - 100/100 V Uo=400 V BATCH
+ MM/YY

ELECTRICAL DATA

Insulation Resistance @ 20°C:

> 200 MOhm*Km

Test Voltage Core-Core:

2000 V

Test Voltage Core-Screen:

2000 V

Mutual Capacitance:

< 150 nF/km

Inductance:

< 1 mH/km

Operating Voltage:

100/100 V

CHARACTERISTICS

Fire Resistant



Min. Bending Radius
8 x cable diameter



Low Smoke Halogen Free



Italian Market



CEI 20-105 - FG4OHM1 PH30/90

Multi-Core, Multistrand CU, Silicon Rubber-Insulation, Collective Screen, LSZH-Sheath

RAMCRO CODE	FORMATION [n° x mm ²]	OUTER DIAMETER [mm]	WEIGHT [kg/km]	MAX RESISTANCE AT 20°C [Ohm/km]
SAS0250HFEEH-F3FG4	2x0.50*	5.6*	44	39.8
SAS0450HFEEH-F3FG4	4x0.50*	6.2*	64	39.8
SAS0275HFEEH-F3FG4	2x0.75*	6.3*	54	26.5
SAS0475HFEEH-F3FG4	4x0.75*	7.0*	82	26.5
SAS0210HFEEH-F3FG4	2x1.00*	6.6*	60	19.9
SAS0410HFEEH-F3FG4	4x1.00*	7.2*	92	19.9
SAS0215HFEEH-F3FG4	2x1.50*	7.6*	79	13.6
SAS0415HFEEH-F3FG4	4x1.50*	8.7*	131	13.6
SAS0225HFEEH-F3FG4	2x2.50*	9.2*	119	8.1
SAS0425HFEEH-F3FG4	4x2.50*	10.5*	204	8.1

* Cables certified by IMQ

Cables for EVAC voice evacuation systems - Violet Sheath

RAMCRO CODE	FORMATION [n° x mm ²]	OUTER DIAMETER [mm]	WEIGHT [kg/km]	MAX RESISTANCE AT 20°C [Ohm/km]
SAS0250HXEEH-F3FG4	2x0.50*	5.6*	44	39.8
SAS0450HXEEH-F3FG4	4x0.50*	6.2*	64	39.8
SAS0275HXEEH-F3FG4	2x0.75*	6.3*	54	26.5
SAS0475HXEEH-F3FG4	4x0.75*	7.0*	82	26.5
SAS0210HXEEH-F3FG4	2x1.00*	6.6*	60	19.9
SAS0410HXEEH-F3FG4	4x1.00*	7.2*	92	19.9
SAS0215HXEEH-F3FG4	2x1.50*	7.6*	79	13.6
SAS0415HXEEH-F3FG4	4x1.50*	8.7*	131	13.6
SAS0225HXEEH-F3FG4	2x2.50*	9.2*	119	8.1
SAS0425HXEEH-F3FG4	4x2.50*	10.5*	204	8.1

* Cables certified by IMQ

FIRE COMET

CEI 20-105 - FG4OHM1 PH120

Multi-Core, Multistrand CU, Silicon Rubber-Insulation, Collective Screen, LSZH-Sheath

RAMFIRECRO-F3 - FIRE COMET - CEI 20-105 - FG4OHM1



CONSTRUCTION

Formation:

Plain annealed copper wire, Multistrand

Insulation:

Special mix silicon rubber

Wrapping:

at least 1 layer of plastic tape 0,023 mm

Collective Screen:

0,026 mm Aluminium / PETP tape over copper drain wire

Outer Sheath:

Thermoplastic Low Smoke, Halogen Free

Colour Outer Sheath:

Red or Violet

STANDARD REFERENCES

- CEI 20-105
- UNI 9795
- CEI 20-36 PH 120
- EN 50200 PH 120
- CEI EN 60332-3-25

IDENTIFICATION OF CORES

2 cores: ● ●

4 cores: ● ● ○ ●

CPR CLASSIFICATION

EN 50575:2016 - C_{CA} s1A, d0, a1

TEMPERATURE RANGE

Fixed Installation:

-30° C up to +70°C

During Installation:

-5° C up to +50°C



CABLE PRINTING

RAMFIRECRO-F3 FIRE COMET CEI 20-105 FG4OHM1 2x1.00 mmq UNI9795 CEI 20-36/4-0 PH120
CEI EN 60332-3-25 EN 50575:2014+A1:2016 CPR Class Cca - s1a, d0, a1 - 100/100 V Uo= 400 V + MM/
YY

ELECTRICAL DATA

Insulation Resistance @ 20°C:

> 200 MOhm*Km

Test Voltage Core-Core:

2000 V

Test Voltage Core-Screen:

2000 V

Mutual Capacitance:

< 150 nF/km

Inductance:

< 1 mH/km

Operating Voltage:

100/100 V

CHARACTERISTICS

Fire Resistant



Min. Bending Radius
8 x cable diameter



Low Smoke Halogen Free



Italian Market



FIRE COMET

CEI 20-105 - FG4OHM1 PH120

Multi-Core, Multistrand CU, Silicon Rubber-Insulation, Collective Screen, LSZH-Sheath

RAMCRO CODE	FORMATION [n° x mm ²]	OUTER DIAMETER [mm]	WEIGHT [kg/km]	MAX RESISTANCE AT 20°C [Ohm/km]
SAS0250HFEEH-F3FG4120	2x0.50	5.6	44	39.8
SAS0450HFEEH-F3FG4120	4x0.50	6.2	64	39.8
SAS0275HFEEH-F3FG4120	2x0.75	6.3	54	26.5
SAS0475HFEEH-F3FG4120	4x0.75	7.0	82	26.5
SAS0210HFEEH-F3FG4120	2x1.00	7.6	73	19.9
SAS0410HFEEH-F3FG4120	4x1.00	8.4	115	19.9
SAS0215HFEEH-F3FG4120	2x1.50	8.6	95	13.6
SAS0415HFEEH-F3FG4120	4x1.50	9.6	150	13.6
SAS0225HFEEH-F3FG4120	2x2.50	10.1	137	8.1
SAS0425HFEEH-F3FG4120	4x2.50	11.2	221	8.1

Cables for EVAC voice evacuation systems - Violet Sheath

RAMCRO CODE	FORMATION [n° x mm ²]	OUTER DIAMETER [mm]	WEIGHT [kg/km]	MAX RESISTANCE AT 20°C [Ohm/km]
SAS0250HFEEH-F3FG4120	2x0.50	5.6	44	39.8
SAS0450HFEEH-F3FG4120	4x0.50	6.2	64	39.8
SAS0275HFEEH-F3FG4120	2x0.75	6.3	54	26.5
SAS0475HFEEH-F3FG4120	4x0.75	7.0	82	26.5
SAS0210HFEEH-F3FG4120	2x1.00	7.6	73	19.9
SAS0410HFEEH-F3FG4120	4x1.00	8.4	115	19.9
SAS0215HFEEH-F3FG4120	2x1.50	8.6	95	13.6
SAS0415HFEEH-F3FG4120	4x1.50	9.6	150	13.6
SAS0225HFEEH-F3FG4120	2x2.50	10.1	137	8.1
SAS0425HFEEH-F3FG4120	4x2.50	11.2	221	8.1

FIRE COMET

CEI 20-105 - FTE4OHM1 PH30/90

Multi-Core, Multistrand CU, Silicon Rubber-Insulation, Collective Screen, LSZH-Sheath

RAMFIRECRO-F3 - FIRE COMET - CEI 20-105 - FTE4OHM1



CONSTRUCTION

Formation:

Plain annealed copper wire, Multistrand

Insulation:

Mica Tape + Cross Liked Polyethylene - XLPE

Wrapping:

at least 1 layer of plastic tape 0,023 mm

Collective Screen:

0,026 mm Aluminium / PETP tape over copper drain wire

Outer Sheath:

Thermoplastic Low Smoke, Halogen Free

Colour Outer Sheath:

Red or Violet

STANDARD REFERENCES

- CEI 20-105
- UNI 9795
- CEI 20-36 PH 30 / 90
- EN 50200 PH 30 / 90
- CEI EN 60332-3-25

IDENTIFICATION OF CORES

2 cores: ● ●

4 cores: ● ● ○ ●

TEMPERATURE RANGE

Fixed Installation:

-30° C up to +70°C

During Installation:

-5° C up to +50°C



CABLE PRINTING

RAMFIRECRO-F3 FIRE COMET CEI 20-105 FTE4OHM1 2x1.00 mmq UNI 9795 CEI 20-36/4-0 PH30/90
CEI EN 60332-3-25 - 100/100 V - U₀=400 V + BATCH + MM/YY

ELECTRICAL DATA

Insulation Resistance @ 20°C:

> 200 MOhm*Km

Test Voltage Core-Core:

2000 V

Test Voltage Core-Screen:

2000 V

Mutual Capacitance:

< 150 nF/km

Inductance:

< 1 mH/km

Operating Voltage:

100/100 V

CHARACTERISTICS

Fire Resistant



Min. Bending Radius
8 x cable diameter



Low Smoke Halogen Free



Italian Market



FIRE COMET

CEI 20-105 - FTE4OHM1 PH30/90

Multi-Core, Multistrand CU, Silicon Rubber-Insulation, Collective Screen, LSZH-Sheath

RAMCRO CODE	FORMATION [n° x mm ²]	OUTER DIAMETER [mm]	WEIGHT [kg/km]	MAX RESISTANCE AT 20°C [Ohm/km]
SAS0250HFEOH-F3FTE	2x0.50	7.0	59	39.8
SAS0250HFEOH-F3FTE	4x0.50	7.8	88	39.8
SAS0275HFEOH-F3FTE	2x0.75	7.5	67	26.5
SAS0275HFEOH-F3FTE	4x0.75	8.4	102	26.5
SAS0210HFEOH-F3FTE	2x1.00	7.8	74	19.9
SAS0210HFEOH-F3FTE	4x1.00	8.8	120	19.9
SAS0215HFEOH-F3FTE	2x1.50	8.6	92	13.6
SAS0215HFEOH-F3FTE	4x1.50	9.6	145	13.6
SAS0225HFEOH-F3FTE	2x2.50	9.6	122	8.1
SAS0225HFEOH-F3FTE	4x2.50	11.0	209	8.1

Cables for EVAC voice evacuation systems - Violet Sheath

RAMCRO CODE	FORMATION [n° x mm ²]	OUTER DIAMETER [mm]	WEIGHT [kg/km]	MAX RESISTANCE AT 20°C [Ohm/km]
SAS0250HXEOH-F3FTE	2x0.50	7.0	59	39.8
SAS0250HXEOH-F3FTE	4x0.50	7.8	88	39.8
SAS0275HXEOH-F3FTE	2x0.75	7.5	67	26.5
SAS0275HXEOH-F3FTE	4x0.75	8.4	102	26.5
SAS0210HXEOH-F3FTE	2x1.00	7.8	74	19.9
SAS0210HXEOH-F3FTE	4x1.00	8.8	120	19.9
SAS0215HXEOH-F3FTE	2x1.50	8.6	92	13.6
SAS0215HXEOH-F3FTE	4x1.50	9.6	145	13.6
SAS0225HXEOH-F3FTE	2x2.50	9.6	122	8.1
SAS0225HXEOH-F3FTE	4x2.50	11.0	209	8.1

FIRE COMET

CEI 20-105 - FTE4OHM1 PH120

Multi-Core, Multistrand CU, Silicon Rubber-Insulation, Collective Screen, LSZH-Sheath

RAMFIRECRO-F3 - FIRE COMET - CEI 20-105 - FTE4OHM1



CONSTRUCTION

Formation:

Plain annealed copper wire, Multistrand

Insulation:

Mica Tape + Cross Linked Polyethylene - XLPE

Wrapping:

at least 1 layer of plastic tape 0,023 mm

Collective Screen:

0,026 mm Aluminium / PETP tape over copper drain wire

Outer Sheath:

Thermoplastic Low Smoke, Halogen Free

Colour Outer Sheath:

Red or Violet

STANDARD REFERENCES

- CEI 20-105
- UNI 9795
- CEI 20-36 PH 120
- EN 50200 PH 120
- CEI EN 60332-3-25

IDENTIFICATION OF CORES

2 cores: ● ●

4 cores: ● ● ○ ●

TEMPERATURE RANGE

Fixed Installation:

-30° C up to +70°C

During Installation:

-5° C up to +50°C



CABLE PRINTING

RAMFIRECRO-F3 FIRE COMET CEI 20-105 FTE4OHM1 2x1.00 mmq UNI 9795 CEI 20-36/4-0 PH120
CEI EN 60332-3-25 - 100/100 V - U_o=400 V + BATCH + MM/YY

ELECTRICAL DATA

Insulation Resistance @ 20°C:

> 200 MOhm*Km

Test Voltage Core-Core:

2000 V

Test Voltage Core-Screen:

2000 V

Mutual Capacitance:

< 150 nF/km

Inductance:

< 1 mH/km

Operating Voltage:

100/100 V

CHARACTERISTICS

Fire Resistant



Min. Bending Radius

8 x cable diameter



Low Smoke Halogen Free



Italian Market



FIRE COMET

CEI 20-105 - FTE4OHM1 PH120

Multi-Core, Multistrand CU, Silicon Rubber-Insulation, Collective Screen, LSZH-Sheath

RAMCRO CODE	FORMATION [n° x mm ²]	OUTER DIAMETER [mm]	WEIGHT [kg/km]	MAX RESISTANCE AT 20°C [Ohm/km]
SAS0250HFEOH-F3FTE120	2x0.50	7.0	59	39.8
SAS0250HFEOH-F3FTE120	4x0.50	7.8	88	39.8
SAS0275HFEOH-F3FTE120	2x0.75	7.5	68	26.5
SAS0275HFEOH-F3FTE120	4x0.75	8.4	102	26.5
SAS0210HFEOH-F3FTE120	2x1.00	8.2	79	19.9
SAS0210HFEOH-F3FTE120	4x1.00	9.3	128	19.9
SAS0215HFEOH-F3FTE120	2x1.50	9.2	100	13.6
SAS0215HFEOH-F3FTE120	4x1.50	10.6	169	13.6
SAS0225HFEOH-F3FTE120	2x2.50	10.7	142	8.1
SAS0225HFEOH-F3FTE120	4x2.50	11.9	232	8.1

Cables for EVAC voice evacuation systems - Violet Sheath

RAMCRO CODE	FORMATION [n° x mm ²]	OUTER DIAMETER [mm]	WEIGHT [kg/km]	MAX RESISTANCE AT 20°C [Ohm/km]
SAS0250HXEOH-F3FTE120	2x0.50	7.0	59	39.8
SAS0250HXEOH-F3FTE120	4x0.50	7.8	88	39.8
SAS0275HXEOH-F3FTE120	2x0.75	7.5	68	26.5
SAS0275HXEOH-F3FTE120	4x0.75	8.4	102	26.5
SAS0210HXEOH-F3FTE120	2x1.00	8.2	80	19.9
SAS0210HXEOH-F3FTE120	4x1.00	9.3	128	19.9
SAS0215HXEOH-F3FTE120	2x1.50	9.2	100	13.6
SAS0215HXEOH-F3FTE120	4x1.50	10.6	168	13.6
SAS0225HXEOH-F3FTE120	2x2.50	10.7	143	8.1
SAS0225HXEOH-F3FTE120	4x2.50	11.9	232	8.1

TELRAMFEU

NBN 713-020 CR1-C1

Multi-Core, Solid CU, Silicon Rubber-Insulation, Collective Screen, LSZH-Sheath

TELRAMFEU NBN 713-020 CR1-C1



CONSTRUCTION

Formation:

Plain annealed copper wire, Solid

Insulation:

Special Mix Silicon Rubber

Collective Screen:

Aluminium / PETP tape over copper drain wire

Outer Sheath:

Thermoplastic Low Smoke, Halogen Free

Colour Outer Sheath:

Orange

STANDARD REFERENCES

- NBN 713-020
- NF C32-070 CAT. C1 & C2
- EN 50200
- NBN C 30-004 F2 FR2
- NF C32-310

ON REQUEST

- Armor in Double Steel Tape (STA)
- Armor in Steel Wire Armour (SWA)
- Conductor Multistrand, Class 5

IDENTIFICATION OF CORES

- 1 Pair: ● ○
2 Pair: ● ●
3 Pair: ● ●

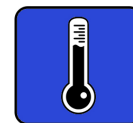
TEMPERATURE RANGE

Fixed Installation:

-30° C up to +180°C

During Installation:

-5° C up to +50°C



CABLE PRINTING

RAMFIRECRO-F3 TELRAMFEU - 2PR 9/10 - CR1/C1 NF C 32-070 & IEC 60331 0.5 kV HALOGEN FREE + BATCH + METER MARKING

ELECTRICAL DATA

Insulation Resistance @ 20°C:

> 200 MOhm*Km

Test Voltage Core-Core:

2000 V

Test Voltage Core-Screen:

2000 V

Mutual Capacitance:

< 150 nF/km

Inductance:

< 1 mH/km

Operating Voltage:

100/100 V

CHARACTERISTICS

Fire Resistant



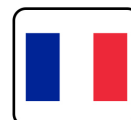
Min. Bending Radius
8 x cable diameter



Low Smoke Halogen Free



French Market



RAMCRO CODE	FORMATION [n° x mm ²]	OUTER DIAMETER [mm]	WEIGHT [kg/km]	MAX RESISTANCE AT 20°C [Ohm/km]
PYR1P09-R	1x2x0.90	5.7	44	29.7
PYR2P09-R	2x2x0.90	8.7	83	29.7
PYR3P09-R	3x2x0.90	9.3	109	29.7
PYR4P09-R	4x2x0.90	10.6	146	29.7
PYR5P09-R	5x2x0.90	11.6	174	29.7
PYR6P09-R	6x2x0.90	13.0	215	29.7
PYR8P09-R	8x2x0.90	14.7	283	29.7
PYR10P09-R	10x2x0.90	17.0	345	29.7
PYR12P09-R	12x2x0.90	17.5	395	29.7

PUISSRAMFEU

NBN 713-020 CR1-C1

Multi-Core, Solid CU, Silicon Rubber-Insulation, LSZH-Sheath

TELGRAMFEU NBN 713-020 CR1-C1



CONSTRUCTION

Formation:

Plain annealed copper wire, Solid

Insulation:

Special Mix Silicon Rubber

Outer Sheath:

Thermoplastic Low Smoke, Halogen Free

Colour Outer Sheath:

Orange

STANDARD REFERENCES

- NBN 713-020
- NF C32-070 CAT. C1 & C2
- EN 50200
- NBN C 30-004 F2 FR2
- NF C32-310

ON REQUEST

- Armor in Double Steel Tape (STA)
- Armor in Steel Wire Armour (SWA)
- Conductor Multistrand, Class 5

IDENTIFICATION OF CORES

In acc. to HD 308

TEMPERATURE RANGE

Fixed Installation:

-30° C up to +180°C

During Installation:

-5° C up to +50°C



CABLE PRINTING

RAMFIRECRO-F3 PUISSRAMFEU - 2x1.50 mm² - 300/500 V - CR1/C1 - week.prod./19 - BATCH + METER MARKING

ELECTRICAL DATA

Insulation Resistance @ 20°C:

> 200 MOhm*Km

Test Voltage Core-Core:

2000 V

Test Voltage Core-Screen:

2000 V

Mutual Capacitance:

< 150 nF/km

Inductance:

< 1 mH/km

Operating Voltage:

100/100 V

CHARACTERISTICS

Fire Resistant



Min. Bending Radius

8 x cable diameter



Low Smoke Halogen Free



French Market



PUISSRAMFEU

NBN 713-020

Multi-Core, Solid CU, Silicon Rubber-Insulation, LSZH-Sheath

RAMCRO CODE	FORMATION [n° x mm ²]	OUTER DIAMETER [mm]	WEIGHT [kg/km]	MAX RESISTANCE AT 20°C [Ohm/km]
PYR0215-R-100	2x1.50	6.6	88	12.1
PYR0215-R-100	3x1.50	7.4	115	12.1
PYR0215-R-100	4x1.50	8.3	139	12.1
PYR0215-R-100	5x1.50	9.1	183	12.1
PYR022 5-R-100	2x2.50	8.4	99	7.41
PYR0225-R-100	3x2.50	8.9	133	7.41
PYR0225-R-100	4x2.50	10.0	174	7.41
PYR0225-R-100	5x2.50	10.9	211	7.41
PYR0240-R-100	2x4.00	10.0	148	4.61
PYR0240-R-100	3x4.00	10.6	201	4.61
PYR0240-R-100	4x4.00	11.9	263	4.61
PYR0240-R-100	5x4.00	13.0	320	4.61
PYR0260-R-100	2x6.00	11.4	201	3.08
PYR0260-R-100	3x6.00	12.3	285	3.08
PYR0260-R-100	4x6.00	13.6	365	3.08
PYR0260-R-100	5x6.00	15.1	455	3.08
PYR0210-R-100	2x10.00	14.2	334	1.83
PYR0210-R-100	3x10.00	15.1	466	1.83
PYR0210-R-100	4x10.00	16.8	610	1.83
PYR0210-R-100	5x10.00	18.7	758	1.83

BS 8434-2:2003+A2:2009 (120 min.)

Multi-Core, CU, Mica+XLPE+Silicon Rubber-Insulation, Collective Screen, LSZH-Sheath

RAMFIRECRO-F3 - FIRE STAR - BS 8434-2:2003+A2:2009



CONSTRUCTION

Formation:

Plain annealed copper wire, Solid or Stranded

Insulation:

- Mica Tape
- Cross Liked Polyetilene - XLPE
- Special mix silicon rubber

Wrapping:

at least 1 layer of plastic tape 0,023 mm

Collective Screen:

0,026 mm Aluminium / PETP tape over tinned copper drain wire

Outer Sheath:

Thermoplastic Low Smoke, Halogen Free

Colour Outer Sheath:

Red or White

STANDARD REFERENCES

- BS 7629-1:2015 Enhanced 120
- EN 50200:2015 Annex E (30 mins)
- EN 50200:2015 (Class PH120)
- BS 8434-2:2003+A2:2009 (120 mins)
- EN 61034-2:2005+A1:2013
- EN 60754-1:2014

IDENTIFICATION OF CORES

- 2 cores: ● ●
- 3 cores: ● ● ●
- 4 cores: ● ● ● ●
- up/from 5 cores: Black Numbered

TEMPERATURE RANGE

During Operation:

-30° C up to +180°C

During Installation:

-5° C up to +50°C



CABLE PRINTING

RAMFIRECRO-F3 FIRE STAR - FIRE RESISTANT ELECTRIC CABLE – LSZH - 300/500V - BS 7629-1:2015 ENHANCED 120 - 2x1,5 mmq + E - 2018 H - LPCB 568j/01 - MADE IN ITALY - BATCH N°

ELECTRICAL DATA

Insulation Resistance @ 20°C:

> 5000 MOhm*Km

Test Voltage Core-Core:

2000 V

Test Voltage Core-Screen:

2000 V

Mutual Capacitance:

< 150 nF/km

Inductance:

< 1 mH/km

Operating Voltage:

300/500 V

CHARACTERISTICS

Fire Resistant



Min. Bending Radius
8 x cable diameter



Low Smoke Halogen Free



BS 8434-2:2003+A2:2009 (120 min.)

Multi-Core, CU, Mica+XLPE+Silicon Rubber-Insulation, Collective Screen, LSZH-Sheath

Solid Version (Bare Copper Cl.1)

RAMCRO CODE	FORMATION [n° x mm ²]	OUTER DIAMETER [mm]	WEIGHT [kg/km]	MAX RESISTANCE AT 20°C [Ohm/km]
SAR0211HFEOL-F3EN120	2x1.00*	8.9*	102	18.5
SAR0311HFEOP-F3EN120	3x1.00*	9.4*	131	18.5
SAR0411HFEOQ-F3EN120	4x1.00*	10.3*	189	18.5
SAR0214HFEOL-F3EN120	2x1.50*	9.4*	119	12.3
SAR0314HFEOP-F3EN120	3x1.50*	9.9*	183	12.3
SAR0414HFEOQ-F3EN120	4x1.50*	11.1*	194	12.3
SAR0218HFEOL-F3EN120	2x2.50*	10.1*	155	7.6
SAR0318HFEOP-F3EN120	3x2.50*	10.8*	201	7.6
SAR0418HFEOQ-F3EN120	4x2.50*	12.0*	253	7.6

* Cables certified by LPCB BRE GLOBAL

* if the cables are with a WHITE outer sheath the part RAMCRO CODE will change in: SAR___HCESL-F3(IE)

Stranded Version (Bare Copper Cl.2)

RAMCRO CODE	FORMATION [n° x mm ²]	OUTER DIAMETER [mm]	WEIGHT [kg/km]	MAX RESISTANCE AT 20°C [Ohm/km]
SAS0210HFEOL-F3EN120	2x1.00*	9.2*	105	18.5
SAS0310HFEOP-F3EN120	3x1.00*	9.7*	135	18.5
SAS0410HFEOQ-F3EN120	4x1.00*	10.7*	165	18.5
SAS0215HFEOL-F3EN120	2x1.50*	9.7*	126	12.3
SAS0315HFEOP-F3EN120	3x1.50*	10.3*	160	12.3
SAS0415HFEOQ-F3EN120	4x1.50*	11.5*	203	12.3
SAS0225HFEOL-F3EN120	2x2.50*	10.6*	161	7.6
SAS0325HFEOP-F3EN120	3x2.50*	11.5*	214	7.6
SAS0425HFEOQ-F3EN120	4x2.50*	12.6*	265	7.6
SAS0240HFEOL-F3EN120	2x4.00*	13.0*	246	4.7
SAS0340HFEOL-F3EN120	3x4.00*	13.9*	321	4.7
SAS0440HFEOL-F3EN120	4x4.00*	15.3*	398	4.7

* Cables certified by LPCB BRE GLOBAL

* if the cables are with a WHITE outer sheath the part RAMCRO CODE will change in: SAR___HCESL-F3(IE)

UL 1424

Multi-Core, PVC HT 105-Insulation, unscreened or with collective screen, Hi-Performance PVC-Sheath

FIRE ALARM - FPLR - UL 1424



CONSTRUCTION

Formation:

Plain annealed copper wire, Solid

Insulation:

Hi Temperature Polyvinylchloride - PVC HT 105°C

Wrapping:

at least 1 layer of plastic tape 0,023 mm

Collective Screen:

0,026 mm Aluminium / PETP tape over copper drain wire

Outer Sheath:

High Performance Polyvinyl chloride - Hi-PVC

Colour Outer Sheath:

Red

STANDARD REFERENCES

- UL 1424 (FPRL Type)
- NEC Article 760
- NEC Article 725
- UL 1666
- ASTM D 1329
- NF C 32-020
- IRAM IAP
- EN 50266-2
- IEC 60332-1
- IEC 60332-3

IDENTIFICATION OF CORES

2 cores: ● ●

TEMPERATURE RANGE

During Operation:

-30° C up to +105°C

During Installation:

-5° C up to +50°C



CABLE PRINTING

RAMCRO S.p.A. – (UL) Listed E475091 Type FPLR - 2 C 18AWG - Shielded - 105°C + BATCH + METER MARKING

ELECTRICAL DATA

Insulation Resistance @ 20°C:

> 25 MOhm*Km

Test Voltage Core-Core:

2000 V

Test Voltage Core-Screen:

2000 V

Mutual Capacitance:

< 150 nF/km

Inductance:

< 1 mH/km

Operating Voltage:

300 V

CHARACTERISTICS

Fire Resistant



Min. Bending Radius
8 x cable diameter



Low Smoke Halogen Free



UL 1424

Multi-Core, PVC HT 105-Insulation, unscreened or with collective screen, Hi-Performance PVC-Sheath

Screened Version

RAMCRO CODE	FORMATION [n° x mm ²]	OUTER DIAMETER [mm]	WEIGHT [kg/km]	MAX RESISTANCE AT 20°C [Ohm/km]
SAR0204HFOCH-UL-FA	2x20AWG	3.3	20	34.0
SAR0203HFOCH-UL-FA	2x18AWG	3.8	27	21.4
SAR0202HFOCH-UL-FA	2x16AWG	4.1	38	13.5
SAR0201HFOCH-UL-FA	2x14AWG	5.7	70	8.5
SAR0251HFOCH-UL-FA	2x12AWG	6.5	90	5.3

Unscreened Version

RAMCRO CODE	FORMATION [n° x mm ²]	OUTER DIAMETER [mm]	WEIGHT [kg/km]	MAX RESISTANCE AT 20°C [Ohm/km]
SSR0204HFOCH-UL-FA	2x20AWG	3.5	22	34.0
SSR0203HFOCH-UL-FA	2x18AWG	3.9	29	21.4
SSR0202HFOCH-UL-FA	2x16AWG	4.2	35	13.5
SSR0201HFOCH-UL-FA	2x14AWG	5.8	75	8.5
SSR0251HFOCH-UL-FA	2x12AWG	6.6	92	5.3

UL 1424

Multi-Core, PVC HT 105-Insulation, unscreened or with collective screen, Armoured, Hi-Performance PVC-Sheath

FIRE ALARM - FPLR - UL 1424



CONSTRUCTION

Formation:

Plain annealed copper wire, Solid

Insulation:

Hi Temperature Polyvinylchloride - PVC HT 105°C

Wrapping:

at least 1 layer of plastic tape 0,023 mm

Collective Screen:

0,026 mm Aluminium / PETP tape over copper drain wire

Inner Sheath:

High Performance Polyvinyl chloride - Hi-PVC

Armour:

Galvanized steel wire armour - SWA

Outer Sheath:

High Performance Polyvinyl chloride - Hi-PVC

Colour Outer Sheath:

Red

STANDARD REFERENCES

- UL 1424 (FPRL Type)
- NEC Article 760
- NEC Article 725
- UL 1666
- ASTM D 1329
- NF C 32-020
- IRAM IAP
- EN 50266-2
- IEC 60332-1
- IEC 60332-3

IDENTIFICATION OF CORES

2 cores: ● ●

TEMPERATURE RANGE

During Operation:

-30° C up to +105°C

During Installation:

-5° C up to +50°C



CABLE PRINTING

RAMCRO S.p.A. – (UL) Listed E475091 Type FPLR - 2 C 18AWG - Shielded - 105°C + BATCH + METER MARKING

ELECTRICAL DATA

Insulation Resistance @ 20°C:

> 25 MOhm*Km

Test Voltage Core-Core:

2000 V

Test Voltage Core-Screen:

2000 V

Mutual Capacitance:

< 150 nF/km

Inductance:

< 1 mH/km

Operating Voltage:

300 V

CHARACTERISTICS

Fire Resistant



Min. Bending Radius
8 x cable diameter



Low Smoke Halogen Free



UL 1424

Multi-Core, PVC HT 105-Insulation, unscreened or with collective screen, Armoured, Hi-Performance PVC-Sheath

Screened Version

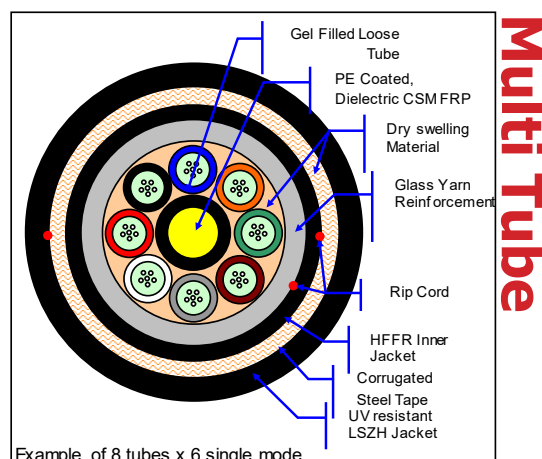
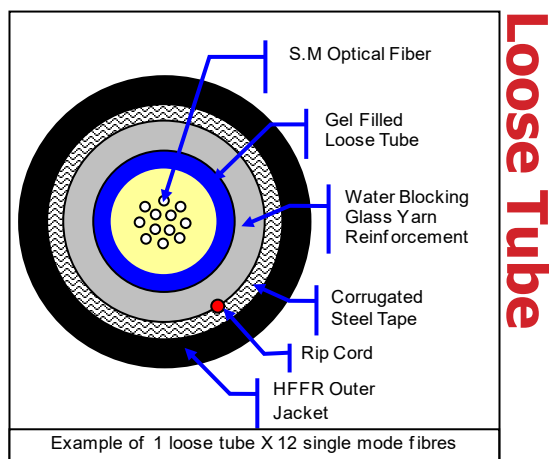
RAMCRO CODE	FORMATION [n° x mm ²]	OUTER DIAMETER [mm]	WEIGHT [kg/km]	MAX RESISTANCE AT 20°C [Ohm/km]
SAR0204AFOCH-UL-FA	2x20AWG	7.9	30	34.0
SAR0203AFOCH-UL-FA	2x18AWG	8.4	41	21.4
SAR0202AFOCH-UL-FA	2x16AWG	8.7	57	13.5
SAR0201AFOCH-UL-FA	2x14AWG	10.3	105	8.5
SAR0251AFOCH-UL-FA	2x12AWG	11.1	135	5.3

Unscreened Version

RAMCRO CODE	FORMATION [n° x mm ²]	OUTER DIAMETER [mm]	WEIGHT [kg/km]	MAX RESISTANCE AT 20°C [Ohm/km]
SSR0204AFOCH-UL-FA	2x20AWG	8.1	33	34.0
SSR0203AFOCH-UL-FA	2x18AWG	8.5	44	21.4
SSR0202AFOCH-UL-FA	2x16AWG	8.8	52	13.5
SSR0201AFOCH-UL-FA	2x14AWG	10.4	113	8.5
SSR0251AFOCH-UL-FA	2x12AWG	11.2	138	5.3

SINGLE MODE 9/125 μm

These Fiber Optic cables can incorporate up to 24 single mode fibers. The cable is glass yarn reinforced and jacketed with Halogen Free Flame Retardant compound (HFFR). The cable is designed for indoor/outdoor applications in ducts, direct burial or latched installations. Comply with IEC 60332- 3 & IEC 60331-25 flammability test and with halogen-free according to IEC 60754-2 Corrosively.



CONSTRUCTION

Fibres:

Up to Twenty-four single mode fibers, meeting or exceeding the ITU-T G.652/G.651 and/or IEC 60793 specifications color coded for easy identification

Tubes:

PBT tube.

Filling:

The tube is filled with water blocking, thixotropic gel to prevent the ingress of water.

Tubes Filled:

Dry, water swelling glass yarn is laid over the tube to serve as peripheral strength members and to block the cable from water penetration. LSZH inner jacket is extruded over the yarn.

Armouring:

A corrugated steel armor tape is longitudinally applied over the yarn with an overlap.

Sheath:

A UV resistant, Halogen Free, Flame-Retardant (HFFR) extruded over the armor.

Ripcords:

laid under the steel tape to facilitate the jacket removal.

CONSTRUCTION

Fibres:

Up to 432 optical single mode fibers color coded for easy identification

Tubes:

PBT tube the tubes are SZ stranded around a dielectric central member

Filling:

The tube is filled with water blocking, thixotropic gel to prevent the ingress of water.

Tubes Filled:

Dry, water swelling glass yarn is laid over the tube to serve as peripheral strength members and to block the cable from water penetration. LSZH inner jacket is extruded over the yarn.

Armouring:

A corrugated steel armor tape is longitudinally applied over the yarn with an overlap.

Sheath:

A UV resistant, Halogen Free, Flame-Retardant (HFFR) extruded over the armor.

Ripcords:

laid under the steel tape to facilitate the jacket removal.

IDENTIFICATION OF FIBER

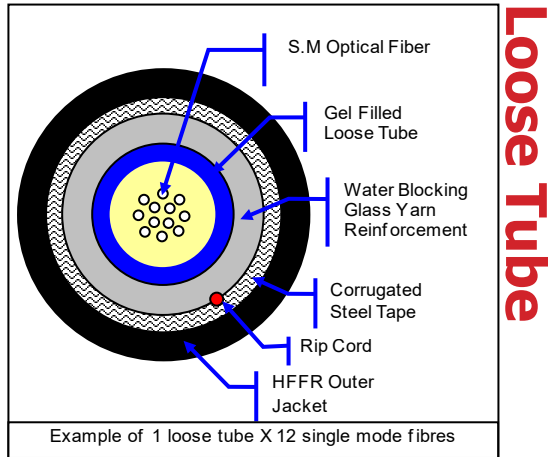


STANDARD REFERENCES

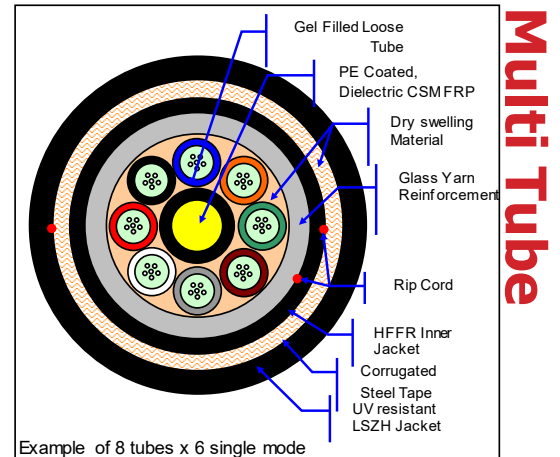
- IEC 60331-25:1999
- IEC 60332-1-2:2004
- EN 61034-2:2005
- EN 60754-1:2014

MULTI MODE OM3 50/125 μm - 50/125 μm - 62.5/125 μm

These Fiber Optic cables can incorporate up to 24 single mode fibers. The cable is glass yarn reinforced and jacketed with Halogen Free Flame Retardant compound (HFFR). The cable is designed for indoor/outdoor applications in ducts, direct burial or latched installations. Comply with IEC 60332- 3 & IEC 60331-25 flammability test and with halogen-free according to IEC 60754-2 Corrosively.



Loose Tube



Multi Tube

CONSTRUCTION

Fibres:

Up to Twenty-four single mode fibers, meeting or exceeding the ITU-T G.652/G.651 and/or IEC 60793 specifications color coded for easy identification

Tubes:

PBT tube.

Filling:

The tube is filled with water blocking, thixotropic gel to prevent the ingress of water.

Tubes Fills:

Dry, water swelling glass yarn is laid over the tube to serve as peripheral strength members and to block the cable from water penetration. LSZH inner jacket is extruded over the yarn.

Armouring:

A corrugated steel armor tape is longitudinally applied over the yarn with an overlap.

Sheath:

UV resistant, Halogen Free, Flame-Retardant (HFFR) extruded over the armor.

Ripcords:

laid under the steel tape to facilitate the jacket removal.

CONSTRUCTION

Fibres:

Up to 432 optical single mode fibers color coded for easy identification

Tubes:

PBT tube the tubes are SZ stranded around a dielectric central member

Filling:

The tube is filled with water blocking, thixotropic gel to prevent the ingress of water.

Tubes Fills:

Dry, water swelling glass yarn is laid over the tube to serve as peripheral strength members and to block the cable from water penetration. LSZH inner jacket is extruded over the yarn.

Armouring:

A corrugated steel armor tape is longitudinally applied over the yarn with an overlap.

Sheath:

UV resistant, Halogen Free, Flame-Retardant (HFFR) extruded over the armor.

Ripcords:

laid under the steel tape to facilitate the jacket removal.

IDENTIFICATION OF FIBER



STANDARD REFERENCES

- IEC 60331-25:1999
- IEC 60332-1-2:2004
- EN 61034-2:2005
- EN 60754-1:2014

CERTIFICATE

PRODUCT APPROVAL



BS 6387:2013 Cat. C-W-Z

Multi-Core, Solid CU, Silicon Rubber-Insulation, Collective Screen, LSZH-Sheath

LPCB®

Appendix to Certificate No: 568a RAMCRO S.p.A.

Product name

Ramfirecro-F3 FIRE PLANET

Nominal csa of conductor (mm²)	Core Construction	BS 6387	EN 60754-1
1.0 ⁽¹⁾	2, 3 & 4	C, W, Z	<0.5% HCl
1.5 ⁽¹⁾	2, 3 & 4	C, W, Z	<0.5% HCl
2.5 ⁽¹⁾	2, 3 & 4	C, W, Z	<0.5% HCl
4 ⁽¹⁾	2, 3 & 4	C, W, Z	<0.5% HCl

Product name

Ramfirecro-F3 FIRE PLANET

Nominal csa of conductor (mm²)	Core Construction	BS 6387	EN 60754-1	EN 61034-2	EN 50200
1.5 ⁽²⁾	2, 3 & 4	C, W, Z	<0.5% HCl	>60%	PH 120
2.5 ⁽²⁾	2, 3 & 4	C, W, Z	<0.5% HCl	>60%	PH 120

Uo/U 300/500V

Notes:

- Stranded conductors only.
- Solid conductor only.

This Certificate is maintained and held in force through regular surveillance activities and subject to the corresponding ISO 9001 Certificate being maintained.

K. Coull Karen Coull 18 September 2018 27 October 2003
Signed for BRE Global Ltd. Certification Scheme Manager Date of Issue Date of First issue



This certificate and appendix remain the property of BRE Global Ltd. and is issued subject to terms and conditions (for details visit www.redbooklive.com/terms). To check the validity of this certificate and appendix please visit www.redbooklive.com/check scan the QR tag or contact us.
BRE Global Ltd, Garston, Watford, WD25 9XX
T: +44 (0)333 321 8811 E: enquiries@breglobal.com
LPCB is a registered trademark of the Building Research Establishment Ltd.



BF1345 Rev 2.1

Page 2 of 2

© BRE Global Ltd, 2018

LPCB®

www.redbooklive.com

Certificate of Product Approval

Certificate Number: 568a

Issue: 15

RAMCRO S.p.A.

Via Marzorati 15
20014 Nerviano
Milan
Italy

is authorised to use the LPCB mark in association with the product(s) listed in this certificate and appendix having complied with the requirements of the standard(s) detailed below:

Product(s)

Cable Types as listed below:
Ramfirecro-F3 FIRE PLANET

Standard(s) (see Appendix for details)

BS 6387:2013
EN 60754-1:2014
EN 61034-2:2005
EN 50200:2015 (Class PH60 & PH120)

This Certificate is maintained and held in force through regular surveillance activities and subject to the corresponding ISO 9001 Certificate being maintained.

K. Coull

Signed for BRE Global Ltd.

Karen Coull
Certification Scheme Manager

18 September 2018
Date of Issue

27 October 2003
Date of First issue



This certificate and appendix remain the property of BRE Global Ltd. and is issued subject to terms and conditions (for details visit www.redbooklive.com/terms). To check the validity of this certificate and appendix please visit www.redbooklive.com/check scan the QR tag or contact us.
BRE Global Ltd, Garston, Watford, WD25 9XX
T: +44 (0)333 321 8811 E: enquiries@breglobal.com
LPCB® is a registered trademark of the Building Research Establishment Ltd.



bre

BF1345 Rev 2.1

Page 1 of 2

© BRE Global Ltd, 2018



568a/02
issue 15

LPCB®

www.redbooklive.com

Certificate of Product Approval

Certificate Number: 568c

Issue: 13

RAMCRO S.p.A.

Via Marzorati 15
20014 Nerviano MI
Italy

is authorised to use the LPCB mark in association with the product(s) listed in this certificate and appendix having complied with the requirements of the standard(s) detailed below:

Product(s)

Cable Types as listed below:
Ramfirecro-F3 Standard FIRE SUN

Standard(s) (see Appendix for details)

BS 7629-1:2008
BS 6387:2013 (CWZ)
EN 50200:2006 (Class PH30/PH120)
EN 50200:2006 Annex E (30 mins)
BS 5839-1:2013 (Clause 26.2d Standard)

This Certificate is maintained and held in force through regular surveillance activities and subject to the corresponding ISO 9001 Certificate being maintained.

Karen Coull

Signed for BRE Global Ltd.

Karen Coull

Certification Scheme Manager

6 December 2018

Date of Issue

1 June 2006

Date of First Issue



This certificate and appendix remain the property of BRE Global Ltd. and is issued subject to terms and conditions (for details visit www.redbooklive.com/terms). To check the validity of this certificate and appendix please visit www.redbooklive.com/check, scan the QR tag or contact us.

BRE Global Ltd, Garston, Watford, WD25 9XX
T: +44 (0)333 321 8811 E: enquiries@breglobal.com

LPCB® is a registered trademark of the Building Research Establishment Ltd.



bre

BF1345 Rev 2.1

Page 1 of 2

© BRE Global Ltd, 2018

Certificate No: 568c

Issue: 13

LPCB Ref. No.				
568c/02				
BS 7629-1	BS 6387	EN 50200	EN 50200 Annex E	BS 5839-1 Clause 26.2
Complies (a)	C, W, Z	PH120	30min (a)	Standard (a)
Complies (a)	C, W, Z	PH120	30min (a)	Standard (a)
Complies (a)	C, W, Z	PH120	30min (a)	Standard (a)
Complies (a)	C, W, Z	PH120	30min (a)	Standard (a)



568c/02
issue 13

1. Joint and junction construction.
2. Stranded conductor only.
3. In meeting the requirements of BS 7629-1:2008, the Ramfirecro-F3 Standard FIRE SUN cables listed met the requirements for smoke density of EN 61034-2: 2005, the fire resistance requirements in BS 6387:2013 Categories CWZ and achieved less than 0.5% HCl for the outer covering, binder tape & insulation when tested in accordance with EN 50267-2-1: 1999.
4. The duration of 30 min when tested in accordance with EN 50200: 2006 Annex E is achieved by 15 min for the fire and mechanical shock phase and an additional 15 min for the fire, mechanical shock and water phase.
5. The Ramfirecro-F3 Standard FIRE SUN cables listed conform to BS 7629-1:2008, met Class PH120 when tested in accordance with EN 50200:2006 and met the 30min duration when tested in accordance with EN 50200:2006 Annex E and hence met the requirements for a standard fire resistant cable as described in Clause 26.2 of BS 5839-1:2013.

This Certificate is maintained and held in force through regular surveillance activities and subject to the corresponding ISO 9001 Certificate being maintained.

Karen Coull

Signed for BRE Global Ltd.

Karen Coull

Certification Scheme Manager

6 December 2018

Date of Issue

1 June 2006

Date of First Issue



This certificate and appendix remain the property of BRE Global Ltd. and is issued subject to terms and conditions (for details visit www.redbooklive.com/terms). To check the validity of this certificate and appendix please visit www.redbooklive.com/check, scan the QR tag or contact us.

BRE Global Ltd, Garston, Watford, WD25 9XX
T: +44 (0)333 321 8811 E: enquiries@breglobal.com

LPCB® is a registered trademark of the Building Research Establishment Ltd.



bre

BF1345 Rev 2.1

Page 2 of 2

© BRE Global Ltd, 2018

LPCB®

www.redbooklive.com

Certificate of Product Approval

Certificate Number: 568d

Issue: 06

RAMCRO S.p.A

Via Marzorati 15
20014 Nerviano MI
ITALY

is authorised to use the LPCB mark in association with the product(s) listed in this certificate and appendix having complied with the requirements of the standard(s) detailed below:

Product(s)

Cable Types as listed below:
Ramfirecro-F3 FIRE SAFE
See Certificate Appendix for details

Standard(s) (see Appendix for details)

IEC 60331-21:1999
EN 50267-2-1:1999
EN 61034-2:2005

This Certificate is maintained and held in force through regular surveillance activities and subject to the corresponding ISO 9001 Certificate being maintained.

R. Coull

Signed for BRE Global Ltd.

Karen Coull
Certification Scheme Manager

20 September 2017
Date of Issue

01 August 2009
Date of First Issue



This certificate and appendix remain the property of BRE Global Ltd. and is issued subject to terms and conditions (for details visit www.redbooklive.com/terms). To check the validity of this certificate and appendix please visit www.redbooklive.com/check, scan the QR tag or contact us.
BRE Global Ltd, Garston, Watford, WD25 9XK
T: +44 (0)333 321 8811 F: +44 (0)1923 664603 E: enquiries@breglobal.com
LPCB® is a registered trademark of the Building Research Establishment Ltd.



BF1345 Rev. 1.0

Page 1 of 2

© BRE Global Ltd, 2017

ificate No: 568d

Issue: 06

LPCB Ref.
No.
568d/01

Construction ing drain wire and earth)	IEC 60331-21	EN 50267-2-1	EN 61034-2
2, 3 & 4	Complies	<0.5% HCl	>60%
2, 3 & 4	Complies	<0.5% HCl	>60%
2, 3 & 4	Complies	<0.5% HCl	>60%



568d/01
issue 06

This Certificate is maintained and held in force through regular surveillance activities and subject to the corresponding ISO 9001 Certificate being maintained.

R. Coull

Signed for BRE Global Ltd.

Karen Coull
Certification Scheme Manager

20 September 2017
Date of Issue

01 August 2009
Date of First Issue



This certificate and appendix remain the property of BRE Global Ltd. and is issued subject to terms and conditions (for details visit www.redbooklive.com/terms). To check the validity of this certificate and appendix please visit www.redbooklive.com/check, scan the QR tag or contact us.
BRE Global Ltd, Garston, Watford, WD25 9XK
T: +44 (0)333 321 8811 F: +44 (0)1923 664603 E: enquiries@breglobal.com
LPCB® is a registered trademark of the Building Research Establishment Ltd.



BF1345 Rev. 1.0

Page 2 of 2

© BRE Global Ltd, 2017

LPCB®

www.redbooklive.com

Certificate of Product Approval

Certificate Number: 568e

Issue: 06

RAMCRO S.p.A.

Via Marzorati
15 - 20014 Nerviano
Nerviano
Milan
20014
Italy

is authorised to use the LPCB mark in association with the product(s) listed in this certificate and appendix having complied with the requirements of the standard(s) detailed below:

Product(s)

Cable Types as listed below:
Ramfirecro-F3 FIRE GROUND

Standard(s) (see Appendix for details)

BS 6387:2013 (CWZ)
EN 60754-1:2014
EN 61034-2:2005+A1:2013
EN 60754-2:2014
EN 60332-3-24:2009
EN 60332-1-2:2004

This Certificate is maintained and held in force through regular surveillance activities and subject to the corresponding ISO 9001 Certificate being maintained.

Karen Coull

Signed for BRE Global Ltd.

Karen Coull

Certification Scheme Manager

11 September 2018

Date of Issue

27 May 2016

Date of First Issue



This certificate and appendix remain the property of BRE Global Ltd. and is issued subject to terms and conditions (for details visit www.redbooklive.com/terms). To check the validity of this certificate and appendix please visit www.redbooklive.com/check, scan the QR tag or contact us.
BRE Global Ltd, Garston, Watford, WD25 9XX
T: +44 (0)333 321 8811 E: enquiries@breglobal.com
LPCB® is a registered trademark of the Building Research Establishment Ltd.



bre

BF1345 Rev 2.1

Page 1 of 2

© BRE Global Ltd, 2018

Certificate No: 568e

Issue: 06

LPCB Ref. No.

568e/01

BS 6387 (see note 2)	EN 60754-1	EN 61034-2	EN 60754-2	EN 60332-3-24	EN 60332-1-2
CWZ	<0.5% HCl	>60%	Complies ⁽²⁾	Complies	Complies
CWZ	<0.5% HCl	>60%	Complies ⁽²⁾	Complies	Complies
CWZ	<0.5% HCl	>60%	Complies ⁽²⁾	Complies	Complies
CWZ	<0.5% HCl	>60%	Complies ⁽²⁾	Complies	Complies
CWZ	<0.5% HCl	>60%	Complies ⁽²⁾	Complies	Complies
CWZ	<0.5% HCl	>60%	Complies ⁽²⁾	Complies	Complies
CWZ	<0.5% HCl	>60%	Complies ⁽²⁾	Complies	Complies
CWZ	<0.5% HCl	>60%	Complies ⁽²⁾	Complies	Complies

Uo/U 600/1000 V

Notes:

- Class 5 stranded conductor only.
- The Ramfirecro-F3 FIRE GROUND range with diameters greater than 20mm were tested in accordance with clause 17.6.2 and annex I of BS 7846:2015.
- Tested to general method given in EN 60754-2:2014.

This Certificate is maintained and held in force through regular surveillance activities and subject to the corresponding ISO 9001 Certificate being maintained.

Karen Coull

Signed for BRE Global Ltd.

Karen Coull

Certification Scheme Manager

11 September 2018

Date of Issue

27 May 2016

Date of First Issue



This certificate and appendix remain the property of BRE Global Ltd. and is issued subject to terms and conditions (for details visit www.redbooklive.com/terms). To check the validity of this certificate and appendix please visit www.redbooklive.com/check, scan the QR tag or contact us.
BRE Global Ltd, Garston, Watford, WD25 9XX
T: +44 (0)333 321 8811 E: enquiries@breglobal.com
LPCB is a registered trademark of the Building Research Establishment Ltd.



bre

BF1345 Rev 2.1

Page 2 of 2

© BRE Global Ltd, 2018



568e/01
issue 06



LPCB®

www.redbooklive.com

Certificate of Product Approval

Certificate Number: 568f

Issue: 04

RAMCRO S.p.A

Via Marzorati 14
20015 Nerviano MI
Italy

is authorised to use the LPCB mark in association with the product(s) listed in this certificate and appendix having complied with the requirements of the standard(s) detailed below:

Product(s)

Cable Types as listed below:
RAMFIRECRO-F3 ENHANCED FIRE MOON

Standard(s) (see Appendix for details)

EN 50200:2015 (Class PH120)
IEC 60754-1:2014
EN 61034-2:2005+A1:2013

This Certificate is maintained and held in force through regular surveillance activities and subject to the corresponding ISO 9001 Certificate being maintained.

Karen Coull
Signed for LPCB

Karen Coull
Certification Scheme Manager

01 September 2017
Date of Issue

10 January 2017
Date of First Issue



This certificate and appendix remain the property of BRE Global Ltd and is issued subject to terms and conditions (for details visit www.redbooklive.com/terms).
To check the validity of this certificate and appendix please visit www.redbooklive.com/check, scan the QR tag or contact us.
LPCB is part of BRE Global Ltd, Garston, Watford, WD25 9XX
T: +44 (0)333 321 8811 F: +44 (0)1923 664603 E: enquiries@breglobal.com



BF1345 Rev. 0.3

Page 1 of 2

© BRE Global Ltd, 2015

Certificate No: 568f

Issue: 04

LPCB Ref.
No.

568f/01

FIRE MOON

Construction (including drain wire and earth)	EN 50200	EN 61034-2	EN 60754-1
2	PH120	>60%	Complies ⁽²⁾
2	PH120	>60%	Complies ⁽²⁾
2	PH120	>60%	Complies ⁽²⁾



568f/01
issue 04

...ductors.

- The RAMFIRECRO F3 ENHANCED FIRE MOON cable listed met the requirements for smoke density of EN 61034-2:2005+A1:2013 and achieved less than 0.5% HCl for the insulation, binder tape and outer covering when tested in accordance with EN 60754-1:2014

This Certificate is maintained and held in force through regular surveillance activities and subject to the corresponding ISO 9001 Certificate being maintained.

Karen Coull
Signed for LPCB

Karen Coull
Certification Scheme Manager

01 September 2017
Date of Issue

10 January 2017
Date of First Issue



This certificate and appendix remain the property of BRE Global Ltd and is issued subject to terms and conditions (for details visit www.redbooklive.com/terms).
To check the validity of this certificate and appendix please visit www.redbooklive.com/check, scan the QR tag or contact us.
LPCB is part of BRE Global Ltd, Garston, Watford, WD25 9XX
T: +44 (0)333 321 8811 F: +44 (0)1923 664603 E: enquiries@breglobal.com



BF1345 Rev. 0.3

Page 2 of 2

© BRE Global Ltd, 2015

LPCB®

www.redbooklive.com

Certificate of Product Approval

Certificate Number: 568g

Issue: 01

RAMCRO S.p.A.

Via Marzorati 15
20014 Nerviano
Milan
Italy

is authorised to use the LPCB mark in association with the product(s) listed in this certificate and appendix having complied with the requirements of the standard(s) detailed below:

Product(s)

Cable Types as listed below:
RAMFIRECRO-F3
Data Cable Category 6
See Certificate Appendix for details

Standard(s) (see Appendix for details)

IEC 60331-21:1999
IEC 60332-1-2:2004
EN 61034-2:2005
EN 60754-1:2014

This Certificate is maintained and held in force through regular surveillance activities and subject to the corresponding ISO 9001 Certificate being maintained.

Tony Baker
Signed for LPCB

Tony Baker
Certification Scheme Manager

26 July 2017
Date of Issue

26 July 2017
Date of First issue



This certificate and appendix remain the property of BRE Global Ltd and is issued subject to terms and conditions (for details visit www.redbooklive.com/terms). To check the validity of this certificate and appendix please visit www.redbooklive.com/check, scan the QR tag or contact us. LPCB is part of BRE Global Ltd, Garston, Watford, WD25 9XX T: +44 (0)333 321 8811 F: +44 (0)1923 664603 E: enquiries@breglobal.com



bre

BF1345 Rev. 0.3

Page 1 of 2

© BRE Global Ltd, 2015

ificate No: 568g

Issue: 01

LPCB Ref.
No.

568g/01

IEC 60331-21	IEC 60332-1-2	EN 61034-2	EN 60754-1
Complies	Complies	>60%	<0.5% HCI

et the requirements of IEC 60331-21:1999 when tested at a temperature of 750°C mins cooling time at a voltage rating of 300V.



**568g/01
issue 01**

This Certificate is maintained and held in force through regular surveillance activities and subject to the corresponding ISO 9001 Certificate being maintained.

Tony Baker
Signed for LPCB

Tony Baker
Certification Scheme Manager

26 July 2017
Date of Issue

26 July 2017
Date of First issue



This certificate and appendix remain the property of BRE Global Ltd and is issued subject to terms and conditions (for details visit www.redbooklive.com/terms). To check the validity of this certificate and appendix please visit www.redbooklive.com/check, scan the QR tag or contact us. LPCB is part of BRE Global Ltd, Garston, Watford, WD25 9XX T: +44 (0)333 321 8811 F: +44 (0)1923 664603 E: enquiries@breglobal.com



bre

BF1345 Rev. 0.3

Page 2 of 2

© BRE Global Ltd, 2015

LPCB® www.redbooklive.com

Certificate of Product Approval
 Certificate Number: 568i Issue: 02

RAMCRO S.p.A.
 Via Marzorati 15
 20014 Nerviano MI
 Italy

is authorised to use the LPCB mark in association with the product(s) listed in this certificate and appendix having complied with the requirements of the standard(s) detailed below:

Product(s)
 Cable Types as listed below:
 RAMFIRECRO-F3 FIRE COMET

Standard(s) (see Appendix for details)
 EN 50200:2015 (Class PH30)
 EN 61034-2:2005+A1:2013
 EN 60754-1:2014

This Certificate is maintained and held in force through regular surveillance activities and subject to the corresponding ISO 9001 Certificate being maintained.

Karen Coull
 Signed for BRE Global Ltd. Karen Coull Certification Scheme Manager 27 April 2018 Date of Issue 15 February 2018 Date of First Issue

This certificate and appendix remain the property of BRE Global Ltd. and is issued subject to terms and conditions (for details visit www.redbooklive.com/terms). To check the validity of this certificate and appendix please visit www.redbooklive.com/check, scan the QR tag or contact us.
 BRE Global Ltd, Garston, Watford, WD25 9XX
 T: +44 (0)333 321 8811 E: enquiries@breglobal.com
 LPCB® is a registered trademark of the Building Research Establishment Ltd.

BF1345 Rev 2.1 Page 1 of 2 © BRE Global Ltd, 2018

Certificate No: 568i

Issue: 02

LPCB Ref. No.			
568i/01			
Fire Construction	EN 50200	EN 61034-2	EN 60754-1
2	PH 30	>60%	<0.5% HCl
2	PH 30	>60%	<0.5% HCl
2	PH 30	>60%	<0.5% HCl

nly.



**568i/01
issue 02**

This Certificate is maintained and held in force through regular surveillance activities and subject to the corresponding ISO 9001 Certificate being maintained.

Karen Coull
 Signed for BRE Global Ltd. Karen Coull Certification Scheme Manager 27 April 2018 Date of Issue 15 February 2018 Date of First Issue

This certificate and appendix remain the property of BRE Global Ltd. and is issued subject to terms and conditions (for details visit www.redbooklive.com/terms). To check the validity of this certificate and appendix please visit www.redbooklive.com/check, scan the QR tag or contact us.
 BRE Global Ltd, Garston, Watford, WD25 9XX
 T: +44 (0)333 321 8811 E: enquiries@breglobal.com
 LPCB® is a registered trademark of the Building Research Establishment Ltd.

BF1345 Rev 2.1 Page 2 of 2 © BRE Global Ltd, 2018

BS 8434-2:2003+A2:2009 (120 min.)

Multi-Core, Solid or Stranded CU, Silicon Rubber-Insulation, Collective Screen, LSZH-Sheath

LPCB®

www.redbooklive.com

Certificate of Product Approval

Certificate Number: 568j

Issue: 03

RAMCRO S.p.A.

Via Marzorati 15
20014 Nerviano
Milan
Italy

is authorised to use the LPCB mark in association with the product(s) listed in this certificate and appendix having complied with the requirements of the standard(s) detailed below:

Product(s)

Cable Types as listed below:
Ramfirecro-F3 FIRE STAR

Standard(s) (see Appendix for details)

BS 7629-1:2015
EN 50200:2006 (Class PH120)
BS 8434-2:2003+A2:2009 (120 mins)
EN 60332-1-2:2004
EN 61034-2:2005+A1:2013
EN 60754-2:2014

This Certificate is maintained and held in force through regular surveillance activities and subject to the corresponding ISO 9001 Certificate being maintained.

Karen Coull

Signed for BRE Global Ltd.

Karen Coull

Certification Scheme Manager

2 August 2018

Date of Issue

12 April 2018

Date of First Issue



This certificate and appendix remain the property of BRE Global Ltd. and is issued subject to terms and conditions (for details visit www.redbooklive.com/terms). To check the validity of this certificate and appendix please visit www.redbooklive.com/check, scan the QR tag or contact us.

BRE Global Ltd, Garston, Watford, WD25 9XX
T: +44 (0)333 321 8811 E: enquiries@breglobal.com

LPCB® is a registered trademark of the Building Research Establishment Ltd.



bre

BF1345 Rev 2.1

Page 1 of 2

© BRE Global Ltd, 2018

Certificate No: 568j

Issue: 03

LPCB Ref.

No.

568j/01

BS 7629-1	EN 61034-2	EN 50200	EN 50200 Annex E	BS 8434-2	EN 60754-1
Enhanced 120 ⁽²⁾	>80%	PH 120	30 min ⁽¹⁾	120 min ⁽²⁾	<0.5%
Enhanced 120 ⁽²⁾	>80%	PH 120	30 min ⁽¹⁾	120 min ⁽²⁾	<0.5%
Enhanced 120 ⁽²⁾	>80%	PH 120	30 min ⁽¹⁾	120 min ⁽²⁾	<0.5%
Enhanced 120 ⁽²⁾	>80%	PH 120	30 min ⁽¹⁾	120 min ⁽²⁾	<0.5%

- in meeting the requirements of BS 7629-1:2015, the RAMFIRECRO-F3 FIRE STAR cables listed met the requirements for smoke density of EN 61034-2: 2005+A:2013 and achieved less than 0.5% HCl for the outer covering, binding tape & insulation when tested in accordance with EN 60754-1:2014.
- The duration of 30 mins when tested in accordance with EN 50200: 2015 Annex E is achieved by 15 min for the fire and mechanical shock phase and an additional 15 min for the fire, mechanical shock and water phase.
- The duration of 120 min when tested in accordance with BS 8434-2:2003+A2:2009 is achieved by 60 min for the fire and mechanical shock phase and an additional 60 min for the fire, mechanical shock phase and water phase.

This Certificate is maintained and held in force through regular surveillance activities and subject to the corresponding ISO 9001 Certificate being maintained.

Karen Coull

Signed for BRE Global Ltd.

Karen Coull

Certification Scheme Manager

2 August 2018

Date of Issue

12 April 2018

Date of First Issue



This certificate and appendix remain the property of BRE Global Ltd. and is issued subject to terms and conditions (for details visit www.redbooklive.com/terms). To check the validity of this certificate and appendix please visit www.redbooklive.com/check, scan the QR tag or contact us.

BRE Global Ltd, Garston, Watford, WD25 9XX
T: +44 (0)333 321 8811 E: enquiries@breglobal.com

LPCB is a registered trademark of the Building Research Establishment Ltd.



bre

BF1345 Rev 2.1

Page 2 of 2

© BRE Global Ltd, 2018



568j/01
issue 03

CEI 20-105 - FG4OHM1 PH30

Multi-Core, Multistrand CU, Silicon Rubber-Insulation, Collective Screen, LSZH-Sheath



IMQ S.p.A. - Società con Socio Unico
I-20138 Milano - via Quintilano, 43
tel. 0250731 (r.a.) - fax 0250991500
e-mail: info@imq.it - www.imq.it

Rea Milano 1595884
Registro Imprese Milano 12898410159
C.F./P.I. 12898410159
Capitale Sociale € 4.000.000

CA01.00716
SN.R000FQ

Certificato di approvazione
Approval certificate

PID: 01017100
CID: CN.R0004L

ACCREDIA
L'ENTRATA DI ACCREDITAMENTO

SGQ N° 005 A
SGA N° 006 D
SGE N° 006 H
SCR N° 005 F
SSI N° 003 G
FSM N° 007 I

EMAS N° 003 P
PRD N° 005 B
PRS N° 003 C
ISP N° 063 E
LAB N° 0121
LAT N° 021

IMQ, ente di certificazione accreditato, autorizza la ditta

IMQ, accredited certification body, grants to

RAMCRO SPA
VIA MARZORATI 15
20014 NERVIANO MI
IT - Italy

all'uso del marchio

the licence to use the mark



Il presente certificato è
sogetto alle condizioni
previste nel Regolamento
"MARCHI IMQ -
Regolamento per la
certificazione di prodotti" ed
è relativo ai prodotti
descritti nell'Allegato al
presente certificato.

per i seguenti prodotti

Cavi resistenti al fuoco a bassa
tossicità e corrosività
(FG4OHM1)

for the following products

Cables resistant to fire with low
toxicity and corrosivity
(FG4OHM1)

Emesso il / Issued on **2017-06-28**

Aggiornato il / Updated on ---

Sostituisce / Replaces ---

Y. Marz...
IMQ S.p.A.

Rea Milano 1595884
Registro Imprese Milano 12898410159
C.F./P.I. 12898410159
Capitale Sociale € 4.000.000

CA01.00716
SN.R000FQ

Emesso il / Issued on 2017-06-28
Aggiornato il / Updated on ---
Sostituisce / Replaces ---

Prodotto | Product

o fuoco a bassa tossicità e corrosività
to fire with low toxicity and corrosivity

Holder

Marchio | Mark



Costruito a | Manufactured at

MI Italy

Copy of this certificate must be available at the manufacturing places listed above

niche

Standards / Technical specifications

Product/s complying to Standards/Technical specifications:
CEI 20-105 - Ed. 2011 + V1:2013
Products meeting the safety objectives of Low Voltage Directive 2014/35/EU (Annex I).

Rapporti | Test Reports

CN16-0002202-01; CN16-0002202-02

Caratteristiche tecniche | Technical characteristics

Tipo di cavo | Type of cable Cavi elettrici resistenti al fuoco, isolati con mescola in gomma siliconica sotto guaina termoplastica, con schermo, non propaganti l'incendio, senza alogeni per applicazioni in sistemi fissi automatici di rilevazione e di segnalazione allarme d'incendio / Fire resistant flame retardant insulated with silicone rubber compound with thermoplastic sheath, screened, halogen free cables for automatic fire detection and fire alarm system

Sigla di designazione | Type designation **FG4OHM1**
Tensione nominale | Rated voltage **100/100 V**

Articoli (con dettagli) | Articles (with details)

- stampigliatura / - printing **RAMFIRECRO- F3 - Fire comet**



CA01.00716

UL 1424

Multi-Core, PVC HT 105-Insulation, unscreened or with collective screen, Hi-Performance PVC-Sheath

CERTIFICATE OF COMPLIANCE

Certificate Number 20150827-E475091
Report Reference E475091-20150827
Issue Date 2015-AUGUST-27

Issued to: RAMCRO SPA
VIA MARZORATI 15
20014 NERVIANO MILANO ITALY

This is to certify that
representative samples of POWER-LIMITED FIRE ALARM CABLE
Power-Limited Fire-Alarm Circuit Cable, Type FPLR

Have been investigated by UL in accordance with the
Standard(s) indicated on this Certificate.

Standard(s) for Safety: UL 1424 STANDARD FOR CABLES FOR POWER-
LIMITED FIRE-ALARM CIRCUITS

Additional Information: See the UL Online Certifications Directory at
www.ul.com/database for additional information

Only those products bearing the UL Certification Mark should be considered as being covered by UL's
Certification and Follow-Up Service.

Look for the UL Certification Mark on the product.



Bruce Mahrenholz, Director North American Certification Program
UL LLC

Any information and documentation involving UL Mark services are provided on behalf of UL LLC (UL) or any authorized licensee of UL. For questions, please
contact a local UL Customer Service Representative at <http://ul.com/about/locations/>



Page 1 of 1



E475091



LPCB®

www.redbooklive.com

Certificate of Product Approval

Certificate Number: 568h

Issue: 01

RAMCRO S.p.A.

Via Marzorati 15
20014 Nerviano
Milan
Italy

is authorised to use the LPCB mark in association with the product(s) listed in this certificate and appendix having complied with the requirements of the standard(s) detailed below:

Product(s)

Cable Types as listed below:
6 FO Single Mode
6 FO Multi Mode
See Certificate Appendix for details

Standard(s) (see Appendix for details)

IEC 60331-25:1999
IEC 60332-1-2:2004
EN 61034-2:2005
EN 60754-1:2014

This Certificate is maintained and held in force through regular surveillance activities and subject to the corresponding ISO 9001 Certificate being maintained.

Tony Baker
Signed for LPCB

Tony Baker
Certification Scheme Manager

26 July 2017
Date of Issue

26 July 2017
Date of First Issue



This certificate and appendix remain the property of BRE Global Ltd and is issued subject to terms and conditions (for details visit www.redbooklive.com/terms). To check the validity of this certificate and appendix please visit www.redbooklive.com/check, scan the QR tag or contact us. LPCB is part of BRE Global Ltd, Garston, Watford, WD25 9XX. T: +44 (0)333 321 8811 F: +44 (0)1923 664603 E: enquiries@breglobal.com



BF1345 Rev. 0.3

Page 1 of 2

© BRE Global Ltd, 2015

Certificate No: 568h

Issue: 01

LPCB Ref. No.

568h/01

IEC 60331-25	IEC 60332-1-2	EN 61034-2	EN 60754-1
Complies	Complies	>60%	<0.5% HCl

LPCB Ref. No.

568h/02

IEC 60331-25	IEC 60332-1-2	EN 61034-2	EN 60754-1
Complies	Complies	>60%	<0.5% HCl

Notes:

- The 6 FO Single Mode & 6 FO Multi Mode cables met the requirements of IEC 60331-25:1999 when tested at a temperature of 750°C for a duration of 90mins + 15mins cooling time.

This Certificate is maintained and held in force through regular surveillance activities and subject to the corresponding ISO 9001 Certificate being maintained.

Tony Baker
Signed for LPCB

Tony Baker
Certification Scheme Manager

26 July 2017
Date of Issue

26 July 2017
Date of First Issue



This certificate and appendix remain the property of BRE Global Ltd and is issued subject to terms and conditions (for details visit www.redbooklive.com/terms). To check the validity of this certificate and appendix please visit www.redbooklive.com/check, scan the QR tag or contact us. LPCB is part of BRE Global Ltd, Garston, Watford, WD25 9XX. T: +44 (0)333 321 8811 F: +44 (0)1923 664603 E: enquiries@breglobal.com



BF1345 Rev. 0.3

Page 2 of 2

© BRE Global Ltd, 2015



568h/01
issue 01

RAMCRO NOTE



RAMCRO S.p.A.

via Marzorati, 15 - Nerviano

20014 - Milano - Italy

tel. +39 0331 406 511

fax +39 0331 406 559

QD 06/01

Edited by Sales Director on April 2019

Dr. Carlo Croci

Approved by AQ: PC