

NORSOK STANDARD

STRUCTURAL ALUMINIUM FABRICATION

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Please note that whilst every effort has been made to ensure the accuracy of the NORSOK standards neither OLF nor TBL or any of their members will assume liability for any use thereof.

CONTENTS

FOREWORD	2
1 SCOPE	3
2 NORMATIVE REFERENCES	3
3 DEFINITIONS AND ABBREVIATIONS	4
3.1 Definitions	4
3.2 Abbreviations	4
4 QUALIFICATION OF WELDING PROCEDURES AND WELDERS	4
4.1 Welding procedure specification (WPS)	4
4.2 Qualification of welding procedures	4
4.3 Welding procedure approval record (WPAR) - Range of approval	5
4.4 Examination of the test weld	5
4.5 Welder and welding operators qualifications	5
5 FABRICATION AND WELDING REQUIREMENTS	5
5.1 General	5
5.2 Preparation for welding	6
5.3 Welding consumables	6
5.4 Preheat and interpass temperature	6
5.5 Production welding	6
5.6 Grinding and preparation for coatings	6
6 PRODUCTION TESTS	7
7 FABRICATION TOLERANCES	7
8 NON-DESTRUCTIVE TESTING (NDT)	7
8.1 General	7
8.2 Qualification of inspectors and NDT-operators	7
8.3 Extent of visual examination and NDT	8
8.4 Visual examination	9
8.5 Radiographic testing	9
8.6 Ultrasonic testing	9
8.7 Penetrant testing	10
8.8 Acceptance criteria	10
9 REPAIR	13
9.1 Correction of welds containing defects	13
9.2 Repair by welding	14
9.3 Repair welding procedure	14
9.4 Correction of distortion	14
ANNEX A TYPICAL PERFORMANCE FOR GRINDING OF WELDS (INFORMATIVE)	15
ANNEX B WELDING CONSUMABLE DOCUMENTED BY BATCH TESTING (INFORMATIVE)	16

FOREWORD

NORSOK (The competitive standing of the Norwegian offshore sector) is the industry initiative to add value, reduce cost and lead time and remove unnecessary activities in offshore field developments and operations.

The NORSOK standards are developed by the Norwegian petroleum industry as a part of the NORSOK initiative and are jointly issued by OLF (The Norwegian Oil Industry Association) and TBL (Federation of Norwegian Engineering Industries). NORSOK standards are administered by NTS (Norwegian Technology Standards Institution).

The purpose of this industry standard is to replace the individual oil company specifications for use in existing and future petroleum industry developments, subject to the individual company's review and application.

The NORSOK standards make extensive references to international standards. Where relevant, the contents of this standard will be used to provide input to the international standardization process. Subject to implementation into international standards, this NORSOK standard will be withdrawn.

Annex A and B are informative.

1 SCOPE

This NORSOK standard covers the requirements for fabrication and inspection of aluminium structures used in offshore installations.

2 NORMATIVE REFERENCES

The following standards include provisions which, through reference in this text, constitute provisions 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 or exceed the requirements of the standards referenced below.

ASME, Section V	Non-destructive testing.
BS 8118	Part 2, Structural use of aluminium.
EN 287-2	Approval testing of welders - Fusion welding.
EN 288-4	Specification and qualification of welding procedures for metallic materials.
EN 444	NDT - General principles for radiographic examination of metallic materials by X-rays and gamma rays.
EN 462	NDT - Image quality of radiographs.
EN 473	Qualification and certification of NDT personnel - General principles.
EN 719	Welding coordination - Tasks and responsibilities.
EN 729	Quality requirements for welding - Fusion welding of metallic materials.
prEN 970	Welding - Visual examination of fusion welded joints.
prEN 1011	Recommendation for arc welding of specific requirements for aluminium and its alloy.
prEN 1289	Penetrant testing of welds - acceptance level and criteria.
prEN 1418	Welding personnel - Approval testing for fully mechanised and automatic welding.
prEN 1597-1	Welding consumables - testing for classification.
EN 10204	Metallic products - Types of inspection documents.
ISO 10042	Arc welded joints in aluminium and its weldable alloy (EN 30042)
IIW	Radiographic Atlas
NS 477	Welding. Rules for approval of welding inspectors.
NORSOK M-001	Material selection.
NORSOK M-121	Aluminium structural material.
NORSOK N-001	Structural design

3 DEFINITIONS AND ABBREVIATIONS

3.1 Definitions

Can	Can-requirements are conditional and indicates a possibility open to the user of the standard.
May	May indicates a course of action that is permissible within the limits of the standard (a permission).
Normative references	Shall mean normative in the application of NORSOK standards.
Shall	Shall is an absolute requirement which shall be followed strictly in order to conform with the standard.
Should	Should is a recommendation. Alternative solutions having the same functionality and quality are acceptable.

3.2 Abbreviations

BS	British Standard
DAC	Distance Amplitude Curve
EN	Euronorm
FSH	Full Screen Height
IIW	International Institute of Welding
NDT	Non Destructive Testing
PT	Penetrant Testing
RT	Radiographic Testing
SMYS	Specified Minimum Yield Strength
UT	Ultrasonic Testing
WPAR	Welding Procedure Approval Record
WPS	Welding Procedure Specification

4 QUALIFICATION OF WELDING PROCEDURES AND WELDERS

4.1 Welding procedure specification (WPS)

WPS shall be established in accordance with EN 288 part 2.

Information to be stated in WPS in addition to requirement in EN 288-2 as follows:

- Base material standard, alloy and temper
- Max. time limit between cleaning and welding

4.2 Qualification of welding procedures

Welding procedures used for aluminium structures, shall be qualified in accordance with EN 288 part 4 and the additional requirements in this standard. For welds specified in Inspection Category D qualified welding procedures are not required.

The qualification is valid for the workshop performing the welding tests, and other workshops under the same technical and quality management. It may also be transferred to and used by a subcontractor, provided the principles of EN 729 are implemented and documented.