



# **FIRE RESISTANT CABLES**



**FP400**<sup>®</sup>

# FIRE RESISTANT CABLES

FP400<sup>®</sup> B57846-F2

**FP400**°



**APPROVALS** 

**INSTALLATION** 









> Prysmian FP400® is the original fire resistant armoured cable providing an easy to install and terminate, robust fire resistant wiring system. In addition to maintaining circuit integrity during a fire, FP400® produces very low levels of smoke and virtually no (less than 0.5%) acidic gases, thus safeguarding human life and protecting equipment.

 $\rm FP400^{@}$  handles like a standard armoured cable and can be installed just as easily. No special tools or accessories are needed for installation or termination of  $\rm FP400^{@}$ , which ensures that substantial installation cost savings, compared with MICC, can be achieved through its use.

 ${\rm FP400}^{\odot}$  is suitable for indoor or outdoor installation requiring a robust armoured cable, including direct burial, trough, fixed direct, tray or ladder.

Prysmian FP400 $^{\odot}$  complies with BS7846 Category F2 which ensures that it complies with the requirements for "protected power circuits" given in the 2000 edition of Approved Document B Fire safety of The Building Regulations 2000.

Prysmian FP400® is British Approvals Service for Cables (BASEC) approved to BS7846 Category F2. It is also Loss Prevention Certification Board (LPCB) listed as a fire resistant cable and approved to BS6387 Category CWZ, at an enhanced voltage of 600/1000V.

Witnessed ad-hoc tests have demonstrated the ability of FP400® to achieve fire resistant properties in excess of those required by BS6387 Category CWZ and on the basis of these tests Prysmian FP400® has been approved for many projects where previously only MICC had been approved.

Additional tests have demonstrated the ability of FP400® to achieve a 60 minute rating (PH60) to BS EN50200 and a 30 minute rating to BS8434-1. These tests demonstrate that FP400® also meets the requirements for use in "standard" installations in accordance with BS5839-1:2002 for fire detection and alarm systems, and "Cables with inherently high resistance to attack by fire" in accordance with BS5266-1:2005 for emergency lighting.

All Prysmian FP400 $^{\odot}$  cables are manufactured under an ISO 9001 Quality System certified by BASEC and LPCB.

> Prysmian FP400® may be considered as a low smoke armoured cable to BS6724 for the purposes of installation and should be installed in accordance with BS7671/IEE Wiring Regulations or any other appropriate national regulations. Although standard armour cable fixings and glands may be used, it is important to ensure that, when the cable is required to maintain circuit integrity in a fire, any fixing used to support the cable can also withstand that fire. The use of the appropriate BICON® gland or cleat is recommended.

#### CABLE CHARACTERISTICS



Temperature Range -25 to +90°C



Bending Radius Circular conductor r=6D Shaped conductor r=8D



Mechnical Impac



Fire Performance BSEN60332-1-2 BSEN50266-2-4



Flexibility Rigid



Halogen Free BSEN50267-2-1



Low Smoke Emissions BSEN61034-2



Fire Resistant BS6387 Category CWZ



# FP 400<sup>®</sup>

# **FIRE RESISTANT CABLES**

| Nominal<br>cross<br>sectional<br>area<br>mm <sup>2</sup> | Approximate<br>overall<br>diameter<br>mm | Approximate<br>diameter<br>under<br>armour<br>mm | Nominal<br>diameter<br>of armour<br>wires<br>mm | Approximate<br>cable<br>weight<br>kg/km | Maximum<br>conductor<br>resistance<br>at 20°C<br>ohms/km | Short Circuit<br>rating (1 sec)<br>of conductor | Current rating Three phase AC Clipped direct Amps | Current rating Three phase AC Free Air Amps | Volt drop<br>Three<br>phase AC<br>mV/A/m |
|--|--|--|---|---|--|---|---|---|--|
|  |  |  |   | Three                                   | Como   |   |   |   |  |
| 1.5  | 13.4                                     | 8.8  | 0.9   | 340                                     | 12.1   | 0.20  | 23  | 25  | 27                                       |
| 2.5  | 14.8                                     | 10.2   | 0.9   | 430                                     | 7.41   | 0.35  | 31  | 33  | 16                                       |
| 4  | 16.1                                     | 11.5   | 0.9   | 510                                     | 4.61   | 0.57  | 42  | 44  | 10                                       |
| 6  | 17.4                                     | 12.8   | 0.9   | 620                                     | 3.08   | 086   | 53  | 56  | 6.8                                      |
| 10   | 20.3                                     | 14.8   | 1.25  | 930                                     | 1.83   | 1.4   | 73  | 78  | 4.0                                      |
| 16   | 22.8                                     | 17.1   | 1.25  | 1210                                    | 1.15   | 2.2   | 94  | 99  | 2.5                                      |
| 25   | 27.4                                     | 20.8   | 1.6   | 1800                                    | 0.727  | 3.6   | 124   | 131   | 1.65                                     |
| 35   | 29.2                                     | 22.4   | 1.6   | 2100                                    | 0.524  | 5.0   | 154   | 162   | 1.15                                     |
| 50   | 33.0                                     | 26.2   | 1.6   | 2600                                    | 0.387  | 7.1   | 187   | 197   | 0.87                                     |
| 70   | 37.0                                     | 30.0   | 1.6   | 3400                                    | 0.268  | 10.0  | 238   | 251   | 0.60                                     |
| 95   | 40.6                                     | 32.4   | 2.0   | 4500                                    | 0.193  | 13.6  | 389   | 304   | 0.45                                     |
| 120  | 43.8                                     | 35.4   | 2.0   | 5500                                    | 0.153  | 17.2  | 335   | 353   | 0.37                                     |
| 150  | 48.0                                     | 38.4   | 2.5   | 6900                                    | 0.124  | 21.4  | 386   | 406   | 0.30                                     |
| 185  | 52.0                                     | 42.2   | 2.5   | 8200                                    | 0.0991   | 26.5  | 441   | 463   | 0.26                                     |
| 240  | 57.1                                     | 46.9   | 2.5   | 10200                                   | 0.0754   | 34.3  | 520   | 546   | 0.21                                     |
| 300  | 63.0                                     | 52.6   | 2.5   | 12200                                   | 0.0601   | 42.9  | 599   | 628   | 0.185                                    |
| 400  | 69.5                                     | 58.7   | 2.5   | 15000                                   | 0.0470   | 57.2  | 673   | 728   | 0.165                                    |
|  |  |  |   | Four                                    | Core   |   |   |   |  |
| 1.5  | 14.3                                     | 9.7  | 0.9   | 390                                     | 12.1   | 0.20  | 23  | 25  | 27                                       |
| 2.5  | 16.0                                     | 11.4   | 0.9   | 490                                     | 7.41   | 0.35  | 31  | 33  | 16                                       |
| 4  | 17.3                                     | 12.7   | 0.9   | 590                                     | 4.61   | 0.57  | 42  | 44  | 10                                       |
| 6  | 19.6                                     | 14.1   | 1.25  | 830                                     | 3.08   | 0.86  | 53  | 56  | 6.8                                      |
| 10   | 21.8                                     | 16.3   | 1.25  | 1040                                    | 1.83   | 1.4   | 73  | 78  | 4.0                                      |
| 16   | 24.6                                     | 18.9   | 1.25  | 1370                                    | 1.15   | 2.2   | 94  | 99  | 2.5                                      |
| 25   | 29.1                                     | 22.5   | 1.6   | 2100                                    | 0.727  | 3.6   | 124   | 131   | 1.65                                     |
| 35   | 32.2                                     | 25.4   | 1.6   | 2500                                    | 0.524  | 5.0   | 154   | 162   | 1.15                                     |
| 50   | 35.0                                     | 28.0   | 1.6   | 3200                                    | 0.387  | 7.1   | 187   | 197   | 0.87                                     |
| 70   | 40.2                                     | 32.0   | 2.0   | 4500                                    | 0.268  | 10.0  | 238   | 251   | 0.60                                     |
| 95   | 44.0                                     | 35.6   | 2.0   | 5600                                    | 0.193  | 13.6  | 289   | 304   | 0.45                                     |
| 120  | 48.4                                     | 38.8   | 2.5   | 7200                                    | 0.153  | 17.2  | 335   | 353   | 0.37                                     |
| 150  | 52.5                                     | 42.7   | 2.5   | 8500                                    | 0.124  | 21.4  | 386   | 406   | 0.30                                     |
| 185  | 57.1                                     | 46.9   | 2.5   | 10300                                   | 0.0991   | 26.5  | 441   | 463   | 0.26                                     |
| 240  | 62.7                                     | 52.3   | 2.5   | 12800                                   | 0.0754   | 34.3  | 520   | 546   | 0.21                                     |
| 300  | 69.6                                     | 58.8   | 2.5   | 15600                                   | 0.0601   | 42.9  | 599   | 628   | 0.185                                    |
| 400  | 78.0                                     | 65.3   | 3.15  | 20400                                   | 0.0470   | 57.2  | 673   | 728   | 0.165                                    |

Circular conductor 1.5 –  $35\,mm^2$ .

Shaped conductor  $50 \text{mm}^2$  and above. Installation methods for current rating in accordance with BS7671/IEE Wiring Regulations. The tabulated ratings are based upon a  $30^\circ\text{C}$  ambient temperature and  $90^\circ\text{C}$  operating temperature.





# **LOW VOLTAGE 600/1000V**

| Nominal            | Approximate         | Approximate       | Nominal                                 | Approximate cable | Maximum                 | Current rating         | Current rating        | Volt drop<br>DC | Volt drop           |  |  |  |
|--------------------|---------------------|-------------------|---|-------------------|-------------------------|------------------------|-----------------------|-----------------|---------------------|--|--|--|
| cross<br>sectional | overall<br>diameter | diameter<br>under | diameter<br>of armour                   | weight            | conductor<br>resistance | DC or Single phase AC  | DC or Single phase AC | DC              | Single<br>phase AC  |  |  |  |
| area<br>mm²        | mm                  | armour<br>mm      | wires<br>mm                             | kg/km             | at 20°C<br>ohms/km      | Clipped direct<br>Amps | Free Air<br>Amps      | mV/A/m          | mV/A/m              |  |  |  |
| 111111             | """                 | """               | , ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,, | Kg/Kiii           | OHIII3/KIII             | Allips                 | Allips                | 111 V / FV 111  | III <i>V/F</i> VIII |  |  |  |
|                    |                     |                   |   |                   |                         |                        |                       |                 |                     |  |  |  |
|                    |                     |                   |   | Two               |                         |                        |                       |                 |                     |  |  |  |
| 1.5                | 12.9                | 8.3               | 0.9                                     | 310               | 12.1                    | 27                     | 29                    | 31              | 31                  |  |  |  |
| 2.5                | 14.1                | 9.6               | 0.9                                     | 380               | 7.41                    | 36                     | 39                    | 19              | 19                  |  |  |  |
| 4                  | 15.2                | 10.6              | 0.9                                     | 450               | 4.61                    | 49                     | 52                    | 12              | 12                  |  |  |  |
| 6                  | 16.4                | 12.0              | 0.9                                     | 530               | 3.08                    | 62                     | 66                    | 7.9             | 7.9                 |  |  |  |
| 10                 | 18.6                | 14.0              | 0.9                                     | 630               | 1.83                    | 85                     | 90                    | 4.7             | 4.7                 |  |  |  |
| 16                 | 21.4                | 15.9              | 0.9                                     | 920               | 1.15                    | 110                    | 115                   | 2.9             | 2.9                 |  |  |  |
| 25                 | 23.7                | 18.3              | 1.25                                    | 1200              | 0.727                   | 146                    | 152                   | 1.85            | 1.9                 |  |  |  |
| 35                 | 27.2                | 20.9              | 1.6                                     | 1600              | 0.524                   | 180                    | 188                   | 1.35            | 1.35                |  |  |  |
| 50                 | 28.0                | 21.2              | 1.6                                     | 2000              | 0.387                   | 219                    | 228                   | 0.98            | 1.00                |  |  |  |
| 70                 | 30.7                | 23.7              | 1.6                                     | 2400              | 0.268                   | 279                    | 291                   | 0.67            | 0.69                |  |  |  |
| 95                 | 35.3                | 27.3              | 2.0                                     | 3300              | 0.193                   | 338                    | 354                   | 0.49            | 0.52                |  |  |  |
| 120                | 36.6                | 28.4              | 2.0                                     | 3800              | 0.153                   | 392                    | 410                   | 0.39            | 0.42                |  |  |  |
| 150                | 39.3                | 30.9              | 2.0                                     | 4400              | 0.124                   | 451                    | 472                   | 0.31            | 0.35                |  |  |  |
| 185                | 44.2                | 34.4              | 2.5                                     | 5700              | 0.0991                  | 515                    | 539                   | 0.25            | 0.29                |  |  |  |
| 240                | 48.0                | 38.0              | 2.5                                     | 7200              | 0.0754                  | 637                    | 636                   | 0.195           | 0.24                |  |  |  |
| 300                | 51.8                | 41.6              | 2.5                                     | 8300              | 0.0601                  | 698                    | 732                   | 0.155           | 0.21                |  |  |  |
| 400                | 55.9                | 45.3              | 2.5                                     | 10500             | 0.0470                  | 787                    | 847                   | 0.120           | 0.19                |  |  |  |
|                    |                     |                   |   | Seven             | Core                    |                        |                       |                 |                     |  |  |  |
| 1.5                | 16.4                | 11.8              | 0.9                                     | 500               | 12.1                    | 27 *                   | 29 *                  | 31              | 31                  |  |  |  |
| 2.5                | 18.3                | 13.7              | 0.9                                     | 640               | 7.41                    | 36 *                   | 39 *                  | 19              | 19                  |  |  |  |
| 4                  | 20.8                | 15.3              | 1.25                                    | 910               | 4.61                    | 49 *                   | 52 *                  | 12              | 12                  |  |  |  |
|                    |                     |                   |   | Twelve            | e Core                  |                        |                       |                 |                     |  |  |  |
| 1.5                | 21.2                | 15.7              | 1.25                                    | 850               | 12.1                    | 27 *                   | 29 *                  | 31              | 31                  |  |  |  |
| 2.5                | 24.0                | 18.3              | 1.25                                    | 1090              | 7.41                    | 36 *                   | 39 *                  | 19              | 19                  |  |  |  |
| 4                  | 27.3                | 20.9              | 1.6                                     | 1550              | 4.61                    | 49 *                   | 52 *                  | 12              | 12                  |  |  |  |
|                    |                     |                   |   | Ninetee           | en Core                 |                        |                       |                 |                     |  |  |  |
| 1.5                | 24.2                | 18.5              | 1.25                                    | 1120              | 12.1                    | 27 *                   | 29 *                  | 31              | 31                  |  |  |  |
| 2.5                | 28.6                | 22.0              | 1.6                                     | 1650              | 7.41                    | 36 *                   | 39 *                  | 19              | 19                  |  |  |  |
|                    |                     |                   |   | Twenty-s          | even Core               |                        |                       |                 |                     |  |  |  |
| 1.5                | 29.4                | 22.8              | 1.6                                     | 1650              | 12.1                    | 27 *                   | 29 *                  | 31              | 31                  |  |  |  |
| 2.5                | 33.4                | 26.6              | 1.6                                     | 2150              | 7.41                    | 36 *                   | 39 *                  | 19              | 19                  |  |  |  |
|                    |                     |                   |   | Thirty-se         |                         |                        |                       |                 |                     |  |  |  |
| 1.5                | 32.2                | 25.6              | 1.6                                     | 2000              | 12.1                    | 27 *                   | 29 *                  | 31              | 31                  |  |  |  |
| 2.5                | 36.7                | 29.9              | 1.6                                     | 2650              | 7.41                    | 36 *                   | 39 *                  | 19              | 19                  |  |  |  |
|                    |                     |                   |   |                   |                         |                        |                       |                 |                     |  |  |  |



<sup>\*</sup>The tabulated rating is as a two core cable and may be used where the number of cores carrying current does not exceed its square root of the total number of cores.



# **FP 400**<sup>®</sup>

# **FIRE RESISTANT CABLES**

#### **KEY APPLICATIONS**

Essential safety circuits associated with fire detection, fire alarm, emergency lighting and particularly for power supplies to building equipment used in safety systems.

#### **CABLE DESCRIPTION:**

#### CONDUCTOR

Plain annealed copper stranded (class 2) conductor for ease of handling.

#### PRIMARY INSULATION

Mineral ceramic (Mica/Glass) fire resistant tape

#### SECONDARY INSULATION

90°C cross - linked insulation

#### **CORE IDENTIFICATION:**

#### HARMONISED CORE IDENTIFICATION:

- o o brown-blue
- o o o brown-black-grey
- o o o blue-brown-black-grey

7-48 cores white with printed numbers

#### NON HARMONISED CORE IDENTIFICATION:

- o o red-black
- o o o red-yellow-blue
- o o o o black-red-yellow-blue

Non harmonised colours to special order.

#### **BEDDING**

Extruded LSOH bedding compound.

#### **ARMOUR**

Single layer of galvanised steel wires.

#### SHEATH

Robust LSOH sheath. Colour - black. Other colours to special order

#### INSTALLATION

Minimum recommended installation temperature  $0^{\circ}$ C. Suitable for indoor and outdoor installations. For external exposure the use of a Black sheath is recommended.

Should be installed in accordance with BS7671/IEE Wiring Regulations or any other appropriate national regulations.

Suitable for direct burial, trough, tray, ladder or other installations requiring a robust armoured cable.

#### **BENDING RADIUS**

A minimum internal radius of bend of 6 x cable diameter is recommended during installations for cables having circular conductors and 8 x cable diameter for cables having shaped conductors.

#### **ACCESSORIES**

No special accessories are required for the installation of  $FP400^{\circ}$ .

Standard brass armoured cable glands may be used.

When the cable is required to maintain circuit integrity in a fire, it is important that any accessory used to support the cable can also withstand that fire.

## **CURRENT RATINGS**

The tabulated ratings are based upon a 30°C ambient temperature and a 90°C operating temperature. For other ambient temperatures or where cables are grouped together, the following correction factors should be applied.

## Correction factors for Ambient temperatures

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

#### Correction factors for grouping of cables

| Installation Method   |          | Number of circuits or multi-core cables |      |      |      |      |      |      |      |
|---|----------|---|------|------|------|------|------|------|------|
|   |          | 2                                       | 3    | 4    | 5    | 6    | 7    | 8    | 9    |
| Single layer clipped to   | Touching | 0.85                                    | 0.79 | 0.75 | 0.73 | 0.72 | 0.72 | 0.71 | 0.70 |
| a non-metallic surface  | Spaced*  | 0.94                                    | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Single layer multicore on a perforated metal cable tray, vertical or horizontal | Touching | 0.86                                    | 0.81 | 0.77 | 0.75 | 0.74 | 0.73 | 0.73 | 0.72 |
|   | Spaced*  | 0.91                                    | 0.89 | 0.88 | 0.87 | 0.87 | -    | -    | -    |

<sup>\*</sup> Spaced by a clearance between adjacent surfaces of at least one cable diameter.

Where the horizontal clearance between adjacent cables exceeds 2 cable diameters no correction factor need be applied Note. Standard conditions of grouping as stated in BS7671 IEE Wiring Regs apply





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Prysmian Cables & Systems Limited Chickenhall Lane Eastleigh Hampshire SO50 6YU United Kingdom





# Certificate of Management System Registration

Certificate Number: 77

Issue: 18

**Prysmian Cables & Systems Limited** 

having complied with the requirements of:

ISO 9001:2015

**Quality Management Systems - Requirements** 

are certified by BRE Global Ltd. and are authorised to use the LPCB Certification Mark on stationery and publications related to the following products and/or services:

# **Prysmian Cables & Systems Limited**

Energy Cables Division Chickenhall Lane Eastleigh Hampshire SO50 6YU United Kingdom

## Scope:

Design and manufacture of electric cables for use in installations that require safety in the event of fire.

This certificate is maintained and held in force through regular surveillance activities.



Ruben Graham

1 December 2022

30 November 2025

13 February 1992

Signed for BRE Global

**Assessment Services** 

Date of this Issue

Expiry Date

Date of First Issue

LPCB B



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BRE Global Ltd, Watford, WD25 9XX

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# **Certificate of Product Approval**

Certificate Number: 077b Issue: 13

# **PRYSMIAN CABLE & SYSTEMS LIMITED**

Energy Cables 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: FP300 fire resistant cable LSOH outer covering FP400 fire resistant cable LSOH outer covering

See Certificate Appendix for details

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

BS 6387:2013 CWZ 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.

Damier Ward

Damien Ward

28 October 2016

30 November 1994

Date

Signed for LPCB

Certification Scheme Manager

Date of Issue

Date of First issue





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# Appendix to Certificate No: 077b PRYSMIAN CABLE & SYSTEMS LIMITED

Product name LPCB Ref. No.

FP300 fire resistant cable LSOH outer covering

077b/01

Issue: 13

| Nominal csa of conductor<br>(mm²) | Core Construction<br>(excluding drain wire and<br>earth) | BS 6387 | EN 61034-2 | EN 60754-1<br>(outer covering) |  |
|-----------------------------------|--|---------|------------|--------------------------------|--|
| 1.0                               | 2, 3 & 4 <sup>(1)</sup>                                  | CWZ     | >60%       | <0.5% HCI                      |  |
| 1.5                               | 2, 3 & 4 <sup>(1)</sup>                                  | CWZ     | >60%       | <0.5% HCI                      |  |
| 2.5                               | 2, 3 & 4 <sup>(1)</sup>                                  | CWZ     | >60%       | <0.5% HCI                      |  |
| 4.0                               | 2, 3 & 4 <sup>(1)</sup>                                  | CWZ     | >60%       | <0.5% HCI                      |  |
| 6.0                               | 2, 3 & 4 <sup>(1)</sup>                                  | CWZ     | >60%       | <0.5% HCI                      |  |
| 10                                | 2, 3 & 4 <sup>(1)</sup>                                  | CWZ     | >60%       | <0.5% HCI                      |  |
| 16                                | 2, 3 & 4 <sup>(1)</sup>                                  | CWZ     | >60%       | <0.5% HCI                      |  |

# Uo/U 600/1000V

#### Notes:

1. Stranded conductor only.

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

Damier Ward

Signed for LPCB

Damien Ward
Certification Scheme Manager

28 October 2016

30 November 1994

Date of Issue

Date of First issue





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# Appendix to Certificate No: 077b PRYSMIAN CABLE & SYSTEMS LIMITED

| Product name                                   | LPCB Ref.<br>No. |
|--|------------------|
| FP400 fire resistant cable LSOH outer covering | 077b/02          |

| Nominal csa of conductor (mm²) | Core Construction       | BS 6387 | EN 61034-2 | EN 60754-1<br>(outer covering) |
|--------------------------------|-------------------------|---------|------------|--------------------------------|
| 1.5                            | 2, 3 & 4 <sup>(1)</sup> | CWZ     | >60%       | <0.5% HCI                      |
| 2.5                            | 2, 3 & 4 <sup>(1)</sup> | CWZ     | >60%       | <0.5% HCI                      |
| 4.0                            | 2, 3 & 4 <sup>(1)</sup> | CWZ     | >60%       | <0.5% HCI                      |
| 6.0                            | 2, 3 & 4 <sup>(1)</sup> | CWZ     | >60%       | <0.5% HCI                      |
| 10                             | 2, 3 & 4 <sup>(1)</sup> | CWZ     | >60%       | <0.5% HCI                      |
| 16                             | 2, 3 & 4 <sup>(1)</sup> | CWZ     | >60%       | <0.5% HCI                      |
| 25                             | 2, 3 & 4 <sup>(1)</sup> | CWZ     | >60%       | <0.5% HCI                      |
| 35                             | 2, 3 & 4 <sup>(1)</sup> | CWZ     | >60%       | <0.5% HCI                      |
| 50                             | 2, 3 & 4 <sup>(1)</sup> | CWZ     | >60%       | <0.5% HCI                      |
| 70                             | 2, & 3 <sup>(1)</sup>   | CWZ     | >60%       | <0.5% HCI                      |

## Uo/U 600/1000 V

#### Notes:

- 1. Stranded conductors only.
- 2. Testing of the FP400 range with diameters greater than 20mm were successfully carried out in accordance with Clause 17.6.2 and Annex I of BS 7846:2015.

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

Damien Ward

28 October 2016

30 November 1994

Certification Scheme Manager Date of

Date of Issue

Date of First issue





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Issue: 13

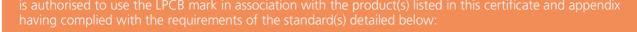


# **Certificate of Product Approval**

Certificate Number: 517b Issue: 06

# **PRYSMIAN CABLE & SYSTEMS LIMITED**

Energy Cables Unit Wrexham Industrial Estate Wrexham LL13 9PH United Kingdom



## Product(s)

Cable Types as listed below: FP400 Fire Resistant Cable See Certificate Appendix for details

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

BS 6387:2013 CWZ 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.

Damier Ward

Damien Ward Certification Scheme Manager 12 October 2016

04 September 2001

Date of Issue

Date of First issue





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# Appendix to Certificate No: 517b PRYSMIAN CABLE & SYSTEMS LIMITED

Product name

LPCB Ref.
No.

FP400 Fire Resistant Cable 517b/01

| Nominal csa of conductor (excluding drain wire and earth) |                         | BS 6387 | EN 61034-2 | EN 60754-1<br>(outer covering) |  |  |
|---|-------------------------|---------|------------|--------------------------------|--|--|
| 70  | 4(1)                    | CWZ     | >60%       | <0.5% HCI                      |  |  |
| 95  | 2, 3 & 4 <sup>(1)</sup> | CWZ     | >60%       | <0.5% HCI                      |  |  |
| 120   | 2, 3 & 4 <sup>(1)</sup> | CWZ     | >60%       | <0.5% HCI                      |  |  |
| 150   | 2, 3 & 4 <sup>(1)</sup> | CWZ     | >60%       | <0.5% HCI                      |  |  |
| 185   | 2, 3 & 4 <sup>(1)</sup> | CWZ     | >60%       | <0.5% HCI                      |  |  |
| 240   | 2, 3 & 4 <sup>(1)</sup> | CWZ     | >60%       | <0.5% HCI                      |  |  |
| 300   | 2, 3 & 4 <sup>(1)</sup> | CWZ     | >60%       | <0.5% HCI                      |  |  |
| 400   | 2, 3 & 4 <sup>(1)</sup> | CWZ     | >60%       | <0.5% HCI                      |  |  |

# Uo/U 600/1000V

#### Notes:

- 1. Stranded conductor only.
- 2. Testing of the FP400 range with diameters greater than 20mm were successfully carried out in accordance with Clause 17.6.2 and Annex I of BS 7846:2015.

Cross-Listed products and alternative branding are detailed on page 3.

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

Damier Ward

Damien Ward
Certification Scheme Manager

12 October 2016

Date of Issue

04 September 2001

Date of First issue

I DCD

Signed for LPCB



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Issue: 06



# Appendix to Certificate No: 517b PRYSMIAN CABLE & SYSTEMS LIMITED

Issue: 06

| LPCB Ref No. | Model No.  | Alternative Model No.  | Labelled     | Distributors Cert/Ref No. |
|--------------|--|--|--------------|---------------------------|
| 517b/01      | FP400<br>95mm² - 400mm² at 2, 3<br>& 4 cores<br>70mm² at 4 cores | FTP<br>95mm <sup>2</sup> - 400mm <sup>2</sup> at 2, 3<br>& 4 cores<br>70mm <sup>2</sup> at 4 cores | Draka UK Ltd | 1134f/01                  |

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

Damier Ward

Damien Ward

12 October 2016

04 September 2001

Certification Scheme Manager Date of Issue

Date of First issue



Signed for LPCB



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# 消防處牌照及審批總通風系統課

九龍尖沙咀東康莊道 1 號 消防總部大廈 5 樓

本處檔號 Our Ref.:

FP(LC) 317/21

來函檔號 Your Ref.:

圖文傳真 Fax:

2367 3206

電 話 Tel. No.:

2733 1557

24 March 2017

FIRE SERVICES DEPARTMENT LICENSING & CERTIFICATION COMMAND

Ventilation Division

5/F, Fire Services Headquarters Building,

No. 1 Hong Chong Road, Tsim Sha Tsui East, Kowloon,

Hong Kong

Prysmian Hong Kong Holding Limited Units 1511-12, 15/F., Lu Plaza 2 Wing Yip Street, Kwun Tong Kowloon Hong Kong

(Attn.: Mr. Stephen LAM)

Dear Sir,

# "Prysmian" FP400 Fire Resistant Cables

I refer to your letter dated 16.12.2016 enclosing a set of catalogues and certificates and supplementary information submitted on 13.3.2017 with respect to the captioned fire resistant cables.

We have no objection in principle to the use of "Prysmian" FP400 fire resistant cables for fire service installations in Hong Kong subject to compliance with the Codes of Practice for Minimum Fire Service Installations and Equipment and Inspection, Testing and Maintenance of Installations and Equipment, 2012 Edition, relevant FSD Circular Letters and according to the following details:

Manufacturer

: Prysmian Cable & Systems Limited, UK

Model

: FP400

Construction

: Plain annealed copper conductor, mineral ceramic tape, cross link insulation, LSOH bedding, steel wire

armour, LSOH sheath

Conductor Size

: 1.5 to 400 mm<sup>2</sup> inclusive with 2, 3 and 4 core

**Test Certificates** 

: Certificate No. 077b (Issue: 13) of 28.10.2016 and

517b (Issue: 06) of 12.10.2016 issued by Loss

Prevention Certification Board (LPCB)

# Test Standard & Result

- : a) For cables with size of 1.5 to 10 mm<sup>2</sup> with 2 core and 1.5 to 6 mm<sup>2</sup> with 3 and 4 core (with overall diameter not exceeding 20 mm):
  BS 6387: 2013 (Category C, W, Z)
  - b) For cables with size of 16 to 400 mm<sup>2</sup> with 2 core, 10 to 400 mm<sup>2</sup> with 3 and 4 core (with overall diameter exceeding 20 mm):
    BS 7846: 2015 (Category F2)

# Quality Assurance Scheme

: The manufacturer operates a quality management system to ISO 9001: 2008 certified by LPCB under Certificate No. 077 (Issue: 15) of 25.11.2016.

#### Remark

- : a) The cables shall remain LPCB listed and valid certificates shall be maintained;
  - b) The cables shall bear appropriate markings of the manufacturer and certification body for identification purpose;
  - c) Our previous letter of the same series dated 17.10.2016 for the same fire resistant cables is hereby superseded; and
- d) This assessment is subject to review by February 2022.

Yours faithfully,

(LAM Sui-hang) for Director of Fire Services

SHIL/chl

FileCode: prysmian fp400 20170324.doc

Prysmian Group PRYSMIAN CONFIDENTIAL

Test No

19331

RFS No

4890

# BISHOPSTOKE FIRE TEST LABORATORY

# REPORT OF FIRE RESISTANCE TEST

| ORDER No.                      | 11602710b                                |
|--------------------------------|--|
| TEST STANDARD                  | BS EN 50200 : 2006                       |
| Category/Classification        | PH 120                                   |
| CABLE DESCRIPTION              | 4 x 6 mm2 FP400 Black to BS7846          |
|                                |  |
| Cable diameter 20              | mm Clip size -                           |
| TEST CONDITIONS                |  |
| Test Voltage                   | 1000 V Nominal flame temperature 850 ° C |
| Test duration                  | 120 mins                                 |
| Ambient temperature            | 16 °C                                    |
| TEST OBSERVATIONS              | No fuse ruptured or lamp extinguished.   |
|                                |  |
|                                |  |
| RESULT                         | Pass                                     |
| Tested by R Buck               | Witnessed by                             |
| Signed Ally                    | Signed                                   |
| Test date PP R-BUCK  17/10/201 | 2  |

Prysmian Group PRYSMIAN CONFIDENTIAL

Test No

19329

RFS No

4890

# BISHOPSTOKE FIRE TEST LABORATORY

# REPORT OF FIRE RESISTANCE TEST

| ORDER No.  | 11602710a                                |
|--|--|
| TEST STANDARD  | BS EN 50200 : 2006                       |
| Category/Classification  | PH 120                                   |
| CABLE DESCRIPTION  | 2 x 1.5 mm2 FP400 Black to BS7846        |
|  |  |
| Cable diameter 13.5  | mm Clip size AP13                        |
| TEST CONDITIONS  |  |
| Test Voltage   | 1000 V Nominal flame temperature 850 ° C |
| Test duration  |  |
| Ambient temperature  | 16 °C                                    |
| TEST OBSERVATIONS  | No fuse ruptured or lamp extinguished.   |
|  |  |
|  |  |
| RESULT   | Pass                                     |
| Tested by R Buck   | Witnessed by                             |
| Signed Aug   | Signed                                   |
| Test date $\int P R - R \cdot R \cdot$ | 2  |





# Certificate No: 017/004/340

Issue No: 5

# Certificate of Product Approval

Licensee:

# **Prysmian Cables & Systems Ltd**

Chickenhall Lane, Eastleigh, SO50 6YU, Hampshire, United Kingdom

Factory: Chickenhall Lane, Eastleigh, SO50 6YU, Hampshire, United Kingdom

> Standard: BS 7846:2015

Description:
Armoured fire resistant power cables

Details: Resistance to fire - Category F2.

Materials: Insulation GP 8, Sheath LTS 1

Brand Name: FP400

Origin Mark:
PRYSMIAN (B) FP400 or (B) PRYSMIAN FP400

**Permissible Approval Marks:** 





BASEC name

BASEC roundel

Signed for and on behalf of BASEC Group Ltd

Krean D'Krin Date: 06/07/2023

Date of original issue: 17/03/1997

Check BASEC website to verify validity. Page 1 of 2

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BSF079 Issue 5 (20-03-2023)





Expiry date: 11/08/2026





# Certificate No: 017/004/340

Issue No: 5

# Type(s) and Range(s) of Approval

| Table /<br>Clause | Code<br>Designation | Conductor<br>Class | Range of<br>Cores | Min Nominal<br>Size -sqmm | Max Nominal<br>Size - sqmm |
|-------------------|---------------------|--------------------|-------------------|---------------------------|----------------------------|
| 4                 | N/A                 | Class 2            | 2                 | 1.5                       | 70                         |
| 5                 | N/A                 | Class 2            | 3                 | 1.5                       | 70                         |
| 6                 | N/A                 | Class 2            | 4                 | 1.5                       | 70                         |
| 7                 | N/A                 | Class 2            | 5                 | 1.5                       | 10                         |
| 8                 | N/A                 | Class 2            | 7                 | 1.5                       | 4                          |
| 8                 | N/A                 | Class 2            | 12                | 1.5                       | 4                          |
| 8                 | N/A                 | Class 2            | 19                | 1.5                       | 4                          |
| 8                 | N/A                 | Class 2            | 27                | 1.5                       | 4                          |
| 8                 | N/A                 | Class 2            | 37                | 1.5                       | 4                          |

Signed for and on behalf of BASEC Group Ltd

Krean O'Krein Date: 06/07/2023

Date of original issue: 17/03/1997 Check BASEC website to verify validity.

Page 2 of 2

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BSF079 Issue 5 (20-03-2023)









# Certificate No: 017/006/082

Issue No: 6

# Certificate of Product Approval

Licensee:

# **Prysmian Cables & Systems Ltd**

Chickenhall Lane, Eastleigh, SO50 6YU, Hampshire, United Kingdom

Factory: Oak Road

Wrexham Industrial Estate, Wrexham, LL13 9PH, Clwyd, United Kingdom

Standard: BS 7846:2015

Description:
Armoured fire resistant power cables

Details: Resistance to fire - Category F2.

Materials: Insulation GP 8, Sheath LTS 1

Brand Name: FP400

Origin Mark: PRYSMIAN (W) FP400

**Permissible Approval Marks:** 





BASEC name

BASEC roundel

Signed for and on behalf of BASEC Group Ltd

Krean D'Krin Date: 20/07/2023

Date of original issue: 27/09/2001

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BSF079 Issue 5 (20-03-2023)





Expiry date: 11/08/2026





Certificate No: 017/006/082

Issue No: 6

# Type(s) and Range(s) of Approval

| Table /<br>Clause | Code<br>Designation | Conductor<br>Class | Range of<br>Cores | Min Nominal<br>Size -sqmm | Max Nominal<br>Size - sqmm |
|-------------------|---------------------|--------------------|-------------------|---------------------------|----------------------------|
| 4                 | N/A                 | Class 2            | 2                 | 50                        | 400                        |
| 5                 | N/A                 | Class 2            | 3                 | 50                        | 400                        |
| 6                 | N/A                 | Class 2            | 4                 | 50                        | 400                        |

Signed for and on behalf of BASEC Group Ltd

Krean O'Krin Date: 20/07/2023

Date of original issue: 27/09/2001 Check BASEC website to verify validity. Page 2 of 2

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BSF079 Issue 5 (20-03-2023)





BRE Global Bucknalls Lane Watford, Herts WD25 9XX

T +44 (0)333 321 8811 E enquiries@breglobal.com W www.bre.co.uk/global



Mr R Colwell Prysmian Group Chickenhall Lane Eastleigh Hampshire SO50 6YU

1 October 2015 Our Ref. JM011015

Dear Ray

# LPCB Approval - Prysmian Group - FP400 Range and FTP Cable Range

This letter is to confirm that the Prysmain Group products listed below have been successfully tested in accordance with BS 6387:2013. Testing of the FP400 and FTP range with diameters greater than 20mm were successfully carried out in accordance with Clause 17.4.3 and Annex L of BS 7846:2009.

| Model No.                     | LPCB No. | Labelled As                      |
|-------------------------------|----------|----------------------------------|
| FP400                         | 077ь     | Prysmian Cable & Systems Limited |
| FP400 Fire Resistant<br>Cable | 517b     | Prysmian Cable & Systems Limited |
| FTP                           | 1134e    | DRAKA UK Limited                 |
| FTP                           | 1134f    | DRAKA UK Limited                 |

Assuring you of our best intentions at all times.

Yours sincerely,



Jenny Morris
Certification Scheme Manager
For and on behalf of BRE Global Ltd.
Telephone +44(0)1923 665262
morrisje@bre.co.uk





5<sup>th</sup> January 2021

## To Whom It May Concern

Dear Customers,

# Qualification of Prysmian and Draka Fire Resistant Cables for "Listed Product" of FSD

Refer to FSD Circular Letter No. 3/2020 of 15 July, 2020, this is to inform that "Prysmian" and "Draka" fire resistant cables with respect to attached Appendix II are "Listed Product" online for public access accredited with Product Certification Body (PCB), which are LPCB and BASEC under the UKAS hierarchy partnering with Multilateral Recognition Arrangement (MLA) of HKCAS.

Therefore, prior acceptance by FSD is not required since the qualification of our fire resistant cables underlying with attached Appendix A, are online for validation with the following websites.

- LPCB with <a href="https://www.redbooklive.com/check">https://www.redbooklive.com/check</a>/ by entering the certificate number e.g. 077n for Prysmian FP600S, 1134d for Draka FTP 120 and etc.
- BASEC with <a href="https://www.basec.org.uk/">https://www.basec.org.uk/</a> by clicking "Company Search" to enter "Prysmian Cables & Systems Ltd" or "Draka UK Ltd" to choose the corresponding product certificates e.g. 017/004/330 for Prysmian FP600S, 189/001/071 for Draka FTP 120 and etc.

To apply for FSI inspection, Registered Fire Service Installation Contractors (RFSICs) are required to submit Equipment List (Annex III) along with FSI/501a Form. For Fire Resisting Cables of ours that are supported with corresponding certificates of Appendix A, a specimen of Equipment List (Annex III) whereas the wirings are applicable for installation, is enclosed for submission reference.

Our product catalogue and corresponding LPCB & BASEC certificates are available on request or online for downloading and we are at your disposal for further understanding should there be any queries.

Yours sincerely,

For and on behalf of Prysmian Group, Hong Kong office

Stephen Lam

Business Director

Hong Kong and Macau Area

Encl: Appendix II – Listed Product

Styled am

Appendix A - Qualification of Prysmian and Draka Fire Resistant Cables

Annex III – Equipment List



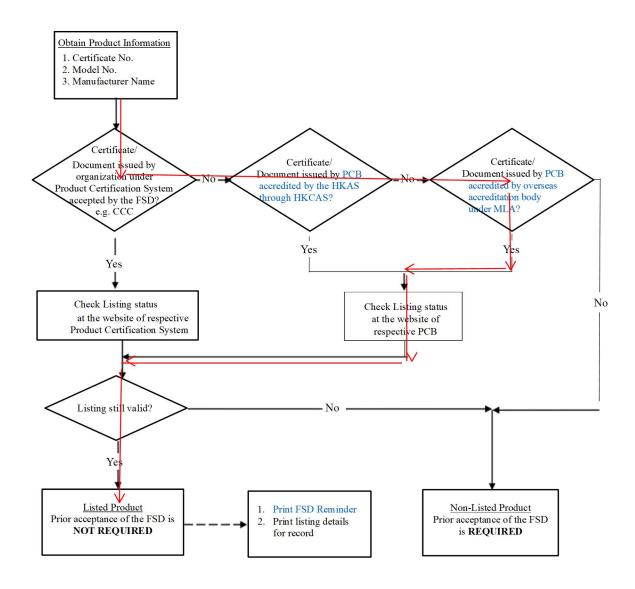


# Listed Product for Prysmian and Draka Fire Resistant Cables

Appendix II

### **Checking the Validity of Product Certification (Listed Product)**

**'Product Certification'** means the certification of a product which has been carried out in accordance with the conformity assessment as required by respective product certification scheme. In general, product certification includes product testing, conformity assessment with certification and surveillance inspection as stipulated in ISO/IEC 17067. For more information on the product certification scheme, please consult the manufacturer or Product Certification Body.



#### **Abbreviations**

PCB - Product Certification Body

MLA - Multilateral Recognition Arrangement
CCC - China Compulsory Certification System
HKAS - Hong Kong Accreditation Service

HKCAS - Hong Kong Certification Accreditation Scheme





# Appendix A - Qualification of Prysmian and Draka Fire Resistant Cables

| Standard  | PRYSMIAN | LPCB                 | BASEC                      | DRAKA            | LPCB           | BASEC                      |
|---|----------|----------------------|----------------------------|------------------|----------------|----------------------------|
| BS 6387 CWZ<br>IEC 60331-21<br>BS 8592<br>IEC 60331-3<br>EN 50200 PH120<br>BS 8434-2                  | FP 100   | 077c<br>077p         | 017/004/343                | FT Sifer<br>950i | 1134c<br>1134g | 189/001/080                |
| BS 6387 CWZ<br>IEC 60331-21   | FP 300   | 077b<br>077e<br>517a |                            | FT Sifer<br>950s | 1134h          |                            |
| BS 6387 CWZ<br>BS 7629-1 (Standard)<br>BS 5839-1 (Standard)<br>EN 50200 PH60+Annex E                  | FP 200   | 077f                 | 017/004/324                | FT 30<br>Saffire | 1134j          | 189/001/068                |
| BS 6387 CWZ<br>BS 7846-F2   | FP 400   | 077b<br>517b         | 017/004/340<br>017/006/082 | FTP              | 1134e<br>1134f | 189/001/078<br>189/003/023 |
| BS 6387 CWZ<br>BS 7629-1 (Enhanced)<br>BS 5839-1 (Enhanced)<br>BS 8434-2 (120 mins)<br>EN 50200 PH120 | FP Plus  | 077g                 | 017/004/325                | FT 120           | 1134b          | 189/001/067                |
| BS 8491 (120 mins)<br>BS 7846-F120<br>BS 7846-F2  | FP 600S  | 077n<br>517c         | 017/004/330<br>017/006/083 | FTP 120          | 1134d          | 189/001/071<br>189/003/024 |





# **Annex III**

|             | Fire Service Installations – Equipment List | (Revised in July 2020) |
|-------------|---|------------------------|
|             | (To be appended to Form FSI/501a)           |                        |
| FP Ref. no. | Address of Premises:                        |                        |
|             |   |                        |
|             |   |                        |

|      |   | Manufacturer/       | FSD<br>Approval/<br>Acceptance     | Listing Certificates/Records/Printouts/Documents issued by Product Certification Bodies / Product Certification System (c) |   |  |
|------|---|---------------------|------------------------------------|--|---|--|
| Item | System/ Equipment                             | model no./ part no. | Reference<br>(If available)<br>(b) | Name of Product Certification Body/<br>Product Certification System  | Listing Certificates/Records/ Printouts/ Documents Number |  |
| I    | Fire resisting Cable                          |                     |                                    |  |   |  |
| I1   | Audio / visual advisory system                |                     |                                    |  |   |  |
| 12   | Automatic actuating device                    |                     |                                    |  |   |  |
| 13   | Automatic fixed installation other than water | Prysmian            |                                    | LPCB   | 077n  |  |
| I4   | Deluge system                                 | FP 600S             |                                    |  | 517c  |  |
| I5   | Drencher system                               |                     |                                    |  |   |  |
| I6   | Fire hydrant / hose reel system               |                     |                                    | BASEC  | 017/004/330   |  |
| I7   | Fixed foam system                             |                     |                                    |  | 017/006/083   |  |
| 18   | Pressurization of staircase                   |                     |                                    |  |   |  |
| 19   | Ring main system with fixed pumps(s)          |                     |                                    |  |   |  |
| I10  | Smoke extraction system                       |                     |                                    |  |   |  |
| I11  | Street fire hydrant system                    |                     |                                    |  |   |  |
| I12  | Water mist system                             | Draka               |                                    | LPCB   | 1134d   |  |
| I13  | Water spray system                            | FTP 120             |                                    |  |   |  |
| I14  | Fire Service water supply system              |                     |                                    | BASEC  | 189/001/071   |  |
| I15  | Emergency generator                           |                     |                                    |  | 189/003/024   |  |
| I16  | Emergency lighting                            |                     |                                    |  |   |  |
| I17  | Exit sign                                     |                     |                                    |  |   |  |
| I18  | Fire alarm system                             |                     |                                    |  |   |  |
| I19  | Fire detection system                         |                     |                                    |  |   |  |
| I20  | Fireman's lift                                |                     |                                    |  |   |  |
| I21  | Sprinkler system                              |                     |                                    |  |   |  |
|      |   |                     |                                    |  |   |  |
|      |   |                     |                                    |  |   |  |
|      |   |                     |                                    |  |   |  |
|      |   |                     |                                    |  |   |  |
|      |   |                     |                                    |  |   |  |
|      |   |                     |                                    |  |   |  |

| This is to co | onfirm that either original co | opies of above mentioned d | ocuments or their pho | tocopies which ha | ve been chec | ked as true and correct, a | re appended to this |
|---------------|--------------------------------|----------------------------|-----------------------|-------------------|--------------|----------------------------|---------------------|
| Equipment     | List.                          |                            |                       |                   |              |                            |                     |
|               |                                |                            | (RC                   | /                 | )            |                            |                     |
| Full Name     | of FSI Contractor              | Signature                  | Registra              | tion Number       |              | Company Chop               | Date                |