

Forged structural steel

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Foreword

The NORSOK standards are developed by the Norwegian petroleum industry to ensure adequate safety, value adding and cost effectiveness for petroleum industry developments and operations. Furthermore, NORSOK standards are, as far as possible, intended to replace oil company specifications and serve as references in the authorities' regulations.

The NORSOK standards are normally based on recognised international standards, adding the provisions deemed necessary to fill the broad needs of the Norwegian petroleum industry. Where relevant, NORSOK standards will be used to provide the Norwegian industry input to the international standardisation process. Subject to development and publication of international standards, the relevant NORSOK standard will be withdrawn.

The NORSOK standards are developed according to the consensus principle generally applicable for most standards work and according to established procedures defined in NORSOK A-001.

The NORSOK standards are prepared and published with support by The Norwegian Oil Industry Association, The Federation of Norwegian Industry, Norwegian Shipowners' Association and The Petroleum Safety Authority Norway.

NORSOK standards are administered and published by Standards Norway.

Introduction

This NORSOK standard is based on former company specifications and experience from deliveries and operation.

1 Scope

This NORSOK standard defines the requirements for qualification of forges and the technical delivery requirements for forged structural steel components for use in offshore structures where Steel Quality Level I or II is required.

2 Normative and informative references

The following standards include provisions and guidelines which, through reference in this text, constitute provisions and guidelines of this NORSOK standard. Latest issue of the references shall be used unless otherwise agreed. Other recognized standards may be used provided it can be shown that they meet the requirements of the referenced standards.

2.1 Normative references

ASME V, Article 2, *Radiographic Examination*
ASME V, Article 7, *Magnetic Particle Examination*
ASME VIII, div.1, appendix 6, *Methods For Magnetic Particle Examination*
ASME VIII, div.1, appendix 7, *Methods For Radiographic Examination*
ASTM A388, *Standard Practice for Ultrasonic Examination of Heavy Steel Forgings*
ASTM A508, *Standard specification for quenches and tempered vacuum-treated carbon and alloy steel forgings for pressure vessels*
ASTM E112, *Standard Test Method for Determining Average Grain Size*
ASTM E709, *Standard Practices For Magnetic Particle Examination*
BS 2634-1, *Roughness comparison specimens – Part 1: Specification for turned, ground, bored, milled, shaped and planed specimens*
BS 7448, *Fracture mechanics toughness tests*
EN - 473/Nordtest, *Qualification of NDE operators*
ISO 148, *Steel – Charpy impact test (V-notch)*
ISO 6892, *Metallic material – Tensile testing at ambient temperature*
ISO 9001, *Quality management systems - Requirements (ISO 9001:2000)*
EN 10204, *Metallic materials – Types of inspection documents*
EN 10225, *Weldable structural steels for fixed offshore structures – Technical delivery conditions*

2.2 Informative references

None

3 Terms, definitions and abbreviations

For the purposes of this NORSOK standard, the following terms, definitions and abbreviations apply.

3.1 Terms and definitions

3.1.1

shall

verbal form used to indicate requirements strictly to be followed in order to conform to this NORSOK standard and from which no deviation is permitted, unless accepted by all involved parties

3.1.2

should

verbal form used to indicate that among several possibilities one is recommended as particularly suitable, without mentioning or excluding others, or that a certain course of action is preferred but not necessarily required

3.1.3

may

verbal form used to indicate a course of action permissible within the limits of this NORSOK standard

3.1.4

can

verbal form used for statements of possibility and capability, whether material, physical or casual