



Marine & Offshore
Division

Certificate number: 10355/C1 BV

File number: MAT 2375/01

Product code: 6438I

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

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APPROVAL CERTIFICATE for MATERIALS

This certificate is issued to

QINGDAO ANCHOR CHAIN CO., LTD
QINGDAO - CHINA

for the type of product

SHIP ANCHOR CHAIN CABLE

Flash butt welded studlink anchor chain cables for ships - Grades Q2a and Q3a

Requirements:

Bureau Veritas Rules for the Classification of Steel Ships

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

This certificate is issued to attest that BUREAU VERITAS 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: 17 Jan 2017

For BUREAU VERITAS,

At BV SHANGHAI, on 19 Mar 2015,

Jennifer Zhang



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. 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 Division 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 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 :

Studlink ship chain cable and associated end and enlarged links.

Chain cable grade	Common link diameter range	Delivery conditions
Q2a	From 12,5mm up to 152mm	Normalized (N)
Q3a	From 17,5mm up to 152mm	Quenched and tempered (Q&T)

Chain cable links manufactured by flash butt welding. Heat treatment as applicable.

2. DOCUMENTS AND DRAWINGS :

Chemical composition specification on ladle for grade CM690(Q3a) for stud link chain cables:

C (%)	Mn (%)	Si (%)	Cr (%)	Mo (%)	Ni (%)	Al (%)	S (%)	P (%)	Cu (%)	V (%)	Nb (%)	N (%)
- 0.33max	- 1.80 max	0.15 min. 0.35 max	- 0.25 max	- 0.08 max	- 0.4 max	- 0.065 max	- 0.035 max	- 0.035 max	- 0.35 max	- 0.10 max	- 0.05max	- 0.015 max

As per following documents issued by Qingdao anchor chain Co., Ltd.:

- Drawing Ref.QAC-AC-EL-201409 dated 01/09/2014,
- "Extend approval for anchor chain and accessories-works application documents" dated April 2014,
- Ref.QAC/GC001-2013 dated November 2013, Ref.2014/06 dated 10/06/2014.

3. TEST REPORTS :

As per following documents issued by Qingdao anchor chain Co., Ltd.:

- Test report for anchor chain cable BVN/94-008/HKG dated 22/01/1994,
- "Approval test report for anchor chain and accessories, size 107mm, grade 3" dated May 1998,
- "Information for size-extension approval on chains and accessories" dated January 2003,
- "Approval test report for anchor chain and accessories" dated March 2003.
- "Works approval test report diameter 153mm grade 3 anchor chain and accessories" Rev.00 dated June 2014.

4. APPLICATION / LIMITATION :

As per Bureau Veritas Rules for Classification. Round bars supplied by Liewu Iron Steel & Works, Zibo, Shandong Province and Jiangyin Xingcheng Special Steel Co., Ltd. Round bars are to be supplied by steelmakers approved by Bureau Veritas and ordered with Bureau Veritas certificates.

5. PRODUCTION SURVEY REQUIREMENTS

The chain cables are to be supplied by Qingdao anchor chain Co., Ltd. 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 No. 6434 I/5504/B0/PRS0 B and from No.10355/A.0 BV to No.10355/C0 BV.

*** END OF CERTIFICATE ***



Marine & Offshore
Division

Certificate number: 27399/A1 BV

File number: MAT 62179-2012

Product code: 64351

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

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APPROVAL CERTIFICATE for MATERIALS

This certificate is issued to

QINGDAO ANCHOR CHAIN CO., LTD
QINGDAO - CHINA

for the type of product

SHIP CHAIN CABLE ACCESSORIES

Ship chain cables accessories in steel grades Q2a and Q3a

Requirements:

Bureau Veritas Rules for the Classification of Steel Ships
Rules on Materials and Welding for the Classification of Marine Units

This certificate is issued to attest that BUREAU VERITAS 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: 11 Jan 2017

For BUREAU VERITAS,
At BV SHANGHAI, on 19 Mar 2015,
Jennifer Zhang



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. 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 their 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 Division 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 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 :

Ship chain cables accessories: Kenter Shackles, End Shackles, Joining Shackles and Swivels.

Grade	Intended for connecting chain cable of max. Nominal Diameter	Delivery condition
Q2a	From 12,5mm to 152mm	Normalized (N)
Q3a	From 17,5mm to 152mm	Quenched and tempered (Q&T)

Accessories are made by forging process. Heat treatment as applicable.

2. DOCUMENTS AND DRAWINGS :

Chemical composition specification on ladle for grade **CM690 (Q3a)** for ship chain accessories:

C (%)	Mn (%)	Si (%)	Cr (%)	Mo (%)	Ni (%)	Al (%)	S (%)	P (%)	Cu (%)	V (%)	Nb (%)	N (%)
0.33max	1.80 max	0.15 min. 0.35 max	0.25 max	0.08 max	0.4 max	0.065 max	0.035 max	0.035 max	0.35 max	0.10 max	0.05max	0.015 max

As per following documents issued by Qingdao anchor chain Co., Ltd.:

- Drawings Ref.QAC-AC-SW-201409, Ref.QAC-AC-KS-201409, Ref.QAC-AC-ES-201409, Ref.QAC-AC-JS-201409 dated 01/09/2014,
- "Extend approval for anchor chain and accessories-works application documents" dated April 2014.

3. TEST REPORTS :

As per following documents issued by Qingdao anchor chain Co., Ltd.:

- "Approval test report for anchor chain and accessories, size 107mm, grade 3" dated May 1998,
- "Information for size-extension approval on chains and accessories" dated January 2003, "Approval test report for anchor chain and accessories" dated March 2003,
- "Works approval test report diameter 153mm grade Q3 anchor chain and accessories" Rev.00 dated June 2014.

4. APPLICATION / LIMITATION :

As per Bureau Veritas Rules for Classification. Round bars supplied by Laiwu Iron Steel & Works, Zibo, Shandong Province, Jiangyin Xingcheng Special Steel Co., Ltd. or Daye Special Steel Co., Ltd. Round bars are to be supplied by steelmakers approved by Bureau Veritas and ordered with Bureau Veritas certificates.

5. PRODUCTION SURVEY REQUIREMENTS :

The chain accessories are to be supplied by Qingdao anchor chain Co., Ltd. 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 No. 27399/A0 BV.

*** END OF CERTIFICATE ***