



Certificate No:
TAS00002V2

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Lifting Gear

with type designation(s)

Wire rope sling legs and lifting sets

Issued to

First Integrated Solutions Limited
Aberdeen, United Kingdom

is found to comply with

IS 2762:2009 Wire Rope Slings and Sling Legs

Application :

1, 2, 3 and 4 leg lifting sets, with forerunner where fitted, with maximum wire rope diameter of 60 mm, certified in accordance with Indian Standard IS 2762:2009.

Issued at **Aberdeen** on **2021-03-10**

for **DNV**

This Certificate is valid until **2026-03-09** .

DNV local unit: **Aberdeen**

Approval Engineer: **Alex Doig**

Elisabeth Legg
Principal Engineer

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.

LEGAL DISCLAIMER: Unless otherwise stated in the applicable contract with the holder of this document, or following from mandatory law, the liability of DNV AS, its parent companies and their subsidiaries as well as their officers, directors and employees ("DNV") arising from or in connection with the services rendered for the purpose of the issuance of this document or reliance thereon, whether in contract or in tort (including negligence), shall be limited to direct losses and under any circumstance be limited to 300,000 USD.



Product description

This type approval certificate replaces TAS00000W7.

The type approval covers wire rope lifting sets from 16 to 60 mm diameter, as described in appendix 1, and assembled by First Integrated Solutions Limited in accordance with Indian Standard IS 2762:2009.

For offshore use, the sling wire rope diameter obtained according to this standard shall be assessed in accordance with DNVGL-ST-E271 Table D-2 and Table 8-1 to obtain the appropriate offshore Working Load Limit (WLL) for the sling.

Those wire rope slings assembled by First Integrated Solutions Limited, consist of components from the following sub suppliers:

Component	Sub supplier (DNV to be informed and review new sub suppliers)	DNV TAC No.
Master Link and Quad assembly	Crosby Group LLC Scaw South Africa (Pty) Limited – McKinnon Chain Gunnebo Industrier Aktiebolag Nøsted & AS	TAS00002GF TAS00002T3 TAS000013Z TAS00002VZ TAS00002US
Wire rope ¹⁾	Usha Martin Limited Hendrik Veder Group Ropenhagen A/S Bridon-Bekaert Ropes Group Interkabel, Internationale Seil- und Kabel-Handels GmbH	N/A
Shackles ²⁾	Crosby Group LLC Van Beest B.V. Gunnebo-Anja Industrier AS Yoke Industrial Corp.	TAS00002SS TAS00002GA TAS000011V TAS00001D0 TAS00001B8 TAS0000241
Ferrules/Sleeves ³⁾	SAHM SPLICE Ltd. Talurit	N/A
Thimbles ⁴⁾	SAHM SPLICE Ltd. Talurit	N/A

1) Wire ropes used in lifting sling legs to be class 6 x 19 or 6 x 36, Independent Wire Rope Core (IWRC) with wire rope grade 1770 N/mm², in accordance with IS 2266:2002, or equivalent

2) Masterlink and Quad Assemblies: According to IS 2760:1980, or equivalent

3) Shackles are only considered part of sling if captive (i.e. cannot be removed after assembly of sling).

4) Ferrules / sleeves: According to IS 10942:2000 or equivalent.

5) Thimbles: IS 2315:1978, Federal Specification FF-T-276b, Type III, EN 13411-1 or equivalent.

Components should be delivered with the following certificates:

- Master Links, Quad assemblies and Shackles: Certificates based on DNV Type Approval.
- Wire Ropes: To be supplied with traceable product certificates according to EN 10204, inspection certificate, type 3.1.
- Thimbles and ferrules: To be supplied with a material certificate to EN 10204, test report, type 2.2.

Application/Limitation

For each delivered drum of wire rope, a test leg with one eye in each end shall be prepared and tested to breaking. A reference should be made to the wire drum test report in each sling set certificate where that wire is used.

All production testing should be done in accordance with First Integrated Solutions Limited procedures, to be agreed with the local DNV office.

The manufacturer shall issue product certificates in accordance with section 11 of IS 2762, using the certificate First Integrated Solutions Limited form QAF 126 rev 0. This certificate form is only to be used for lifting sets certified in accordance with this type approval.

The WLL to be referenced in certificates and marked on lifting sets shall be the maximum working load limit (WLL) of the lifting set, as per the definition in DNVGL-ST-E271.

For slings manufactured according to IS 2762:2009

Lifting sets shall be assembled according to the strength requirements for lifting sets described in section 9 of the standard and using the angle coefficients given in Annex A of the standard. The coefficient of utilisation for the wire rope must be 6, and the wire rope diameters calculated on the basis of the minimum breaking forces given in Table 6 of Indian Standard IS 2266:2002 Steel Wire Ropes for General Engineering Purposes, for 1770 grade wire rope.

Type Approval documentation

Document No.	Revision	Title
WI 9.1.1	5	Destruction Test of Wire Rope
WI 9.1.2	9	Manufacture of Talurit Wire Rope Slings
WI 9.1.4	4	Operating 200 tonne Horizontal Testing Machine
WI 9.1.5	4	Proof Load Testing Wire Rope Sling
WI 9.1.11a	10	Manufacture of Flemish Wire Rope Slings
WI 9.2.13	4	Inspection of Wire Rope and Wire Rope Slings
WI 9.8.1	5	Quality Control Inspections
QAF 126	0	First Integrated Solutions Limited Product Certificate for Wire Rope Slings
Q05146		Quality System – BSI Certificate of Registration
	1	Indian Standard IS 2762 Wire Rope/DNVGL Type Examination Approval Table 18a

In addition, the following documents are also used as information:

- Prototype break test reports
- DNV GL periodic assessment reports and check lists
- Break tests witnessed by DNV GL
- Sample calculations.
- Test certificates for:
 - Wire ropes
 - Ferrules
 - Shackles
 - Links

Tests carried out

Prototype breaking load test of assembled wire rope sling legs.

Marking of product

For lifting sets manufactured in accordance with IS 2762:2009: refer to section 10.

Periodical assessment

In order to maintain the validity of the type approval certificate, periodical assessments should be carried out in accordance with IS 2762. Intervals shall not exceed 12 months.

END OF CERTIFICATE

APPENDIX 1

Wire rope slings with Aluminium (including TKH) or Steel ferrules assembled by First Integrated Solutions Limited, covered by this type approval

Product Name	Applicable Standards	Material Grades	Parameter range (Multi-leg)			
			SIZE(Ø) [mm]	WLL [t]	PL [kN]	BL [kN]
Steel wire rope	IS 2266 (EN12385-4)	1770 N/mm ²	60* max	97.21*	757*	2270*
			56 max for forerunner	25.0	245	1978
Link assemblies	IS 2760 (EN1677-4)	Grade 8	57/50*	67.0*	1643*	3285*
			22/20~40/31 or equivalent	~28.1	~208 - 689	~416 - 1377
Shackles	IS/ISO 2415 (EN13889)	Grade 6	50*	35*	686*	1716*
			~35	~13.5	~132	~530

*) Parameters applicable for lifting sets complying with IS 2762. The lower values apply to lifting sets used for DNV 2.7-1 certified offshore containers.

Note: The information given above is intended as a guide only. For special (e.g. asymmetric) lifting sets, other sizes may be appropriate.