

# APPROVAL OF MANUFACTURER CERTIFICATE

Certificate No:  
**AMMM000017C**  
Revision No:  
**2**

**This is to certify:**

**That**

**DSR Wire Corp. (Yulchon Factory)**

**0-21 Yulchonsandan, 1-ro Haeryong-myeon, Suncheon-si 58034, Jeollanam-do, Republic of Korea**

is an approved manufacturer of  
**Steel Wire Ropes**

in accordance with  
**DNV GL rules for classification – Ships**  
**DNVGL-OS-E304 – Offshore mooring steel wire ropes, Edition July 2015**

and the following particulars:

<b>Product</b>	<b>Steel wire ropes for ship towlines and mooring lines</b> <b>Steel wire ropes for mobile offshore mooring</b>
<b>Construction</b>	<b>See page 2</b>
<b>Max. Diameter</b>	<b>See page 2</b>

Manufacturer approved by this certificate is accepted to deliver according to DNV GL, DNV and GL rules. Materials to be applied to DNV GL classed object shall fulfill the material requirements in the applicable DNV GL class rules.

Issued at **Høvik** on **2020-03-02**

for **DNV GL**

This Certificate is valid until **2023-01-29**.

DNV GL local station: **Mokpo**

Approval Engineer: **Shylate Mahachi**

**Hanne Anita Hjerpetjønn**  
**Head of Section**

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Job Id: **263.11-003455-5**  
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## Particulars of the approval

### Steel wire ropes for ship towlines & mooring lines and mobile offshore mooring

Rope group	Rope construction	Rope grade [N/mm <sup>2</sup> ]	Max. Diameter [mm]
6x36-IWRC	6x31WS-IWRC	1770, 1960,2160 Z/ZZ/ZZZ	128
	6x36WS-IWRC		
	6x41WS-IWRC		
	6x41SF-IWRC		
	6x49SWS-IWRC		
	6x46WS-IWRC		
	6x52SESWS-IWRC <sup>3)</sup>		
8x36-IWRC	8x31WS-IWRC	1770, 1960,2160 Z/ZZ/ZZZ	154
	8x36WS-IWRC		
	8x41WS-IWRC		
	8x43SWS-IWRC		
	8x49SWS-IWRC		
	8x52SESWS-IWRC <sup>3)</sup>		
	8x55SWS-IWRC		
Powerflex 6x36-IWRC	6x31WS-IWRC	1770, 1960,2160 Z	90
	6x36WS-IWRC		
	6x41WS-IWRC		
	6x47SEWS-IWRC <sup>3)</sup>		
	6x49SWS-IWRC		
	6x52SESWS-IWRC <sup>3)</sup>		

Remark:

- 1) MBL: Minimum breaking load
- 2) Minimum breaking load as per EN 12385-4, API 9A and manufacturer's specification
- 3) Rope construction in accordance with manufacturer's specification