Marine & Offshore

Certificate number: 27600/B0 BV
File number: MAT 11240-2012
Product code: 9018I

This certificate is not valid when presented without the full attached schedule composed of 7 sections

www.veristar.com

APPROVAL CERTIFICATE for MATERIALS

This certificate is issued to

SeAH Besteel Corporation

Jeollabuk-do - KOREA (REPUBLIC OF)

for the type of product

ROUND BARS FOR SHIP ANCHOR CHAIN CABLE

Round bars in steel grade Q2 and Q3.

Requirements:
Bureau Veritas Rules on Materials and Welding for the Classification of Marine Units

This certificate is issued to attest that Bureau Veritas Marine & Offshore did undertake the relevant approval procedures for the product identified above which was found to comply with the relevant requirements mentioned above.

This certificate will expire on: 14 Dec 2022

For Bureau Veritas Marine & Offshore,
At BV PUSAN, on 14 Dec 2017,
Chang-uk HONG

BUREAU VERITAS SURVEYORS AT PARIS 1828 PUSAN INTERNATIONAL REGISTER

This certificate remains valid until the date stated above, unless cancelled or revoked, provided the conditions indicated in the subsequent page(s) are complied with and the product remains satisfactory in service. This certificate will not be valid if the applicant makes any changes or modifications to the approved product, which have not been notified to, and agreed in writing with Bureau Veritas Marine & Offshore. Should the specified regulations or standards be amended during the validity of this certificate, the product(s) is/are to be re-approved prior to it/they being placed on board vessels to which the amended regulations or standards apply. This certificate is issued within the scope of the General Conditions of Bureau Veritas Marine & Offshore available on the internet site www.veristar.com. Any Person not a party to the contract pursuant to which this document is delivered may not assert a claim against Bureau Veritas Marine & Offshore for any liability arising out of errors or omissions which may be contained in said document, or for errors of judgement, fault or negligence committed by personnel of the Society or of its Agents in establishment or issuance of this document, and in connection with any activities for which it may provide.

THE SCHEDULE OF APPROVAL

1. PRODUCT DESCRIPTION :

Round bars for the manufacture of ship anchor chain cables.

Steel grade	Deoxydation practice & refining	Delivery conditions
Q2	Killed and fine grain treated with Al	As Rolled (AR) up to 120mm
Q3	Killed and fine grain treated with Al	As Rolled (AR) up to 160mm

Steelmaking by Electric Arc Furnace (EAF) and refining with VD or RH. Continuous casting.

2. DOCUMENTS AND DRAWINGS :

Chemical composition specification on ladle for round bar grade Q3.

Element	C (%)	Si (%)	Mn (%)	P (%)	S (%)	Al (%)	N (%)
Min.	-	0.15	1.00	-	-	0.020	-
Max.	0.33	0.55	1.90	0.035	0.035	0.065	0.015

As per the following documentation issued by SeAH Besteel Corporation:
-" Chain cable (Q3) Test Plan" dated 18 November 2011.
-"Application for works approval N°SBC-A-1101" dated 31 december 2011.

3. TEST REPORTS :

As per the following documentation issued by SeAH Besteel Corporation:
-"Approval Test Report - Rolled steel bars for anchor chain cables of grade Q3 & Q2" dated 18 June 2004.
-" Chain cable (Q3) raw Test report" dated 21 December 2011.
-"Report of works approval test" dated 21 December 2011.

4. APPLICATION / LIMITATION :

As per Bureau Veritas Rules for Classification.

5. PRODUCTION SURVEY REQUIREMENTS :

The rolled bars are to be supplied by SeAH Besteel Corporation in compliance with the type and the requirements described in this certificate. This type of product is within the category IBV of Bureau Veritas Rule Note NR320. BV product certificate is required.

6. MARKING OF PRODUCT :

As per Bureau Veritas Rules for Classification.

7. OTHERS :

This certificate replaces approvals N° 14545/B0 BV and N° 27600/A0 BV.

*** END OF CERTIFICATE ***