

DET NORSKE VERITAS

MANUFACTURING SURVEY

ARRANGEMENT

MSA NO. R-1982
The MSA consists of 7 pages

Between

Baoshan Iron & Steel Co., Ltd. Core Base
SHANGHAI, China

and

Det Norske Veritas AS
SHANGHAI OFFICE

Extent

This Manufacturing Survey Arrangement (MSA) is applicable to
Rolled steel plates of approved NV grades
subject to testing and inspection for conformance with the
requirements of DNV Classification Rules, as stated herein.

The MSA implies that the Manufacturer is authorised to perform the
testing and inspection without the attendance of the Surveyor
and to prepare the certificates which will be validated by DNV.

Validity

The MSA is valid until 2015-12-31.....
The MSA will, however, be invalid if the Manufacturer's Quality
System Certificate No. FM 70107 has expired or is cancelled.



If any person suffers loss or damage which is proved to have been caused by any negligent act or omission of Det Norske Veritas, then Det Norske Veritas shall pay compensation to such person for his proved direct loss or damage. However, the compensation shall not exceed an amount equal to ten times the fee charged for the service in question, provided that the maximum compensation shall never exceed USD 2 million. In this provision "Det Norske Veritas" shall mean the Foundation Det Norske Veritas as well as all its subsidiaries, directors, officers, employees, agents and any other acting on behalf of Det Norske Veritas.

1. SCOPE OF WORK

For products to be certified for conformance with DNV Rules for Classification of Ships, Mobile Offshore Units and Fixed Offshore Installation the following conditions will come into force:

1.1 Reference Documents

1.1.0 The Manufacturing Survey Arrangement, MSA No. R-1982.

1.1.1 DNV Rules for Classification of Ships/High Speed, Light Craft and Naval Surface Craft Pt.2, Ch.1 and Ch.2

1.1.2 DNV Offshore Standards DNV-OS-B101, Metallic Materials, Ch.3

1.1.3 Approval of Manufacturer Certificate No. AMM -4615

1.1.4 Quality System Certificate No. FM70107 issued by BSI Management Systems.

1.1.5 The Manufacturer's documented and accepted procedures for the sampling of material test and final marking of material grades.

1.1.6 Manufacturer Product Quality Assessment, MPQA, Report No. MPQA-GXZ-4.

1.2 Manufacturer covered by MSA

The manufacturer covered by MSA is Baoshan Iron and Steel Co. Ltd. Core base at the following address:

Baoshan Iron and Steel Co. Ltd. Core Base
No.885, Fujin Road
Baoshan District
Shanghai, 201900
Peoples Republic of China

1.3 Scope of Products Covered by MSA

1.3.1 The scope of products covered by the arrangement is that given for Baoshan Iron and Steel Co. Ltd. Core Base in approval certificate No. AMM -4615 and the extending scope approval certificate in the future in Class DNV List of Approval Materials and Equipment
Which is available at <http://www.dnv.com>.



1.3.2 Any requests by the manufacturer to extend the scope of approval will be dealt with under the relevant section of the DET NORSKE VERITAS (DNV) for the Classification of Steel Ships.

2 Audits performed by DNV

2.1 Compliance with the conditions agreed in this MSA is subject to control and review by auditing as follows:

- a. Periodical audits of the MSA function are to be made at intervals not exceeding 6 months;
- b. The technical meetings are to be held during the periodical audits, and the MSA implementation in the manufacturer will be discussed.
- c. Project-specific audits or spot checks may be made to ensure compliance of the materials with Rules requirement.

For this purpose the Surveyors shall at all reasonable times be given access to the manufacturing plant and to the relevant manufacturing documents and records and be informed about all changes whatsoever, i.e. processes or procedures, affecting the product quality.

2.2 Agenda for the MSA-audits

The agenda for the audits will be proposed by DNV in the notification of the meeting.

The agenda will be chosen from this typical list:



- a. Organisation, responsibilities and qualifications of relevant personal.
- b. The efficiency of the implementation of the MSA.
- c. Operation procedures and instructions related to the MSA agreement.
- d. Manufacturing processes, inspection and testing.
- e. Test records.
- f. Rolled materials, properties and applications.
- g. Product marking, traceability and control of non-conforming product.
- h. Claims, question from clients and others.
- i. Review of possible problem areas raised from previous MSA audits.



- j. Information to be update.
- k. Statistical results from testing including test failure rate and possible cause analysis, corrective and preventive actions.

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3 The responsibility of Manufacturer and DNV

3.1 The manufacturer is responsible for ensuring that the DNV  stamp is applied only to materials within the approved scope for the arrangement and which have been satisfactorily tested and inspection. Any misuse of  stamp may be a cause for suspension or removal from the arrangement.

3.2 The manufacturer agrees to give free access and support to DNV surveyor for verification purpose.

3.3 The following persons shall be authorised and have all responsibilities for assuring the implementation of this arrangement.

Core Base (No.885, Fujin Road)

Department	Name	Titles/ Works
Product & technique Management Department	Taiguo Feng	The manager of Product & technique Management Department
	Zhen Sun	The manager of Heavy Plate Division
	Ling Hu	Technological design of hull plate
	Huichao Hu / Yu Zhu	Managing the certifications of hull plate
	Li Jiang / Yaping Ni	Managing and Checking Certifications
Quality Inspection Center of BII	Sheying Zhang	The manger of Quality Inspection Center
	Weicheng Xu	Managing Mechanical Testing Technology
	Yong Li	Managing Chemical Testing Technology
Heavy Plate Mill	Yuliang Hu	The manager of Heavy Plate Mill
	Dalun He	Manufacturing technology of hull plate

3.4 This information, such as the statistical data, the manufacturer process, which submitted to the Class DNV by the manufacturer will be treated as strictly confidential by Class DNV, and will not be used in any way which is traceable to the manufacturer, except with the manufacturer's express permission in writing.

4 Reporting to be done by the manufacturer



4.1 Manufacturing Records

Records shall be made of the relevant manufacturing data and the results of all specified testing and inspection necessary for conformance to the Rules.

The manufacturer wishes to change the process route for materials produced according to the agreement, this must be agreed by DNV in writing.

4.2 Inspection report

Inspection reports are to be prepared by the Manufacturer and the following text is to be printed or stamped on the inspection report:

“This is to certify that the material described above has been made by an approved process and has been satisfactorily tested in accordance with DNV Rules for Classification. This certification is issued in accordance with the survey arrangement authorised by DNV in MSA No. R-1982, which is controlled by regular auditing.”

The inspection report is to contain all relevant information as required by the Rules.

A copy of the inspection report is to be retained at the manufacturer as quality records and the retention period to be as stated in the Quality Management System.

4.3 Inspection report identification

For the purpose of unambiguous identification and traceability of the inspection reports, a unique numbering system is to be employed for all inspection reports issued from the manufacturer with reference to this MSA.

4.4 Non-conformances and customer complaints

The manufacturer is report any departure from the Rules and the arrangements authorised and obtain the Surveyor's written approval prior to dispatch of the materials.

All customer complaints to materials delivered under this agreement shall be reported to DNV. This should include detail of the purchaser, the tonnage affected, the nature of the complaint, the results of any investigation of causes, and any corrective or preventive measures taken to prevent recurrence.

5 Reporting to be done by the DNV





DNV will inform the Manufacturer of new or amended Rules and regulations which would affect the arrangement authorised.

6 Marking of product

6.1 Marking

Materials which have been satisfactorily tested and inspected shall be marked as required by the Rules. The marking shall be unique for traceability and comply with the manufacturer internal regulation.

The materials are further to be marked with a  steel stamp. Only those materials covered by this arrangement  permitted marked

6.2 handling of the stamp

The Quality assurance manager is kept responsible for the  stamp.

The steel stamp can only be used by personal authorised to carry out identification and stamping of the product.

The steel stamping cannot be transferred to subsidiary companies belonging to the same group. The steel stamp can only be used by persons appointed by the quality assurance manager.

The steel stamp is to be returned to DNV when the hereby MSA has expired or is cancelled.

7. Issuance and endorsement of inspection report

7.1 The manufacturer remains responsible for ensuring that the material meets the requirements of the DNV Rules, as well as any additional requirements, specified by the purchaser.

7.2 The lay out of inspection report produced under the arrangement must be approved by Class DNV prior to implementation.

7.3 The manufacturer inspection report must be signed (manually or electronically) by an authorized representative. This representative shall take responsibility for ensuring that the arrangement is correctly applied, and that all the requirements, of this arrangement have been met relating to all material referred to on the inspection report.

7.4 Procedures for the inspection report of materials according to the arrangement



A computer system has been employed for production, sale, quality management, etc. in manufacturer. The system can realize automatically collecting the necessary information, generating and printing the inspection report. The main flow is as follows: The requirements of customer order, including the inspection report type and test items, will be input the computer system, and then the order will be converted into a manufacturing specification by process design engineer. The requirement of inspection and testing will be sent automatically to the relevant department, and the data of inspection and testing will be fed back to the computer system. The qualified data will be sent automatically to print inspection report.

A computer program will be designed to ensure the DNV survey's signature is only applied to products inspection report which is under the scope of the arrangement.

8. Validity

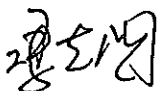
Any changes in production process, procedure or other matter that may influence the validity of the MSA or condition stated herein are to be submitted to DNV for evaluation.

The MSA will be invalid if:

- a. The QSC certification has expired or is cancelled.
- b. The possible non-conformities from inspection audits are not responded to and/or corrective actions are implemented with the agreed time.

Place and date:

Client



Jan Leurs
for Det Norske Veritas AS