



## Technical data

### Cable ladder **67** in **U23X**

#### Description

##### Advantages

- Insulating Cable ladder system with no earthing required.
- For support and distribution of large-calibre power and communication cables.
- Cable ladder system for indoor and outdoor applications. Good behaviour against the UVs and outdoor exposure. Made in U23X <sup>(1)</sup>, materials boasting wide experience in outdoor use. <sup>(2)</sup>
- Unex Cable ladder is entirely manufactured in insulating material U23X <sup>(1)</sup>. The whole mass is resistant to corrosion. Suitable for humid, saline and chemical environments.
- Provides better cable ventilation and less dirt holding due to its open base.
- Allows 2 and 3 m distance between supports, at full load, due to its robustness.

##### Easy-to-install

- The Cable ladder profiles are supplied completely factory assembled and ready-to-install. They are 3m long and have rungs every 300 mm.
- Perforated rungs and side rails.
- Fast junction system with thermal expansion absorption.
- Rungs compatible with standard 21x41 rail nut for fixing cable clamps or other elements.
- Full set of series production fittings making a ready-to-mount KIT.
- Provided of a wide range of cable cleats in U48X <sup>(1)</sup> compatible with rungs for a durability equivalent to that of the cable ladder.
- Easy-to-cut. No burrs when cutting.

##### Design

- Sturdy profiles made of high quality extrusion with the definitive form of use and solid walls. No adhesive, rivets or screws to fix rungs to the side rails, increasing the durability of the ensemble.
- Junctions with thickness equal or higher than the side rails.
- Profiles compatible with the standard cover and divider of Unex insulating cable tray 66.
- Colour: Grey RAL 7035.

##### Mounting instructions

- To fulfil the characteristics defined herein, the installation must be carried out in accordance with the manufacturer's mounting instructions that are supplied in the packaging of the main product.

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### Product characteristics

- Silicone contents: Without silicone (<0,01%).
- RoHS Directive compliance: Compliant .

### Characteristics

#### BS EN 61537:2007 (IEC 61537:2006) CABLE TRAY AND CABLE LADDER STANDARD <sup>(3)</sup>

Min./max. transport, storage, installation and application temperature	-20 °C up to +60 °C.
Impact resistance	20 J at -20 °C
Electrical characteristics	<ul style="list-style-type: none"> <li>■ Cable ladder system:</li> <li>■ Non-metallic.</li> <li>■ Without electrical continuity.</li> <li>■ Non-conductive.</li> </ul>
Resistance to flame propagation s/ EN 60695-11-2:2003 <sup>(3)</sup>	Non flame propagating system.
Coating	<ul style="list-style-type: none"> <li>■ Without coating.</li> <li>■ Except refs. 67812-48 and 67822-48 (Steel with organic coating)</li> </ul>
% Perforation of the base area of cable ladder	Class Y (more than 80% up to 90%)
Available dimensions H:85 mm	<ul style="list-style-type: none"> <li>■ external: 85x200, 85x300, 85x400, 85x500 and 85x600</li> <li>■ useful : 48x147, 48x247, 48x347, 48x443 and 48x543</li> </ul>
Available dimensions H:135 mm	<ul style="list-style-type: none"> <li>■ external: 135x200, 135x300, 135x400, 135x500 and 135x600</li> <li>■ useful : 82x120, 82x220, 82x320, 82x420 and 82x520</li> </ul>
Safe Working Load (SWL)	<ul style="list-style-type: none"> <li>■ See load and span diagrams by reference in Annex.</li> <li>■ H: 85 mm: 2 m at 40°C and 1.5 m at 60°C .</li> <li>■ H: 135 mm: 3 m at 40°C and 2 m at 60°C .</li> </ul>
(SWL) Test conditions	<ul style="list-style-type: none"> <li>■ T = +40 °C, T = +60 °C.</li> <li>■ Longitudinal deflection lower than 1%.</li> <li>■ Transverse deflection lower than 5%.</li> <li>■ Test Type I (the junction between two lengths of cable ladder is placed in the midpoint of the span (the worst situation for testing) so that in a real situation the junction can be placed at any point between two supports).</li> <li>■ The cable ladder system must be able to support 1.7 times the Safe working load (SWL) load without collapse.</li> </ul>
Glow-wire test acc./ IEC 60695-2-11:2001 <sup>(3)</sup>	Severity degree 960°C.
Performance against humid and saline corrosion	Inherently resistant to corrosion and therefore do not require testing.

#### EN 61914:2016 (IEC 61914:2015) CABLE CLEAT STANDARD <sup>(4)</sup>

Material	Non metallic
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## Cable ladder **67** in **U23X**

### Characteristics

#### EN 61914:2016 (IEC 61914:2015) CABLE CLEAT STANDARD <sup>(4)</sup>

Minimum and Maximum temperature for permanent application	-20 °C up to +60 °C
Impact resistance	Medium (2 J)
Resistance to electromechanical forces	Not declared
Maximum lateral and axial load	<ul style="list-style-type: none"> <li>■ 67741-48 - Dmin =28 mm Q = 0.84 kg / Dmax = 34 mm Q = 1.36 kg</li> <li>■ 67751-48 - Dmin =34 mm Q = 1.36 kg / Dmax = 40 mm Q = 1.60 kg</li> <li>■ 67761-48 - Dmin =40 mm Q = 1.60 kg / Dmax = 46 mm Q = 1.84 kg</li> <li>■ 67771-48 - Dmin =46 mm Q = 1.84 kg / Dmax = 52 mm Q = 2.08 kg</li> <li>■ 67791-48 - Dmin =58 mm Q = 2.08 kg / Dmax = 64 mm Q = 2.56 kg</li> </ul>
Resistance to the UV light	Resistant
Resistance to corrosion	Not applicable.

### Constructive and Functional characteristics

- Packaging: The product must be properly packed and clearly identified.

### Compulsory regulations

#### CONFORMITY WITH THE DEMANDS OF EUROPEAN DIRECTIVE 2014/35/EU

CE Marking	Insulating cable ladder 67. Conformity with standard EN 61537:2007.
CE Marking	Cable cleats 67. Conformity with the standard EN 61914:2016.

### Characteristics of U23X raw material

- Base raw material: PVC.
- Silicone contents: <0.01%. <sup>(5)</sup>
- Phthalate contents according to ASTM D2124-99:2004: <0.01%. <sup>(5)</sup>
- Dielectric strength according to EN 60243-1:2013: 18±5 kV/mm.  
Test sample thickness 2.5 mm.
- Reaction to fire according to UNE 201010:2015: Classification: M1.
- UL flammability tests on plastic materials according to ANSI/UL 94: 1990: Degree UL94: V0.
- L.O.I. Oxygen index according to EN ISO 4589:1999 + A1:2006: (Concentration %) = 52±5.
- Coefficient of linear expansion: 0.07 mm/°C m. <sup>(6)</sup>
- UL Approval: UL File E317944 (only extrusion formula, grey and blue colour).
- Behaviour to chemicals exposure: (see results with exposure to chemicals in [www.unex.net/Chemical\\_agents.pdf](http://www.unex.net/Chemical_agents.pdf)) <sup>(6)</sup>

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## Cable ladder **67** in **U23X**

### Characteristics of U48X raw material

- Base raw material: U48X: Halogen free thermoplastic compound
- Silicone contents: <0.01% <sup>(5)</sup>
- Phthalate contents according to ASTM D2124-99:2004: <0.01% <sup>(5)</sup>
- Halogen contents according to EN 50267-2-1: lower than 0.5% <sup>(5)</sup>
- Dielectric strength according to EN 60243-1:1998: 18±5 kV/mm  
Test sample thickness 2.0 mm.
- Reaction to fire according to NF F 16-101:1998: Class I3 F2
- UL flammability tests on plastic materials according to ANSI/UL 94: 1990: Degree UL94: V0  
Test sample thickness 3.2 mm
- L.O.I. Oxygen index according to EN ISO 4589:1999: (Concentration %) =32±3  
Test sample thickness 3.2 mm
- Coefficient of linear expansion: 0.07 mm/°C m. <sup>(6)</sup>
- Behaviour to chemicals exposure: (see results with exposure to chemicals in [www.unex.net/Chemical\\_agents.pdf](http://www.unex.net/Chemical_agents.pdf)) <sup>(6)</sup>

### Notes

1. Some parts are made in U48X. For more details, see the Part number's chart.
2. In outdoor installations or in aggressive chemical environments it is necessary to periodically check the installation.
3. Tested according to standard prescriptions of EN 61537:2007. Equivalent to IEC 61537:2006 Cable tray and cable ladder standard.
4. Tested according to standard prescriptions of EN 61914:2016 . Equivalent to IEC 61914:2015 Cable cleat standard.
5. Detection limit for the analytical technique applied.
6. All features marked are based on random tests of the material in the manufacture of our products. However, they only reflect the values accepted by the raw material manufacturers, which are provided only as information and guidance.

\* All information contained herein is completely objective and is the result of a wide experience in satisfying our costumers` requirements . For more details, please contact our technical assistance.

\*\* Unex aparellaje eléctrico, S.L. reserves the right to modify any characteristics of the products manufactured. This document is an uncontrolled copy and will not be updated if its content changes.

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## Cable ladder **67** in **U23X**

Annex – EN 61537:2007 – IEC 61537:2006  
Safe working Load (SWL)



$$\frac{\text{Full load}}{\text{Useful cross section}} = 0,0021 \text{ kg/m/mm}^2$$

H:85mm	H:135mm
<p><b>67200-04</b></p>	<p><b>67220-04</b></p>
<p><b>67300-04</b></p>	<p><b>67320-04</b></p>
<p><b>67400-04</b></p>	<p><b>67420-04</b></p>
<p><b>67500-04</b></p>	<p><b>67520-04</b></p>
<p><b>67600-04</b></p>	<p><b>67620-04</b></p>

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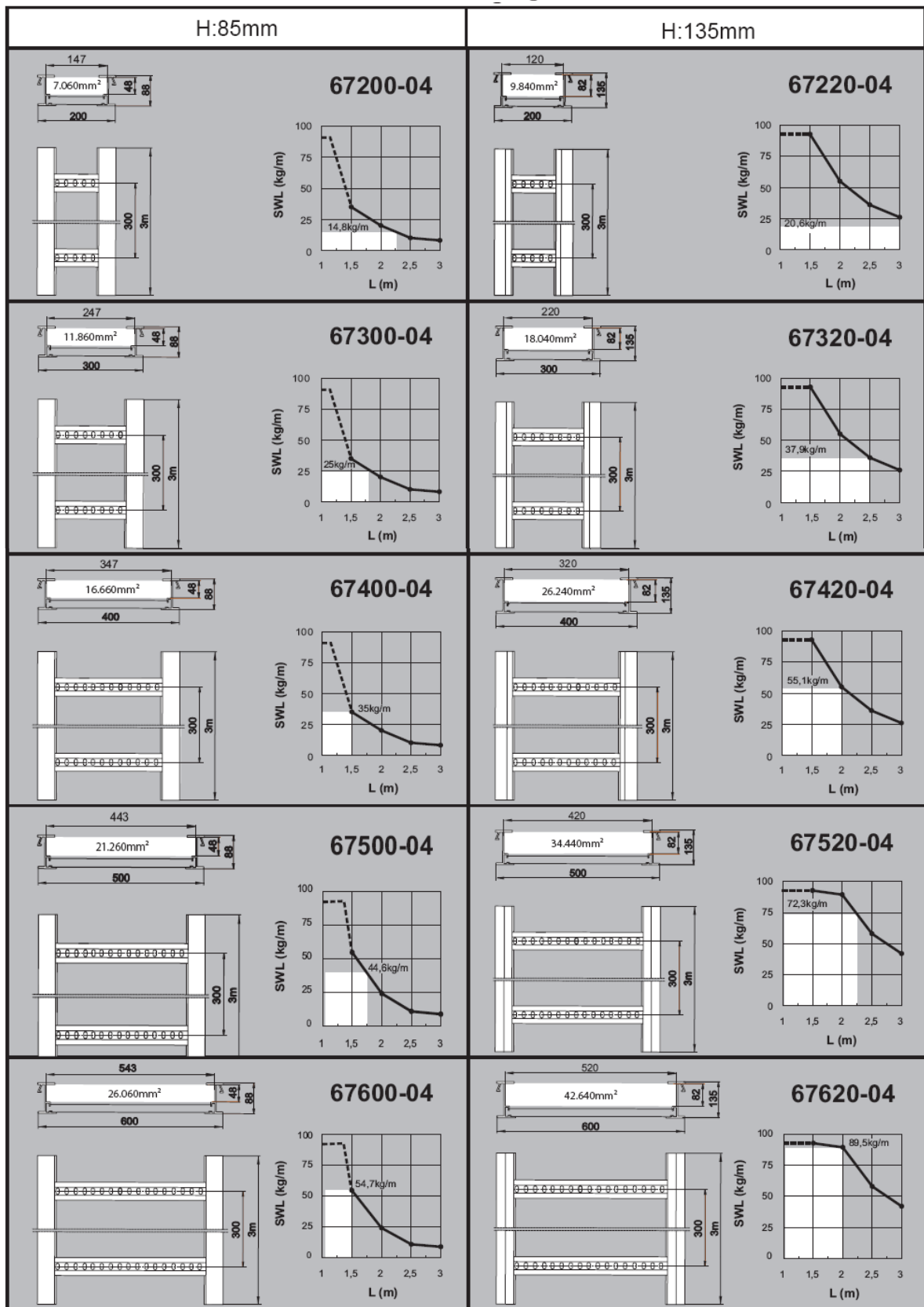


## Cable ladder **67** in **U23X**

Annex – EN 61537:2007 – IEC 61537:2006  
Safe working Load (SWL)



Full load / Useful cross section = 0,0021 kg/m/mm<sup>2</sup>



Our quality management system complies with the requirements of UNE-EN ISO 9001: 2008 for the design, production and commercialization of Unex Systems.

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