

# TYPE APPROVAL CERTIFICATE

**This is to certify:****That the Hoisting, Rotation and Pipehandling Equipment**with type designation(s)  
**SWIVEL HOIST RINGS**

Issued to

**Crosby Group LLC**  
**Tulsa, OK, USA**

is found to comply with

**DNVGL-OS-E101 – Drilling facilities, Edition January 2018****DNV GL standard DNVGL-ST-0378 – Standard for offshore and platform lifting appliances****DNVGL-SI-0166 – Verification for compliance with Norwegian shelf regulations, Edition July 2018****Application :****Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.**Issued at **Houston** on **2019-12-20**This Certificate is valid until **2024-12-31**.for **DNV GL**DNV GL local station: **Houston, Approval CMC**Approval Engineer: **Bo Cui**.....  
**Christian Nilsen**  
**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.



## Product description

HR-1000 CT Swivel Hoist Rings: 1/2", 5/8", 3/4", 7/8", 1", 1-1/4", 1-1/2", 2", 2-1/2"  
HR-1000 CT Swivel Hoist Rings: 12mm, 16mm, 20mm, 24mm, 30mm, 36mm, 48mm

## Application/Limitation

### HR-1000CT Swivel Hoist Rings

Frame Size	Stock No.	Bolt Size [in]	WLL [lb <sub>f</sub> ]	WLL [kg <sub>f</sub> ]
2	6608103	0.500 - 13UNC x 2.25	1,900	862
2	6608112	0.500 - 13UNC x 2.75	1,900	862
2	6608121	0.625 - 11UNC x 2.25	3,000	1,360
3	6608130	0.750 - 10UNC x 3.00	4,800	2,177
3	6608139	0.875 - 9UNC x 3.00	6,200	2,812
3	6608148	1.000 - 8UNC x 3.50	8,300	3,765
4	6608149	1.250 - 7UNC x 5.00	12,500	5,670
4	6607669	1.500 - 6UNC x 5.50	20,000	9,072
4	6607727	1.500 - 8UN x 5.50	20,000	9,072
5	6607670	2.00 - 4.5UNC x 7.50	28,000	12,700
6	6607671	2.50 - 4UNC x 9.50	45,000	20,412

Frame Size	Stock No.	Bolt Size [mm]	WLL [kg <sub>f</sub> ]	WLL [lb <sub>f</sub> ]
2	6630058	12 x 1.75 x 55	825	1,820
2	6630059	16 x 2.00 x 65	1,350	2,980
3	6630060	20 x 2.50 x 80	2,250	4,960
3	6630061	24 x 3.00 x 90	3,175	7,000
4	6630062	30 x 3.50 x 140	5,450	12,000
4	6630063	36 x 4.00 x 130	7,450	16,400
5	6630064	48 x 5.00 x 180	13,250	29,200

Minimum Design Temperature : -4 °F (-20 °C)  
Design Safety Factor: 5

## Type Approval documentation

### Tests carried out

Type Certification Qualification Testing, Survey Reports A0022334, A0022695 Dated 2014-07-03-A, A0022695 Dated 2014-07-08-A, A0022695 Dated 2014-07-015-A, and A0022695 Dated 2014-08-26-A

### Marking of product

For traceability to this Type Approval Certificate the products are as a minimum to be marked as follows:

1. Serial Number
2. Manufacturer's name and trademark
3. Working Load Limit

### Periodical assessment

In order to maintain the validity of the type approval certificate, periodical assessment shall be carried out according to DNVGL-CP-0338. Periodical assessments will, when possible, be harmonised with other surveys and audits carried out.

### Condition & Comments

1. Maximum yield strength of bolts is 131,000 psi



Job Id: **262.1-018338-2**  
Certificate No: **TAD000017X**

END OF CERTIFICATE