



# Draka

# FT SIFER FIRETUF® 950i

## Firetuf FT SIFER 950i - Fire Resistant Single Core Cable

Zero Halogen, Low Smoke (OHLS®) single core cable maintaining circuit integrity when exposed to fire. These cables are designed for drawing into conduit and trunking where a fire situation may pose a major hazard and the maintenance of circuit integrity is a requirement. To achieve optimum performance they should be installed in metal conduit.



### Construction

<b>Conductors:</b>	Stranded plain annealed copper wire (class 2) to BS EN 60228
<b>Insulation:</b>	Comprises mica-glass fire resistant tape covered by an extruded layer of cross-linked Zero Halogen, Low Smoke (OHLS®) compound

### Physical Characteristics

<b>Voltage rating (U<sub>o</sub>/U):</b>	600/1000V
<b>Operating temp:</b>	-25°C to +90°C (the cable should not be installed when either the ambient or cable temperature is below 0°C)
<b>Min, bending radius:</b>	8 x overall diameter of cable

### Performance characteristics

<b>Circuit integrity:</b>	BS 6387 categories C, W and Z (when tested in steel conduit). Exceeds IEC 60331-21 3 hours at 750°C (test temperature is increased to 950°C, equivalent to BS 6387 category C)
<b>Flame propagation:</b>	BS EN 60332-1-2
<b>Acid gas emission:</b>	BS EN 50267-2-1
<b>Smoke emission:</b>	BS EN 61034-2

A range of insulation colours are available including green/yellow



A brand of the  
**Prysmian**  
Group



# Draka

## **FT** **SIFER** **FIRETUF®** **950i**

Nominal area of conductor mm <sup>2</sup>	Insulation thickness mm	Mean diameter (upper limit) mm	Approx. weight of cable kg/km	Maximum conductor resistance @ 20°C Ω/km
1.5	0.7	3.9	25	12.10
2.5	0.8	4.6	40	7.41
4	0.8	5.1	55	4.61
6	0.8	5.6	75	3.08
10	1.0	7.1	125	1.83
16	1.0	8.1	180	1.15
25	1.2	9.8	280	0.727
35	1.2	10.9	370	0.524
50	1.4	13.4	495	0.387
70	1.4	15.2	700	0.268
95	1.6	17.6	960	0.193
120	1.6	19.3	1190	0.153
150	1.8	21.3	1465	0.124
185	2.0	23.7	1830	0.0991
240	2.2	26.8	2390	0.0754
300	2.4	29.7	3015	0.0601
400	2.6	33.3	3995	0.0470
500	2.8	37.2	5100	0.0366
630	2.8	41.3	6435	0.0283



DrakaFTSIFER950i30102013

Prysmian Group,  
Chickenhall lane,  
Eastleigh,  
SO50 6YU

Sales Telephone  
01332 345431

[www.drakauk.com](http://www.drakauk.com)

A brand of the

# Prysmian Group

## Certificate of Product Approval

Certificate Number: 1134c

Issue: 02

### DRAKA UK LIMITED

Chickenhall Lane  
Bishopstoke  
Eastleigh  
Hants  
SO50 6YU  
United Kingdom



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:  
FT SIFER 950i  
See Certificate Appendix for details

#### Standard(s) (see Appendix for details)

BS 6387:2013 (Category CWZ)  
IEC 60331-21:1999

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

Signed for LPCB

David Hoare  
Certification Scheme Manager

04 November 2014  
Date of Issue

01 March 2013  
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](http://www.redbooklive.com/terms)).

To check the validity of this certificate and appendix please visit [www.redbooklive.com/check](http://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](mailto:enquiries@breglobal.com)



## Appendix to Certificate No: 1134c DRAKA UK LIMITED

Issue: 02

Product name			LPCB Ref. No.
FT SIFER 950i			1134c/01
Nominal csa of conductor (mm <sup>2</sup> )	Core Construction	BS 6387	IEC 60331-21
16	One <sup>(1)</sup>	CWZ <sup>(2-4)</sup>	Complies <sup>(6)</sup>
25	One <sup>(1)</sup>	CWZ <sup>(2-4)</sup>	Complies <sup>(6)</sup>
35	One <sup>(1)</sup>	CWZ <sup>(2-4)</sup>	Complies <sup>(6)</sup>
50	One <sup>(1)</sup>	CWZ <sup>(2-4)</sup>	Complies <sup>(6)</sup>
70	One <sup>(1)</sup>	CWZ <sup>(2-4)</sup>	Complies <sup>(6)</sup>
95	One <sup>(1)</sup>	CWZ <sup>(2-4)</sup>	Complies <sup>(6)</sup>
120	One <sup>(1)</sup>	CWZ <sup>(2 &amp; 5)</sup>	Complies <sup>(6)</sup>
150	One <sup>(1)</sup>	CWZ <sup>(2 &amp; 5)</sup>	Complies <sup>(6)</sup>
185	One <sup>(1)</sup>	-	Complies <sup>(6)</sup>
240	One <sup>(1)</sup>	-	Complies <sup>(6)</sup>
300	One <sup>(1)</sup>	-	Complies <sup>(6)</sup>
400	One <sup>(1)</sup>	-	Complies <sup>(6)</sup>

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

*David Hoare*

Signed for LPCB

David Hoare  
Certification Scheme Manager

04 November 2014  
Date of Issue

01 March 2013  
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](http://www.redbooklive.com/terms)).

To check the validity of this certificate and appendix please visit [www.redbooklive.com/check](http://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](mailto:enquiries@breglobal.com)



**bre**

## Appendix to Certificate No: 1134c DRAKA UK LIMITED

Issue: 02

Product name			LPCB Ref. No.
FT SIFER 950i			1134c/01
Nominal CSA of conductor (mm <sup>2</sup> )	Core Construction	BS 6387	IEC 60331-21
500	One <sup>(1)</sup>	-	Complies <sup>(6)</sup>
630	One <sup>(1)</sup>	-	Complies <sup>(6)</sup>

### Uo/U 600/1000 V

#### Notes:

1. Stranded conductor only.
2. Where a single cable is fitted in a conduit, only phase to earth voltage was applied.
3. To satisfy the requirement of BS 6387, testing for C, W & Z categories was conducted using a 20mm stainless steel conduit as the other metallic element.
4. To satisfy the requirement of BS 6387, testing for W & Z categories was conducted using a 20mm stainless steel conduit as the other metallic element.
5. To satisfy the requirement of BS 6387, testing for C category was conducted using a 38mm stainless steel conduit as the other metallic element.
6. The FT SIFER 950i cables met the requirements of IEC 60331-21: 1999 when tested at a temperature of 950°C for a duration of 90mins + 15mins cool down, at a voltage rating of 600V.

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

*David Hoare*

Signed for LPCB

David Hoare  
Certification Scheme Manager

04 November 2014  
Date of Issue

01 March 2013  
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](http://www.redbooklive.com/terms))

To check the validity of this certificate and appendix please visit [www.redbooklive.com/check](http://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](mailto:enquiries@breglobal.com)



bre

## Certificate of Product Approval

Certificate Number: 1134g

Issue: 03

### DRAKA UK LIMITED

Chickenhall Lane  
Bishopstoke  
Eastleigh  
Hants  
SO50 6YU  
United Kingdom



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:  
FT SIFER 950i OHLS

#### Standard(s) (see Appendix for details)

BS 6387:2013 (Category CWZ)  
EN 60754-1:2014  
EN 61034-2:2005  
IEC 60331-21:1999

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

Signed for BRE Global Ltd.

Karen Coull  
Certification Scheme Manager

7 March 2019  
Date of Issue

13 May 2013  
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](http://www.redbooklive.com/terms)).

To check the validity of this certificate and appendix please visit [www.redbooklive.com/check](http://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](mailto:enquiries@breglobal.com)

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



## Appendix to Certificate No: 1134g DRAKA UK LIMITED

Issue: 03

Product name					LPCB Ref. No.
FT SIFER 950i OHLS					1134g/01
Nominal csa of conductor (mm <sup>2</sup> )	Core Construction	BS 6387	EN 60754-1	EN 61034-2	IEC 60331-21
1.5	One <sup>(1)</sup>	C, W, Z <sup>(2,3)</sup>	<0.5% HCl	>60%	Complies <sup>(4)</sup>
2.5	One <sup>(1)</sup>	C, W, Z <sup>(2,3)</sup>	<0.5% HCl	>60%	Complies <sup>(4)</sup>
4.0	One <sup>(1)</sup>	C, W, Z <sup>(2,3)</sup>	<0.5% HCl	>60%	Complies <sup>(4)</sup>
6.0	One <sup>(1)</sup>	C, W, Z <sup>(2,3)</sup>	<0.5% HCl	>60%	Complies <sup>(4)</sup>
10	One <sup>(1)</sup>	C, W, Z <sup>(2,3)</sup>	<0.5% HCl	>60%	Complies <sup>(4)</sup>

### Uo/U 600/1000V

#### Notes:

1. Stranded conductor only.
2. Where a single cable is fitted in a conduit, only phase to earth voltage was applied.
3. To satisfy the requirements of BS 6387:2013, for Categories C, W, Z testing was conducted using a 20mm stainless steel conduit as the other metallic element.
4. The FT SIFER 950i OHLS cables met the requirements of IEC 60331-21:1999 when tested at a temperature of 950°C for a duration of 90mins + 15mins cool down, at a voltage rating of 600V.

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



Signed for BRE Global Ltd.

Karen Coull  
Certification Scheme Manager

7 March 2019  
Date of Issue

13 May 2013  
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](http://www.redbooklive.com/terms)).

To check the validity of this certificate and appendix please visit [www.redbooklive.com/check](http://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](mailto:enquiries@breglobal.com)

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



bre

# BRE Global Test Report

## Fire Testing of Prysmian Group cable to BS 8434-2 & EN 50200 PH120

**Prepared for:** Prysmian Group  
**Date:** 29.05.2020  
**Report Number:** P117010-1000 Issue: 2

BRE Global Ltd  
Watford, Herts  
WD25 9XX

Customer Services 0333 321 8811

From outside the UK:  
T + 44 (0) 1923 664000  
F + 44 (0) 1923 664010  
E [enquiries@bre.co.uk](mailto:enquiries@bre.co.uk)  
[www.bre.co.uk](http://www.bre.co.uk)

Prepared for:  
Prysmian Group  
Energy Cables  
Chickenhall Lane  
Bishopstoke  
Eastleigh  
Hants  
SO50 6YU








---

**Prepared by**

---

<b>Ashish Tiwari - Laboratory Manager Cable Testing</b>	 Digitally signed by Ashish Tiwari - Laboratory Manager Cable Testing Date: 2020.05.29 16:30:47 +01'00'
---	--

---

**Authorised by**

---

<b>Philip Howard - Technical Development Manager</b>	 Digitally signed by Philip Howard - Technical Development Manager Date: 2020.05.29 17:23:51 +01'00'
--	--

This report is made on behalf of BRE Global and may only be distributed in its entirety, without amendment, and with attribution to BRE Global Ltd to the extent permitted by the terms and conditions of the contract. Test results relate only to the specimens tested. BRE Global has no responsibility for the design, materials, workmanship or performance of the product or specimens tested. This report does not constitute an approval, certification or endorsement of the product tested and no such claims should be made on websites, marketing materials, etc. Any reference to the results contained in this report should be accompanied by a copy of the full report, or a link to a copy of the full report.

BRE Global's liability in respect of this report and reliance thereupon shall be as per the terms and conditions of contract with the client and BRE Global shall have no liability to third parties to the extent permitted in law.



---

## Table of Contents

---

<b>1</b>	<b>Introduction</b>	<b>4</b>
<b>2</b>	<b>Cable Details</b>	<b>5</b>
2.1	Sample F2453	5
<b>3</b>	<b>Test results</b>	<b>6</b>
3.1	BS 8434-2:2003+A2:2009	6
3.2	EN 50200:2015 - PH120	6
<b>4</b>	<b>References</b>	<b>7</b>



---

## 1 Introduction

---

The requirement of the work was to determine the performance of cables when tested to BS 8434-2:2003+A2:2009 [1] and EN 50200:2015 PH120 [2].

This report is issue 2 of BRE Global report P117010-1000 Issue: 1 dated 27 March 2020. At the request of the sponsor some references to clauses within the standards have been updated, further edits were made to correct other inaccuracies in the report. BRE Global report P117010-1000 Issue: 1 dated 27 March 2020 has been withdrawn with effect from the date of issue of this report

---

## 2 Cable Details

---

### 2.1 Sample F2453

The '1x1.5mm<sup>2</sup>' cable (BRE sample reference F2453) cable was a 3.44mm diameter cable which comprised the following components:

- Copper, Stranded\*\*
- Mica Tape x 2\*\*
- Outer Sheath, Green & Yellow\*\*

The sheath had the following printed marking:

DRAKA UK (B) FT SIFER 950I OHLS Gen to BS6387 IEC 60331-21 600/1000 V 1X1.5 MADE IN UK LPCB 1134g/01 2019\*\*



\*\* Information verified by BRE. \*Information supplied by the test sponsor, and this was not independently verified by BRE beyond what is stated above. The validity of the results is conditional on the accuracy of the data supplied.

The test specimens were supplied by the client and received on the 3<sup>rd</sup> January 2020. BRE Global was not involved in the sample selection process and therefore cannot comment upon the relationship between samples supplied for test and the product supplied to market.



### 3 Test results

#### 3.1 BS 8434-2:2003+A2:2009

BS 8434-2:2003+A2:2009 requires resistance to fire and mechanical shock for an initial 60 minutes and resistance to fire, mechanical shock and water spray for a further 60 minutes.

Sample	Bend radius	Test duration	Clip size	Test voltage (U <sub>o</sub> /U)	Test date	Comments	Result
F2453	130mm	120 mins	RC79	450/750V	02.03.2020	No banks of lamps extinguished.	<b>Pass*</b>

\* 3 cables tested in a 20mm Stainless Steel 316L conduit

- Dual Thermocouples and TC Reader were used as the method for temperature monitoring during the verification procedure. Meeting the requirement of clause 7.3 of BS 8434-2:2003 + A2:2009
- Continuity checking of the cable was achieved using incandescent bulbs and met the requirements of clause 9.4 of BS 8434-2:2003+A2:2009.
- The fuses used in the test procedure complied with the requirements of clause 9 of BS 8434-2:2003+A2:2009.
- The metal plate device was used over the burner.

#### 3.2 EN 50200:2015 - PH120

Sample	Test	Bend radius	Clip size	Test voltage (U <sub>o</sub> /U)	Test date	Comments	Result
F2453	1	130mm	RC75	600/1000V	14.01.2020	No banks of lamps extinguished.	<b>Pass*</b>
	2	130mm	RC75	600/1000V	14.01.2020	No banks of lamps extinguished.	<b>Pass*</b>

\* 3 cables tested in a 20mm Stainless Steel 316L conduit

- Dual Thermocouples and TC Reader were used as the method for temperature monitoring during the verification procedure.
- The cable was secured to the board using copper P Clips using the layout described in EN 50200:2015, figure 8.
- Continuity checking of the cable was achieved using incandescent bulbs and met the requirements of clause 5.3 of EN 50200:2015.
- The fuses used in the test procedure complied with the requirements of clause 5.7 of EN 50200:2015.



---

## 4 References

---

1. BS 8434-2:2003+A2:2009, 'Methods of test for assessment of the fire integrity of electric cables – Part 2: Test for unprotected small cables for use in emergency circuits – BS EN 50200 with a 930°C flame and with water spray', British Standards Institution, 2009.
2. EN 50200:2015, 'Method of test for resistance to fire of unprotected small cables for use in emergency circuits', British Standards Institution, 2015.

Report Ends