

TYPE APPROVAL CERTIFICATE

This is to certify:**That the Cable Ladders**with type designation(s)
SL and accessories

Issued to

OBO Bettermann Hungary Kft.
Bugyi, Hungary

is found to comply with

DNV GL rules for classification – Ships, offshore units, and high speed and light craft**Application :****Products approved by this certificate are accepted for installation on all vessels classed by DNV GL.**

Material	Metalic
Suitable for open deck	Yes (see Application / limitation)

This Certificate is valid until **2021-02-15**.Issued at **Høvik** on **2020-02-26**for **DNV GL**DNV GL local station: **Budapest**Approval Engineer: **Nicolay Horn**

Marta Alonso Pontes
Head of Section

This Certificate is subject to terms and conditions overleaf. Any significant change in design or construction may render this Certificate invalid. The validity date relates to the Type Approval Certificate and not to the approval of equipment/systems installed.

Job Id: **262.1-010790-3**
 Certificate No: **TAE00000Y5**
 Revision No: **1**

Product description

Cable ladder with the type designation SL

Classification according to:	IEC 61537 Class
6.1 Material	Metallic
6.2 Resistant to Flame Propagation	Non-Flame Propagation
6.3 Electrical Continuity Characteristics	With Electrical Continuity Characteristics
6.4 Electrical Conductivity	Electrical Conductivity
6.5 Resistance Against Corrosion	Metallic classified according to IEC 61537 Table 1
6.6.1 Minimum Temperature	- 20 °C
6.6.2 Maximum Temperature	+120 °C
6.7 Perforation in the Base Area	Yes
6.8 free base area	Yes
6.9 Impact resistance	Up to 5 J

TYPE:	SL42-FT: Light duty ladder.
Standard surface:	Hot dip galvanized,
Thickness:	Hot dip galvanised 3,0 mm

Type	Total width (mm)	Weight (kg/m)	Length (mm)	Type	Total width (mm)	Weight (kg/m)	Length (mm)
SL 42 075 FT	081	1,14	2000	SL 42 200 FT	206	1,35	2000
SL 42 100 FT	106	1,18	2000	SL 42 250 FT	256	1,38	2000
SL 42 150 FT	156	1,26	2000	SL 42 300 FT	306	1,48	2000

TYPE:	SL42-SG: Light duty ladder.
Standard surface:	Primed
Thickness:	Primed 3,0 mm

Type	Total width (mm)	Weight (kg/m)	Length (mm)	Type	Total width (mm)	Weight (kg/m)	Length (mm)
SL 42 075 SG	081	1,12	2000	SL 42 200 SG	206	1,32	2000
SL 42 100 SG	106	1,15	2000	SL 42 250 SG	256	1,36	2000
SL 42 150 SG	156	1,25	2000	SL 42 300 SG	306	1,45	2000

TYPE:	SL42-A2: Light duty ladder.
Standard surface:	Stainless Steel,
Thickness:	Stainless Steel 3,0 mm

Type	Total width (mm)	Weight (kg/m)	Length (mm)	Type	Total width (mm)	Weight (kg/m)	Length (mm)
SL 42 075 A2	081	1,09	2000	SL 42 200 A2	206	1,26	2000
SL 42 100 A2	106	1,13	2000	SL 42 250 A2	256	1,32	2000
SL 42 150 A2	156	1,19	2000	SL 42 300 A2	306	1,39	2000

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TYPE:	SL42-A4: Light duty ladder.
Standard surface:	Stainless Steel,
Thickness:	Stainless Steel 3,0 mm

Type	Total width (mm)	Weight (kg/m)	Length (mm)	Type	Total width (mm)	Weight (kg/m)	Length (mm)
SL 42 075 A4	081	1,11	2000	SL 42 200 A4	206	1,28	2000
SL 42 100 A4	106	1,15	2000	SL 42 250 A4	256	1,34	2000
SL 42 150 A4	156	1,21	2000	SL 42 300 A4	306	1,41	2000

TYPE:	SL42-ALU: Light duty ladder.
Standard surface:	Aluminium,
Thickness:	Aluminium 3,0 mm

Type	Total width (mm)	Weight (kg/m)	Length (mm)	Type	Total width (mm)	Weight (kg/m)	Length (mm)
SL 42 075 ALU	081	0,41	2000	SL 42 200 ALU	206	0,53	2000
SL 42 100 ALU	106	0,43	2000	SL 42 250 ALU	256	0,57	2000
SL 42 150 ALU	156	0,48	2000	SL 42 300 ALU	306	0,62	2000

TYPE:	SL62 -FT: Standard duty ladder.
Standard surface:	Hot dip galvanized
Thickness:	Hot dip galvanized 5,0 mm

Type	Total width (mm)	Weight (kg/m)	Length (mm)	Type	Total width (mm)	Weight (kg/m)	Length (mm)
SL 62 100 FT	110	2,983	3000	SL 62 400 FT	410	3,937	3000
SL 62 200 FT	210	3,332	3000	SL 62 500 FT	510	4,256	3000
SL 62 310 FT	310	3,618	3000	SL 62 600 FT	610	4,484	3000

TYPE:	SL62-SG: Standard duty ladder.
Standard surface:	Primed
Thickness:	Primed 5,0 mm

Type	Total width (mm)	Weight (kg/m)	Length (mm)	Type	Total width (mm)	Weight (kg/m)	Length (mm)
SL 62 100 SG	110	3,287	3000	SL 62 400 SG	410	6,667	3000
SL 62 200 SG	210	3,853	3000	SL 62 500 SG	510	7,243	3000
SL 62 300 SG	310	4,417	3000	SL 62 600 SG	610	7,807	3000

TYPE:	SL62-A2: Standard duty ladder.
Standard surface:	Stainless Steel,
Thickness:	Stainless Steel 5,0 mm

Type	Total width (mm)	Weight (kg/m)	Length (mm)	Type	Total width (mm)	Weight (kg/m)	Length (mm)
SL 62 100 A2	110	2,99	3000	SL 62 400 A2	410	3,99	3000
SL 62 200 A2	210	3,32	3000	SL 62 500 A2	510	4,32	3000
SL 62 300 A2	310	3,65	3000	SL 62 600 A2	610	4,65	3000

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TYPE:	SL62-A4: Standard duty ladder.
Standard surface:	Stainless Steel,
Thickness:	Stainless Steel 3,0 mm

Type	Total width (mm)	Weight (kg/m)	Length (mm)	Type	Total width (mm)	Weight (kg/m)	Length (mm)
SL 62 100 A4	110	2,99	3000	SL 62 400 A4	410	3,99	3000
SL 62 200 A4	210	3,32	3000	SL 62 500 A4	510	4,32	3000
SL 62 300 A4	310	3,65	3000	SL 62 600 A4	610	4,65	3000

TYPE:	SL62-ALU: Standard duty ladder.
Standard surface:	Aluminium,
Thickness:	Aluminium 3,0 mm

Type	Total width (mm)	Weight (kg/m)	Length (mm)	Type	Total width (mm)	Weight (kg/m)	Length (mm)
SL 62 100 ALU	110	0,99	3000	SL 62 400 ALU	410	1,34	3000
SL 62 200 ALU	210	1,11	3000	SL 62 500 ALU	510	1,45	3000
SL 62 300 ALU	310	1,22	3000	SL 62 600 ALU	610	1,56	3000

Application/Limitation

The installation is to be mechanically protected in accordance with DNV GL Rules and especially on weather decks in cargo hold areas and through cargo holds.

Cable ladders must not to be used as a walkway.

The type SL42-SG can only be used outdoor if painted with an appropriate topcoat after installation.

Type Approval documentation

Data sheets:

OBO catalogue "Cable Ladder Systems", PAGES 24-27 issued 2010-04-07.

Test reports:

OBO Test Report 04-600-SL42-A2, dated 2019-10-11 (Type Light)
 OBO Test Report 04-600-SL42-A4, dated 2019-10-11 (Type Light)
 OBO Test Report 04-600-SL42-ALU, dated 2019-10-11 (Type Light)
 OBO Test Report 04-600-SL62-A2, dated 2019-10-11 (Type Standard)
 OBO Test Report 04-600-SL62-A4, dated 2019-10-11 (Type Standard)
 OBO Test Report 04-600-SL62-ALU, dated 2012-10-11 (Type Standard)
 OBO Test Report 04-600-SLx-electricalproperties dated 2014-10-08.
 OBO Test Report 04-600-SL42-SWL, dated 2012-06-01 (Type Standard)
 OBO Test Report 04-600-SL62-SWL, dated 2012-06-01 (Type Light)
 OBO Test Report 04-600-SLx-Impactresistance, dated 2015-04-27
 OBO Test Protocol no 7097115, 7097174, 7097409 & 7097476 dated 2015-12-15/16

Tests carried out

Load bending test according to IEC 61537, Test for impact resistance, Electrical continuity & salt mist test.

Marking of product

OBO Bettermann – Type designation – Width – Material (cover marking).

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Periodical assessment

The scope of the periodical assessment is to verify that the conditions stipulated for the Type approval is complied with and that no alterations are made to the product design or choice of materials.

The main elements of the assessment are:

- Inspection on factory samples, selected at random from the production line (where practicable)
- Review of type approval documentation
- Review of possible change in design, materials and performance
- Ensuring traceability between manufacturer's product type marking and Type Approval Certificate.

Assessment to be performed at 2 and 3.5 year and at renewal.

END OF CERTIFICATE