

## FP400®

**Fire Resistant Armoured Power Cable. BS 7846-F2. 600/1000 V**



Prysmian FP400 is a tough, armoured cable with low fire hazard properties and limited fire resistance

### KEY APPLICATIONS

Designed primarily for clipped directly to a surface, on tray, in basket or in free air. Fire resistant, low fire hazard armoured power and control cable that can also be laid direct in ground or in ducts in free draining soil, or embedded in concrete.

Use for fire performance circuits in public buildings.

### FEATURES AND BENEFITS

- Fire resistant to BS 7846 F2
- Robust armour provides cable with added mechanical protection
- Reduced flame propagation
- Low smoke and corrosive gas emissions Low Smoke, Zero Halogen (LSOH®)
- Manufactured under ISO 9001 Quality management systems
- Designed to meet the requirements of London Underground LUL - S1085 - Fire Safety Performance of Materials - Stations and Tunnel Infrastructure
- Multi core steel wire armour

### ADDITIONAL TECHNICAL SUPPORT

- [FAQ's](https://uk.prysmian.com/technical-area/faqs) - [uk.prysmian.com/technical-area/faqs](https://uk.prysmian.com/technical-area/faqs)
- [Technical email](mailto:tech.info@prysmian.com) - [tech.info@prysmian.com](mailto:tech.info@prysmian.com)
- [Live Chat](https://uk.prysmian.com/technical-area) - [uk.prysmian.com/technical-area](https://uk.prysmian.com/technical-area)
- Technical hotline: 02380 295222

### STANDARDS



**BS 7846 - Category F2**  
**BS 6387 Category CWZ**  
**BS EN 61034-2**  
**BS EN 60754-1**  
**BS EN 60332-1-2**  
**BS EN 60332-3-24**

Construction Standard  
Fire Resistant Tests  
Smoke emission  
Corrosive and acid gas  
Flame Propagation - Single Cable  
Flame Propagation - Multiple (bunched) Cables - Category C

## CONSTRUCTION

|                          |                        |
|--------------------------|------------------------|
| Conductor material       | Copper                 |
| Conductor surface        | Bare                   |
| Core insulation material | Mica + XLPE            |
| Armouring/reinforcement  | Wire                   |
| Armouring                | Yes                    |
| Material inner sheath    | Low smoke zero halogen |
| Material outer sheath    | Low smoke zero halogen |
| Cable shape              | Round                  |

## APPLICATIONS PROPERTIES

|                                    |                                     |
|------------------------------------|-------------------------------------|
| Nominal voltage U <sub>0</sub> [V] | 600                                 |
| Nominal voltage U [V]              | 1,000                               |
| Flame retardant                    | In accordance with BS EN 60332-3-24 |
| Halogen free                       | Yes                                 |
| Low smoke                          | Yes                                 |
| Max. conductor temperature [°C]    | 90                                  |
| Min. Operation temperature [°C]    | -25                                 |
| UV resistant                       | Yes                                 |
| Outdoor installation               | Yes                                 |
| Min. Installation temperature [°C] | 0                                   |
| Max. Installation temperature [°C] | 80                                  |
| Underground installation           | Yes                                 |
| Bending radius (rule)              | 8D                                  |

## COLOURS

Insulation: Two Cores: Brown, Blue;  
 Three Cores: Brown, Black, Grey;  
 Four Cores: Blue, Brown, Black, Grey;  
 Five Cores: Blue, Brown, Black, Grey, Green/Yellow;  
 7 to 37 Cores: White (with printed numbers);  
 Sheath: Black

## CURRENT RATINGS

Refer to table 4E4 of BS 7671 Requirements for Electrical Installations. IET Wiring Regulations

Note: Where a conductor operates at a temperature exceeding 70°C it shall be ascertained that the equipment connected to the conductor is suitable for the conductor operating temperature

## TECHNICAL DATA

| Number of cores | Nominal cross section conductor [mm <sup>2</sup> ] | Shape of conductor | Nominal diameter of armouring wire [mm] | Nominal diameter under armour [mm] | Nominal outer diameter [mm] | Cable weight [kg/km] | Conductor resistance at 20° C [Ohm/km] | Embodied Carbon [CO <sub>2</sub> e kg/km] |
|-----------------|--|--------------------|---|------------------------------------|-----------------------------|----------------------|--|---|
| 2               | 1.5  | Round              | 0.9                                     | 9.1                                | 13.4                        | 345                  | 12.1                                   | 1,017                                     |
| 2               | 2.5  | Round              | 0.9                                     | 10.2                               | 14.8                        | 415                  | 7.41                                   | 1,134                                     |
| 2               | 4  | Round              | 0.9                                     | 11.4                               | 15.8                        | 480                  | 4.61                                   | 1,271                                     |
| 2               | 6  | Round              | 0.9                                     | 12                                 | 16.6                        | 550                  | 3.08                                   | 1,441                                     |
| 2               | 10   | Round              | 0.9                                     | 15.1                               | 19.8                        | 740                  | 1.83                                   | 2,188                                     |
| 2               | 25   | Round              | 1.25                                    | 19.6                               | 26                          | 1,400                | 0.727                                  | 3,242                                     |
| 2               | 35   | Round              | 1.6                                     | 23                                 | 29                          | 1,900                | 0.524                                  | 4,503                                     |
| 2               | 70   | Sector-shaped      | 1.6                                     | 25                                 | 33                          | 2,600                | 0.268                                  | 6,139                                     |
| 2               | 120  | Sector-shaped      | 2                                       | 29                                 | 37                          | 3,900                | 0.153                                  | 9,973                                     |
| 3               | 1.5  | Round              | 0.9                                     | 9.3                                | 13.9                        | 370                  | 12.1                                   | 1,184                                     |
| 3               | 2.5  | Round              | 0.9                                     | 10.8                               | 15.4                        | 455                  | 7.41                                   | 1,352                                     |
| 3               | 4  | Round              | 0.9                                     | 11.6                               | 16.3                        | 525                  | 4.61                                   | 1,505                                     |
| 3               | 6  | Round              | 0.9                                     | 13.3                               | 17.8                        | 650                  | 3.08                                   | 1,796                                     |
| 3               | 10   | Round              | 1.25                                    | 16                                 | 22                          | 1,000                | 1.83                                   | 2,968                                     |
| 3               | 16   | Round              | 1.25                                    | 17.6                               | 24                          | 1,250                | 1.15                                   | 3,207                                     |
| 3               | 35   | Round              | 1.6                                     | 25                                 | 32                          | 2,300                | 0.524                                  | 5,654                                     |
| 3               | 70   | Sector-shaped      | 1.6                                     | 28                                 | 35                          | 3,300                | 0.268                                  | 8,128                                     |
| 4               | 1.5  | Round              | 0.9                                     | 10.2                               | 14.8                        | 415                  | 12.1                                   | 1,397                                     |
| 4               | 2.5  | Round              | 0.9                                     | 12.1                               | 16.9                        | 530                  | 7.41                                   | 1,623                                     |
| 4               | 4  | Round              | 0.9                                     | 13                                 | 17.6                        | 610                  | 4.61                                   | 1,796                                     |
| 4               | 6  | Round              | 1.25                                    | 14.7                               | 21                          | 880                  | 3.08                                   | 2,400                                     |
| 4               | 10   | Round              | 1.25                                    | 17.6                               | 24                          | 1,150                | 1.83                                   | 3,544                                     |
| 4               | 16   | Round              | 1.25                                    | 19.3                               | 25                          | 1,450                | 1.15                                   | 3,861                                     |
| 4               | 25   | Round              | 1.6                                     | 24                                 | 30                          | 2,200                | 0.727                                  | 5,268                                     |
| 4               | 35   | Round              | 1.6                                     | 28                                 | 34                          | 2,800                | 0.524                                  | 6,995                                     |

## TECHNICAL DATA

| Number of cores | Nominal cross section conductor [mm <sup>2</sup> ] | Shape of conductor | Nominal diameter of armouring wire [mm] | Nominal diameter under armour [mm] | Nominal outer diameter [mm] | Cable weight [kg/km] | Conductor resistance at 20° C [Ohm/km] | Embodied Carbon [CO <sub>2</sub> e kg/km] |
|-----------------|--|--------------------|---|------------------------------------|-----------------------------|----------------------|--|---|
| 4               | 50   | Sector-shaped      | 1.6                                     | 29                                 | 35                          | 3,200                | 0.387                                  | 7,840                                     |
| 4               | 70   | Sector-shaped      | 2                                       | 31                                 | 39                          | 4,200                | 0.268                                  | 11,514                                    |
| 4               | 95   | Sector-shaped      | 2                                       | 34                                 | 42                          | 5,300                | 0.193                                  | 13,889                                    |
| 4               | 120  | Sector-shaped      | 2.5                                     | 38                                 | 48                          | 6,800                | 0.153                                  | 17,559                                    |
| 4               | 150  | Sector-shaped      | 2.5                                     | 42                                 | 52                          | 8,100                | 0.124                                  | 20,749                                    |
| 4               | 185  | Sector-shaped      | 2.5                                     | 47                                 | 57                          | 9,900                | 0.0991                                 | 25,285                                    |
| 4               | 240  | Sector-shaped      | 2.5                                     | 53                                 | 63                          | 12,200               | 0.0754                                 | 31,287                                    |
| 4               | 300  | Sector-shaped      | 2.5                                     | 58                                 | 68                          | 14,900               | 0.0601                                 | 38,237                                    |
| 4               | 400  | Sector-shaped      | 3.15                                    | 65                                 | 77                          | 19,400               | 0.047                                  | 48,930                                    |
| 5               | 1.5  | Round              | 0.9                                     | 11.2                               | 15.6                        | 445                  | 12.1                                   | 1,585                                     |
| 5               | 2.5  | Round              | 0.9                                     | 12.9                               | 17.3                        | 550                  | 7.41                                   | 1,805                                     |
| 5               | 4  | Round              | 0.9                                     | 14.2                               | 18.7                        | 660                  | 4.61                                   | 2,050                                     |
| 5               | 6  | Round              | 1.25                                    | 16.3                               | 23                          | 990                  | 3.08                                   | 2,796                                     |
| 7               | 1.5  | Round              | 0.9                                     | 12.2                               | 16.8                        | 520                  | 12.1                                   | 2,134                                     |
| 7               | 2.5  | Round              | 0.9                                     | 14.9                               | 19.4                        | 700                  | 7.41                                   | 2,453                                     |
| 12              | 1.5  | Round              | 1.25                                    | 16.2                               | 22                          | 860                  | 12.1                                   | 3,490                                     |
| 19              | 1.5  | Round              | 1.25                                    | 19                                 | 25                          | 1,150                | 12.1                                   | 4,893                                     |
| 27              | 1.5  | Round              | 1.6                                     | 24                                 | 30                          | 1,650                | 12.1                                   | 7,011                                     |
| 37              | 1.5  | Round              | 1.6                                     | 27                                 | 33                          | 1,950                | 12.1                                   | 8,991                                     |

\*The embodied carbon figure is taken from a single product in the range, for more information on how we calculate our embodied carbon figure visit here: <https://uk.prysmiangroup.com/embodied-carbon>