

TYPE APPROVAL CERTIFICATE

This is to certify:**That the Lifting Frame**with type designation(s)
Rhino Pipe Handling System

Issued to

MSI PIPE PROTECTION TECHNOLOGIES UK LTD
Aberdeen, United Kingdomis found to comply with
DNV GL standard DNVGL-ST-0378 – Standard for offshore and platform lifting appliances
DNV Offshore Standard DNV-OS-E101, Drilling Plant, October 2013**Application :****Rhino Pipe Handling System used for lifting of pipes in a four pint lift on the two inner frames of the four frame bundle.****Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.**This Certificate is valid until **2024-06-30**.Issued at **Høvik** on **2019-07-02**for **DNV GL**DNV GL local station: **Approval Centre Aberdeen**Approval Engineer: **Antonio Sendin Alvarez**

Aldo Matteucci
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.

Certificate No: **TAS0000237**
File No: **686.76**
Job Id: **262.1-019240-2**

Product description

Rhino Pipe Handling System – consisting of two lifting frames and two clamping frames.

- Safe Working Load (SWL) for the four frame bundle: 12 Te
- Design Dynamic Factor: $\Psi = 1,3$
- Maximum Sling Angle from Vertical: 45°
- Maximum distance between lifting frames: 3 m
- Maximum sling offlead from lifting lug angle: 2°
- Design temperature: -20 °C

Application/Limitation

1. All materials are to be delivered with 3.1 certificates (EN 10204:2004), documenting mechanical properties and chemical composition in accordance with the Type Approval documentation, and shall comply with DNVGL-ST-0378 Sec. 3 and DNVGL-OS-E101.
2. Loose gear such as shackles, slings etc. are not covered by this approval, and are to be delivered with ILO Form No 3 documenting sufficient capacity.
3. It is the end user's responsibility to ensure that the bolts connecting the clamping top-beam to the lifting frames are well maintained under an appropriate inspection regime and that they are fixed to the frames in such a way as to prevent replacement by any other pins/bolts.
4. It is the end user's responsibility to ensure that the bolts connecting the clamping top-beam to the lifting frames are secured and provided with a suitable means of locking prior to and during all lifting operations.

Type Approval documentation

Drawing No.	Rev.	Title
A179-01	0	Rhino lifter and clumper, general arrangement
A179-02	0	5 ½" Pipe lifting frame, general arrangement, item details & material list.
A179-03	0	5 ½" Pipe clamping frame, fabrication layout, item details & material list.
A179-04	0	5 ½" Clamping top beam & reinforcing bar, item details & material list

Tests carried out

In order to obtain a CG3 certificate, each Rhino Pipe Handling System shall be tested according to the DNVGL-ST-0378 Table 14-2 and NDT to be carried out according to DNVGL-ST-0378 Sec.3

Marking of product

Each Rhino Pipe Handling System is to be marked according to DNVGL-ST-0378 Sec.14.5.

Periodical assessment

For retention of the Type Approval, a DNV GL Surveyor shall perform periodical assessment after two years (+/- 90 days) and after 3.5 years (+/- 90 days) to verify that the conditions for the approval are complied with. Reference is made to DNVGL-CP-0338.

END OF CERTIFICATE