DNV·GL

Certificate No:
TAE000035Z

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Cable Ladders

with type designation(s)
Cable ladders and accessories

Issued to
Cooper B-Line, Inc.
Highland, IL, USA

is found to comply with
DNV GL rules for classification – Ships, offshore units, and high speed and light craft

Application :

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.

Material	**Stainless steel 316, galvanized steel**
Suitable for open deck	**Yes**

Issued at **Høvik** on **2019-01-15**
This Certificate is valid until **2024-01-14**.
DNV GL local station: **Houston, Approval CMC**

Approval Engineer: **Georgy Abramenko**

for **DNV GL**

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: **262.1-028887-1**
Certificate No: **TAE000035Z**

Manufacturing locations

Name of company:	Address:
Eaton Troy IL	816 Lions Dr, Troy, IL 62294 United States of America
Eaton Reno NV	13755 Stead Blvd, Reno, NV 89506 United States of America
Eaton Sherman TX	4900 Marshall St, Sherman, Tx 75090 United States of America
SNC CO LTD	201, Yuha-ro, Gimhae-city, Gyeongnam, Korea 50970
Suzhou Ontop Mechanical & Electrical Equipment Co. Ltd.	No.588 Jiangxing East Road, Wjiang Economic and Technology Development Zone, Suzhou Jiangsu, China
Eaton Dammam	111 Jubail St., Dammam 2-nd Industrial City, P.O. Box-70160, Al-Kobar 31952, Saudi Arabia
Eaton Calgary	Unit 107, 2760 45 AVE SE, Calgary, AB T2B 3M1
IME Cable Support System SDN BHD	Lot 775, Jalan Subang 4, Taman Industri Sg Penaga, 47610 Subang Jaya, Selangor, Malaysia.

Product description

Type Designations	100G 125G 150G 100X 125X 150X
Application	Cable ladder for both indoor and outdoor installation.
Material	Galvanized steel, Stainless Steel 316
Flame Propagation	Non-flame propagation
Electrical Continuity	With electrical continuity characteristics
Electrical Conductivity	Electrical Conductivity
Temperature	Min. : -60 °C Max. : 90 °C
Impact Resistance	50 J

Type designation	Series name	Width (mm)	Safe Working Load (kg / m)	Length (mm)
100G 125G 150G	15I 20I	150 225 300 450 600 750 900	According to SWL diagram in manufacturer catalogue	3000/ 6000
100X 125X 150X	12I 15I 20I			3000/ 6000

Accessories:

Type	Name	Support options	Parameters
Fitting	Horizontal Bend	Option 1: "1/2 span" Option 2: "Dual support" Option 3: "Floating"	900mm bend radius max
	Vertical Inside/ Outside Bend	Option 1: "1/2 span" Option 2: "Dual support" without intermediate support if less than ½ span Option 3: "Dual support" with intermediate support, intervals not to exceed 3m on extended vertical drops Option 4: "Floating"	900mm bend radius max
	Horizontal Tee	Option 1: "1/2 span" Option 2: "Dual support" Option 3: "1/2 span / dual support" Option 4: "Floating"	900mm bend radius max
	Horizontal Cross	Option 1: "1/2 span" Option 2: "1/2 span / dual support"	900mm bend radius max

		Option 3: "Dual support" Option 4: "Floating"	
	Reducers	Option 1: "1/2 span"	Straight/ left/ right
Splice	Heavy duty expansion splice		
	Vertical adjustable splice		3000mm max unsupported span, Load capacity – 150kg/m

Fittings and splices shall be installed according to support recommendation options specified in manufacturer's guide (ref. "Engineers guide to structural steel savings with B-Line series cable ladder system", document SSS-17).

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.

Routine tests are not applicable for this product, hence excluded from scope.

Type Approval documentation

Tests carried out

Type tests according to IEC 61537.

Marking of product

Manufacturer's name – type designation – technical data for application.

Periodical assessment

The scope of the periodical assessment is to verify that the conditions stipulated for the Type approval are 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)
- Results from Routine Tests (RT) checked (if not available tests according to RT to be carried out)
- 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.

Periodical assessment is to be performed after 2 years and after 3.5 years. A renewal assessment will be performed at renewal of the certificate.

END OF CERTIFICATE