

Low fire hazard rigid & semi-rigid copper cable for indoor applications, mainly used for electrification of public buildings (ERP), high-rise buildings (IGH), and industrial applications thanks to their excellent fire behaviour (Cca-s1,d2,a1). Nexans FR-N1 X6G3 PROTECT Protect cables are available in cross-sections from 1.5 to 300 mm<sup>2</sup> and from 1 to 5 conductors.

### Main benefits

- Fire safety: visibility 5 times higher vs PVC designs, no corrosive gas emission, limited fire propagation
- Reduced carbon footprint: 10% recycled copper with environmental data available through PEP Ecopassport®
- Help you reduce installation time by up to 50% thanks to Nexans easy stripping properties

### STANDARDS

**Product** EN 50575; IEC 60228; IEC 60502-1; XP C 32-225

**Installation** NF C15-100

**Test** EN 50399; EN 60332-1-2; EN 60754-2; EN 61034-2

### ADVANTAGES

Nexans FR-N1 X6G3 PROTECT Protect cables, available in cross-sections from 1.5 to 240 mm<sup>2</sup> and from 1 to 5 conductors, have been designed to be non-flammable, halogen-free and give off little smoke in the event of a fire. The gases emitted are non-corrosive and very low in toxicity. Thanks to their excellent fire behaviour (Cca-s1,d2,a1), they are particularly suitable for public buildings (ERP) and high-rise buildings (IGH). They can also be used in establishments receiving workers (ERT) or in housing.

Nexans has innovated in the design of this cable to offer an installation experience comparable to the Nexans U1000-R2V Distingo cable, in terms of diameter, sheathability and flexibility.

Nexans FR-N1 X6G3 PROTECT cables contain 10% recycled copper, which reduces their carbon footprint. Nexans makes available all the environmental data of its products (PEP Ecopassport®).



### CONTACT

Building Products Information  
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Lead free  
Yes



Rated Voltage U<sub>0</sub>/U<sub>i</sub>  
(Um)  
0.6/ 1 (1.2) kV



Max. conductor  
temp. in service  
90 °C



Operating temp.  
-25 ... 60 °C



Fire retardant  
IEC/EN 60332-3-24



Smoke density  
IEC 61034-2



Chemical  
resistance  
Accidental



U.V. resistance  
AN3

## The advantages of this range are :

Very good fire resistance, non-fire propagating and halogen-free.

- 1.5 and 2.5mm<sup>2</sup> :
  - Experience close to R2V (sheathability, flexibility, diameter)
  - Strip indicating the cross-section
  - Indication of the number of conductors
  - White rectangle to indicate destination
  - Available in Mobiway to save time
  - Made in France
  - 10% recycled copper
- 4 to 16mm<sup>2</sup> cross-section
  - Edging to indicate cross-section
  - Available in Mobiway to save time
  - Made in France
  - 10% recycled copper
- >25mm<sup>2</sup> copper
  - 10% recycled copper
  - Made in Belgium

## INSTALLATION

Nexans FR-N1 X6G3 PROTECT cables can be fixed on cable trays, within conduits or fixed to walls. They also can be buried directly with extra mechanical protection.

When the cables are pulled, all the conductors contribute equally to the force. The maximum must never exceed 5 daN/mm<sup>2</sup> of overall cross-section.

### Permissible current and voltage drop are given

a) in free air, sheltered from sun, on cable tray or bracket, on cable ladder, and spaced from the wall, temperature = 30°C.

b) buried with thermal resistivity of the ground 1Km/W, laying depth : 600 mm, temperature = 20°C.

If conditions are different, apply correction factors from NF C 15-100 standard or equivalent national standard

### Voltage drop

calculated with  $\cos \text{PHI} = 0.8$

## CONSTRUCTION

Conductor: Circular copper

Insulation: XLPE

Outer sheath: Blue halogen-free blend

## Marking

N (x or G) S mm<sup>2</sup> FR-N1 X6G3 NF - USE N° Factory S.Y + without lead

- N = number of cores
- S = cross-section in mm<sup>2</sup>
- G = with Green/Yellow
- x = without Green/Yellow

## CHARACTERISTICS

### Construction characteristics

|                                |          |
|--------------------------------|----------|
| Insulation                     | XLPE     |
| Conductor shape                | Circular |
| Lead free                      | Yes      |
| With smaller neutral conductor | No       |

### Electrical characteristics

|   |                 |
|---|-----------------|
| Rated Voltage U <sub>0</sub> /U (U <sub>m</sub> ) | 0.6/ 1 (1.2) kV |
|---|-----------------|

### Usage characteristics

|  |                   |
|--|-------------------|
| Max. conductor temperature in service    | 90 °C             |
| Short-circuit max. conductor temperature | 250 °C            |
| Operating temperature, range             | -25 ... 60 °C     |
| Fire retardant                           | IEC/EN 60332-3-24 |
| Smoke density                            | IEC 61034-2       |
| Chemical resistance                      | Accidental        |
| U.V resistance                           | AN3               |
| Water proof                              | AD6               |

## FR-N1 X6G3 PROTECT - 1.5 MM<sup>2</sup>

| Nexans Ref. | Name   | Nb. of cores | Green/ Yellow core | Conductor flexibility | Packaging |
|-------------|--|--------------|--------------------|-----------------------|-----------|
| 10287560    | Nexans FR-N1 X6G3 PROTECT 2X1,5 C100         | 2            | No                 | Solid class 1         | Coil      |
| 10287561    | Nexans FR-N1 X6G3 PROTECT 2X1,5 D500         | 2            | No                 | Solid class 1         | Drum      |
| 10287579    | Nexans FR-N1 X6G3 3G1,5 C100                 | 3            | Yes                | Solid class 1         | Coil      |
| 10287701    | Nexans FR-N1 X6G3 PROTECT 3G1,5 C50          | 3            | Yes                | Solid class 1         | Coil      |
| 10287702    | Nexans FR-N1 X6G3 PROTECT 3G1,5 C100         | 3            | Yes                | Solid class 1         | Coil      |
| 10287580    | Nexans FR-N1 X6G3 3G1,5 D500                 | 3            | Yes                | Solid class 1         | Drum      |
| 10287582    | Nexans FR-N1 X6G3 3G1,5 D4000                | 3            | Yes                | Solid class 1         | Drum      |
| 10287703    | Nexans FR-N1 X6G3 PROTECT 3G1,5 D500         | 3            | Yes                | Solid class 1         | Drum      |
| 10287791    | Nexans FR-N1 X6G3 PROTECT 3G1,5 D4000        | 3            | Yes                | Solid class 1         | Drum      |
| 10287581    | Nexans FR-N1 X6G3 PROTECT MOBIWAY 3G1,5 D250 | 3            | Yes                | Solid class 1         | MOBIWAY   |
| 10287597    | Nexans FR-N1 X6G3 4G1,5 C100                 | 4            | Yes                | Solid class 1         | Coil      |
| 10287716    | Nexans FR-N1 X6G3 PROTECT 4G1,5 C100         | 4            | Yes                | Solid class 1         | Coil      |
| 10287599    | Nexans FR-N1 X6G3 4G1,5 D500                 | 4            | Yes                | Solid class 1         | Drum      |
| 10287600    | Nexans FR-N1 X6G3 4G1,5 D4000                | 4            | Yes                | Solid class 1         | Drum      |
| 10287715    | Nexans FR-N1 X6G3 PROTECT 4G1,5 D500         | 4            | Yes                | Solid class 1         | Drum      |

| Nexans Ref. | Name   | Nb. of cores | Green/ Yellow core | Conductor flexibility | Packaging |
|-------------|--|--------------|--------------------|-----------------------|-----------|
| 10287788    | Nexans FR-N1 X6G3 PROTECT 4G1,5 D4000        | 4            | Yes                | Solid class 1         | Drum      |
| 10287598    | Nexans FR-N1 X6G3 PROTECT MOBIWAY 4G1,5 D200 | 4            | Yes                | Solid class 1         | MOBIWAY   |
| 10287606    | Nexans FR-N1 X6G3 5G1,5 C100                 | 5            | Yes                | Solid class 1         | Coil      |
| 10287718    | Nexans FR-N1 X6G3 PROTECT 5G1,5 C100         | 5            | Yes                | Solid class 1         | Coil      |
| 10287895    | Nexans FR-N1 X6G3 PROTECT 5G1,5 C50          | 5            | Yes                | Solid class 1         | Coil      |
| 10287607    | Nexans FR-N1 X6G3 5G1,5 D500                 | 5            | Yes                | Solid class 1         | Drum      |
| 10287609    | Nexans FR-N1 X6G3 5G1,5 D3000                | 5            | Yes                | Solid class 1         | Drum      |
| 10287719    | Nexans FR-N1 X6G3 PROTECT 5G1,5 D500         | 5            | Yes                | Solid class 1         | Drum      |
| 10287789    | Nexans FR-N1 X6G3 PROTECT 5G1,5 D3000        | 5            | Yes                | Solid class 1         | Drum      |
| 10287608    | Nexans FR-N1 X6G3 PROTECT MOBIWAY 5G1,5 D200 | 5            | Yes                | Solid class 1         | MOBIWAY   |

## FR-N1 X6G3 PROTECT - 2.5 MM<sup>2</sup>

| Nexans Ref. | Name   | Nb. of cores | Green/ Yellow core | Conductor flexibility | Packaging     |
|-------------|--|--------------|--------------------|-----------------------|---------------|
| 10287583    | Nexans FR-N1 X6G3 3G2,5 C100                 | 3            | Yes                | Solid class 1         | Coil          |
| 10287704    | Nexans FR-N1 X6G3 PROTECT 3G2,5 C50          | 3            | Yes                | Solid class 1         | Coil          |
| 10287705    | Nexans FR-N1 X6G3 PROTECT 3G2,5 C100         | 3            | Yes                | Solid class 1         | Coil          |
| 10287584    | Nexans FR-N1 X6G3 3G2,5 D500                 | 3            | Yes                | Solid class 1         | Drum          |
| 10287586    | Nexans FR-N1 X6G3 3G2,5 D3500                | 3            | Yes                | Solid class 1         | Drum          |
| 10287693    | Nexans FR-N1 X6G3 PROTECT 3G2,5 D500         | 3            | Yes                | Solid class 1         | Drum          |
| 10287787    | Nexans FR-N1 X6G3 PROTECT 3G2,5 D3500        | 3            | Yes                | Solid class 1         | Drum          |
| 10287585    | Nexans FR-N1 X6G3 PROTECT MOBIWAY 3G2,5 D200 | 3            | Yes                | Solid class 1         | MOBIWAY       |
| 10287775    | Nexans FR-N1 X6G3 PROTECT 4G2,5 C100         | 4            | Yes                | Solid class 1         | Coil          |
| 10287601    | Nexans FR-N1 X6G3 PROTECT 4G2,5              | 4            | Yes                | Solid class 1         | Cut to length |
| 10287774    | Nexans FR-N1 X6G3 PROTECT 4G2,5 D3000        | 4            | Yes                | Solid class 1         | Drum          |
| 10287610    | Nexans FR-N1 X6G3 5G2,5 C100                 | 5            | Yes                | Solid class 1         | Coil          |
| 10287717    | Nexans FR-N1 X6G3 PROTECT 5G2,5 C100         | 5            | Yes                | Solid class 1         | Coil          |
| 10287896    | Nexans FR-N1 X6G3 PROTECT 5G2,5 C50          | 5            | Yes                | Solid class 1         | Coil          |
| 10287611    | Nexans FR-N1 X6G3 5G2,5 D500                 | 5            | Yes                | Solid class 1         | Drum          |
| 10287613    | Nexans FR-N1 X6G3 5G2,5 D2000                | 5            | Yes                | Solid class 1         | Drum          |

| Nexans Ref. | Name   | Nb. of cores | Green/ Yellow core | Conductor flexibility | Packaging |
|-------------|--|--------------|--------------------|-----------------------|-----------|
| 10287720    | Nexans FR-N1 X6G3 PROTECT 5G2,5 D500         | 5            | Yes                | Solid class 1         | Drum      |
| 10287792    | Nexans FR-N1 X6G3 PROTECT 5G2,5 D2000        | 5            | Yes                | Solid class 1         | Drum      |
| 10287612    | Nexans FR-N1 X6G3 PROTECT MOBIWAY 5G2,5 D150 | 5            | Yes                | Solid class 1         | MOBIWAY   |

## FR-N1 X6G3 PROTECT - 4 MM<sup>2</sup>

| Nexans Ref. | Name                               | Nb. of cores | Green/ Yellow core | Conductor flexibility | Packaging     |
|-------------|------------------------------------|--------------|--------------------|-----------------------|---------------|
|             | Nexans FR-N1 X6G3 PROTECT 3G4 C50  | 3            | Yes                | Solid class 1         | Coil          |
| 10287587    | Nexans FR-N1 X6G3 PROTECT 3G4      | 3            | Yes                | Solid class 1         | Cut to length |
| 10287615    | Nexans FR-N1 X6G3 PROTECT 5G4      | 5            | Yes                | Solid class 1         | Cut to length |
| 10287614    | Nexans FR-N1 X6G3 PROTECT 5G4 D500 | 5            | Yes                | Solid class 1         | Drum          |

## FR-N1 X6G3 PROTECT - 6 MM<sup>2</sup>

| Nexans Ref. | Name                                       | Nb. of cores | Green/ Yellow core | Conductor flexibility | Packaging     |
|-------------|--|--------------|--------------------|-----------------------|---------------|
| 10287574    | Nexans FR-N1 X6G3 PROTECT 2X6              | 2            | No                 | Stranded class 2      | Cut to length |
| 10287564    | Nexans FR-N1 X6G3 PROTECT 2X6 D500         | 2            | No                 | Stranded class 2      | Drum          |
| 10287594    | Nexans FR-N1 X6G3 PROTECT MOBIWAY 3G6 D100 | 3            | Yes                | Solid class 1         | MOBIWAY       |
| 10287714    | Nexans FR-N1 X6G3 PROTECT 3G6 C50          | 3            | Yes                | Stranded class 2      | Coil          |
| 10287767    | Nexans FR-N1 X6G3 PROTECT 3G6 D500         | 3            | Yes                | Stranded class 2      | Drum          |
| 10287785    | Nexans FR-N1 X6G3 PROTECT 3G6 D4000        | 3            | Yes                | Stranded class 2      | Drum          |
| 10287602    | Nexans FR-N1 X6G3 PROTECT 4G6              | 4            | Yes                | Solid class 1         | Cut to length |
| 10287721    | Nexans FR-N1 X6G3 PROTECT 5G6 C50          | 5            | Yes                | Stranded class 2      | Coil          |
| 10287768    | Nexans FR-N1 X6G3 PROTECT 5G6 D500         | 5            | Yes                | Stranded class 2      | Drum          |
| 10287786    | Nexans FR-N1 X6G3 PROTECT 5G6 D3000        | 5            | Yes                | Stranded class 2      | Drum          |

## FR-N1 X6G3 PROTECT - 10 MM<sup>2</sup>

| Nexans Ref. | Name                                 | Nb. of cores | Green/ Yellow core | Conductor flexibility | Packaging     |
|-------------|--------------------------------------|--------------|--------------------|-----------------------|---------------|
| 10287576    | Nexans FR-N1 X6G3 PROTECT 2X10       | 2            | No                 | Stranded class 2      | Cut to length |
| 10287575    | Nexans FR-N1 X6G3 PROTECT 2X10 D500  | 2            | No                 | Stranded class 2      | Drum          |
| 10287589    | Nexans FR-N1 X6G3 PROTECT 3G10 D500  | 3            | Yes                | Stranded class 2      | Drum          |
| 10287590    | Nexans FR-N1 X6G3 PROTECT 3G10 D3000 | 3            | Yes                | Stranded class 2      | Drum          |
| 10287603    | Nexans FR-N1 X6G3 PROTECT 4G10 D2000 | 4            | Yes                | Stranded class 2      | Drum          |
| 10287604    | Nexans FR-N1 X6G3 PROTECT 4G10 D500  | 4            | Yes                | Stranded class 2      | Drum          |
| 10287621    | Nexans FR-N1 X6G3 PROTECT 5G10 D500  | 5            | Yes                | Stranded class 2      | Drum          |
| 10287622    | Nexans FR-N1 X6G3 PROTECT 5G10 D1500 | 5            | Yes                | Stranded class 2      | Drum          |

## FR-N1 X6G3 PROTECT - 16 MM<sup>2</sup>

| Nexans Ref. | Name                                 | Nb. of cores | Green/ Yellow core | Conductor flexibility | Packaging     |
|-------------|--------------------------------------|--------------|--------------------|-----------------------|---------------|
| 10287577    | Nexans FR-N1 X6G3 PROTECT 2X16 D500  | 2            | No                 | Stranded class 2      | Drum          |
| 10287578    | Nexans FR-N1 X6G3 PROTECT 2X16 D3000 | 2            | No                 | Stranded class 2      | Drum          |
| 10287591    | Nexans FR-N1 X6G3 PROTECT 3G16       | 3            | Yes                | Stranded class 2      | Cut to length |
| 10287605    | Nexans FR-N1 X6G3 PROTECT 4G16       | 4            | Yes                | Stranded class 2      | Cut to length |
| 10287626    | Nexans FR-N1 X6G3 PROTECT 5G16       | 5            | Yes                | Stranded class 2      | Cut to length |
| 10287623    | Nexans FR-N1 X6G3 PROTECT 5G16 D500  | 5            | Yes                | Stranded class 2      | Drum          |
| 10287625    | Nexans FR-N1 X6G3 PROTECT 5G16 D1500 | 5            | Yes                | Stranded class 2      | Drum          |

## FR-N1 X6G3 PROTECT - 25 MM<sup>2</sup>

| Nexans Ref. | Name                           | Nb. of cores | Green/ Yellow core | Conductor flexibility | Packaging     |
|-------------|--------------------------------|--------------|--------------------|-----------------------|---------------|
| 10287840    | Nexans FR-N1 X6G3 PROTECT 2X25 | 2            | No                 | Stranded class 2      | Cut to length |
| 10287839    | Nexans FR-N1 X6G3 PROTECT 4X25 | 4            | No                 | Stranded class 2      | Cut to length |
| 10287834    | Nexans FR-N1 X6G3 PROTECT 5G25 | 5            | Yes                | Stranded class 2      | Cut to length |

## FR-N1 X6G3 PROTECT - 35 MM<sup>2</sup>

| Nexans Ref. | Name                           | Nb. of cores | Green/ Yellow core | Conductor flexibility | Packaging     |
|-------------|--------------------------------|--------------|--------------------|-----------------------|---------------|
| 10287835    | Nexans FR-N1 X6G3 PROTECT 5G35 | 5            | Yes                | Stranded class 2      | Cut to length |

## FR-N1 X6G3 PROTECT - 50 MM<sup>2</sup>

| Nexans Ref. | Name                           | Nb. of cores | Green/ Yellow core | Conductor flexibility | Packaging     |
|-------------|--------------------------------|--------------|--------------------|-----------------------|---------------|
| 10287841    | Nexans FR-N1 X6G3 PROTECT 5G50 | 5            | Yes                | Stranded class 2      | Cut to length |

## FR-N1 X6G3 PROTECT - 70 MM<sup>2</sup>

| Nexans Ref. | Name                           | Nb. of cores | Green/ Yellow core | Conductor flexibility | Packaging     |
|-------------|--------------------------------|--------------|--------------------|-----------------------|---------------|
| 10287845    | Nexans FR-N1 X6G3 PROTECT 1x70 | 1            | No                 | Stranded class 2      | Cut to length |

## FR-N1 X6G3 PROTECT - 95 MM<sup>2</sup>

| Nexans Ref. | Name                           | Nb. of cores | Green/ Yellow core | Conductor flexibility | Packaging     |
|-------------|--------------------------------|--------------|--------------------|-----------------------|---------------|
| 10287844    | Nexans FR-N1 X6G3 PROTECT 1x95 | 1            | No                 | Stranded class 2      | Cut to length |

## FR-N1 X6G3 PROTECT - 120 MM<sup>2</sup>

| Nexans Ref. | Name                            | Nb. of cores | Green/ Yellow core | Conductor flexibility | Packaging     |
|-------------|---------------------------------|--------------|--------------------|-----------------------|---------------|
| 10287842    | Nexans FR-N1 X6G3 PROTECT 1x120 | 1            | No                 | Stranded class 2      | Cut to length |

## FR-N1 X6G3 PROTECT - 150 MM<sup>2</sup>

| Nexans Ref. | Name                            | Nb. of cores | Green/ Yellow core | Conductor flexibility | Packaging     |
|-------------|---------------------------------|--------------|--------------------|-----------------------|---------------|
| 10287838    | Nexans FR-N1 X6G3 PROTECT 1x150 | 1            | No                 | Stranded class 2      | Cut to length |

## FR-N1 X6G3 PROTECT - 185 MM<sup>2</sup>

| Nexans Ref. | Name                            | Nb. of cores | Green/ Yellow core | Conductor flexibility | Packaging     |
|-------------|---------------------------------|--------------|--------------------|-----------------------|---------------|
| 10287837    | Nexans FR-N1 X6G3 PROTECT 1x185 | 1            | No                 | Stranded class 2      | Cut to length |

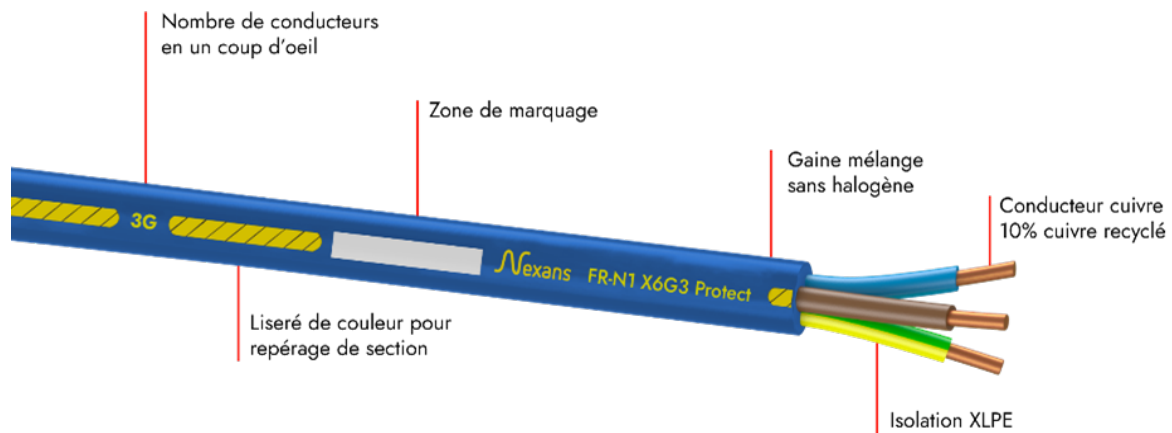
## FR-N1 X6G3 PROTECT - 240 MM<sup>2</sup>

| Nexans Ref. | Name                            | Nb. of cores | Green/ Yellow core | Conductor flexibility | Packaging     |
|-------------|---------------------------------|--------------|--------------------|-----------------------|---------------|
| 10287836    | Nexans FR-N1 X6G3 PROTECT 1x240 | 1            | No                 | Stranded class 2      | Cut to length |

## FR-N1 X6G3 PROTECT - 300 MM<sup>2</sup>

| Nexans Ref. | Name                            | Nb. of cores | Green/ Yellow core | Conductor flexibility | Packaging     |
|-------------|---------------------------------|--------------|--------------------|-----------------------|---------------|
| 10287843    | Nexans FR-N1 X6G3 PROTECT 1x300 | 1            | No                 | Stranded class 2      | Cut to length |

## CONSTRUCTION



## GAMME

### 1 SECTION - 1 COULEUR

Disponible en

3G 4G 5G



Disponible en

3G 4G 5G



## Nexans **FR-N1X6G3** Protect




AVAILABLE IN MOBIWAY MOB DRUM


**DISPONIBLE EN TOURET**


 **MOBIWAY™**  
MOB




**Nexans FR-N1X6G3**  
**Protect**


 3G1,5 - 250 m

 3G2,5 - 200 m

 4G1,5 - 200 m

 5G1,5 - 200 m

 5G2,5 - 150 m

 3G6 - 100 m

### CABLE CONFIGURATION TOOL

En quelques étapes **simples**, déterminez si vous êtes concerné par le nouvel arrêté

Assistant : Validez si votre projet ERP/IGH doit se conformer à l'arrêté du 23/05/2024

Vérifiez la conformité de votre projet ERP/IGH suivant l'arrêté du 23/05/2024

Yes choix Recommencer

Quel est le type de bâtiment ?

- Bâtiment d'habitation (logement)
- Etablissement recevant des travailleurs (ERT)
- Immeuble grande hauteur (IGH - Logement > 50m de haut et autres > 28m de haut)
- Etablissement recevant du public (ERP)
- Bâtiment mixte avec une partie ERP et une partie logement
- Je ne sais pas, aidez-moi à choisir

← Retour

Assistant : Validez si votre projet ERP/IGH doit se conformer à l'arrêté du 23/05/2024

Vérifiez la conformité de votre projet ERP/IGH suivant l'arrêté du 23/05/2024

Yes choix Recommencer

- Quel est le type de bâtiment ? **Etablissement recevant des travailleurs (ERT)**
- Le bâtiment fait-il plus de 28m de hauteur ? **Oui**
- Est-ce du bâtiment neuf ou une rénovation ? **Neuf**
- Quelle est la date de dépôt du permis de construire ? **A partir du 23 mai 2025**

Vous rentrez dans le cadre de l'arrêté du 23 mai 2024

Nous vous faisons les recommandations suivantes :

Euroclasse minimale requise Cca s2,d2,s2

Câbles recommandés :

- Voir sur nexans.fr
- Voir sur nexans.fr