



Approval No. ST117RO  
Certificate No. TA15133E

**APPROVAL OF MANUFACTURING PROCESS**

*This is to certify that*

**Shanxi Taigang Stainless Steel Co., Ltd.  
Taiyuan, Shanxi  
China**

*has been approved for the manufacturing process of undermentioned materials by the NIPPON KAIJI KYOKAI in accordance with the requirements of 1.2, Part K of the Society's "Rules for the Survey and Construction of Steel Ships" and Chapter 1, Part 1 of the Society's "Guidance for the Approval and Type Approval of Materials and Equipment for Marine Use".*

**MATERIALS : Rolled Steels for Hull**

The details of the relevant approval conditions are given in the PARTICULARS OF APPROVAL listed in the reverse of this certificate.

The products for the ships classed with the Society are to be manufactured, tested and inspected in compliance with the Rules.

This Certificate is valid until 20 January 2020.  
Issued at Tokyo on 13 February 2015.

Renewal Date : 21 January 2015



**T. Imamura**  
General Manager  
Material and Equipment Department



No. : TA15134E

Date : 13 February 2015

Date : 13 February 2015

## PARTICULAR OF APPROVAL

### Approval Conditions for Manufacturing Process of Rolled Steels for Hull

- |                            |  |
|----------------------------|--|
| 1. Manufacturer            | : Shanxi Taigang Stainless Steel Co., Ltd. |
| 2. Kind of Product         | : Steel Plates Uncoiled from Hot Coils     |
| 3. Grade                   | : KA, KB, KD, KA32, KD32, KA36 and KD36    |
| 4. Deoxidation Practice    | : See Table.                               |
| 5. Grain Refining Elements | : See Table.                               |
| 6. Max. Thickness          | : See Table.                               |
| 7. Condition of supply     | : See Table.                               |
| 8. Steel Making Process    | : Basic Oxygen Furnace                     |
| 9. Casting Process         | : Continuous Casting                       |

#### 10. Remarks

- (1) Steel plates are uncoiled from hot coil manufactured in accordance with the above condition.
- (2) Uncoiling process including Leveling, Cutting, Piling, etc., of hot coils is to be conducted by Shanxi Taigang Stainless Steel Co., Ltd. Hot Strip Mill.
- (3) Testing, inspecting and stamping of steel plates are to be carried out in the Shanxi Taigang Stainless Steel Co., Ltd. Hot Strip Mill after uncoiling.

(to be cont.)





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Table : Part of Approval Conditions

Grade	Deoxidation Practice	Grain Refining Elements	Max. Thickness (mm)	Heat Treatment <sup>(1)</sup>
KA	Fine-grained Killed	Al	24	CR
KB	Fine-grained Killed	Al	24	CR
KD	Fine-grained Killed	Al	24	CR
KA32	Fine-grained Killed	Al-Nb-V	24	CR
KD32	Fine-grained Killed	Al-Nb-V	24	CR
KA36	Fine-grained Killed	Al-Nb-V	24	CR
KD36	Fine-grained Killed	Al-Nb-V	24	CR

(1)AcC is applied after CR (580°C~650°C)



T. Imamura

General Manager

Material and Equipment Department

(to be cont.)



No. : 15EW1685ROL

Date : 13 February 2015

Shanxi Taigang Stainless Steel Co., Ltd.  
Jiancaoping Street, No.2 Taiyuan City,  
Shanxi Province, China

Approval of Manufacturing Process of Rolled Steels (Renewal)

Dear Sirs,

This is to inform that we have approved the captioned manufacturing process.

Enclosed please find the certificate of approval and invoice together with other relevant documents.

Apart from the above, your company is kindly requested to return the previous certificate (Certificate No.: NKR-405ROL) to NK Tianjin office.

We appreciate the opportunity to work with your company.

Yours faithfully,



T. Imamura  
General Manager  
Material and Equipment Department

Encl.:

- (1) Certificate of approval (TA15133E)
- (2) Particulars of approval (TA15134E)
- (3) Invoice
- (4) Other relevant documents

Cc: NK Tianjin Office