

CLASS PROGRAMME

Approval of manufacturers

DNVGL-CP-0352

Edition February 2019

Manufacture of welded products - welding workshop

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FOREWORD

DNV GL class programmes contain procedural and technical requirements including acceptance criteria for obtaining and retaining certificates for objects and organisations related to classification.

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CHANGES – CURRENT

This document supersedes the April 2016 edition of DNVGL-CP-0352.

Changes in this document are highlighted in red colour. However, if the changes involve a whole chapter, section or subsection, normally only the title will be in red colour.

Changes February 2019

| <i>Topic</i> | <i>Reference</i> | <i>Description</i> |
|---|---|---|
| Requirements for welding workshop approval aligned with DNVGL-RU-SHIP Pt.2 Ch.4 | Sec.1 [2.1], Sec.1 [2.2], Sec.1 [4], Sec.1 [5.3] | Deletion of builders, subcontractors, fabricators, etc. and structures (hull, superstructures). Corrected reference in Sec.1 [5.3]. |
| | Sec.2 [3] | Deletion of fabricator. |
| | Sec.3 [2.1], Sec.3 [2.2], Sec.3 [3.1], Sec.3 [5.1], Sec.3 [5.2], Sec.3 [5.3], Sec.3 [6] | The deputy welding supervisor may be nominated. Wording for certified welders and qualified operators adjusted with the rules. Requirements for procedures & working instructions changed to should. Deletion of structures & block sections. References corrected. |

Editorial corrections

In addition to the above stated changes, editorial corrections may have been made.

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SECTION 1 GENERAL

1 Objective

The objective of this class programme is to give a description for the approval of welding workshops as required by the rules for classification.

2 Scope

2.1

This programme gives the procedure to be followed in order to obtain the Society's approval for:

- welding workshops

in accordance with the requirements given by the Society's rules and standards.

Detailed requirements for builders, manufacturers, welders, welding consumables, welding procedures, fabrication and testing are given by the DNV GL rules and standards, e.g. [DNVGL-RU-SHIP Pt.2 Ch.4](#).

2.2

Approval is given for the following component categories:

- welding of hull equipment
- welding of machinery
- welding of systems
- other applications.

The range of approval shall be given in the application, see DNV GL form [WELD 901](#).

2.3

Qualification of welding procedures specification (WPS) and welders, and witnessing of qualification tests are not part of this program, but shall follow the applicable requirements of the rules.

3 Application

Where required by the rules, welding workshop approval (WWA) according to this program is mandatory.

4 Terminology and definitions

A welding workshop is defined as a welding production plant, including fabrication at field installation site, which due to its space and organizational facilities may be regarded as an independent company or unit with its own responsibility for the component to be welded.

The term "welding" also covers all other special thermal or mechanized joining processes such as brazing, spraying, etc. In such cases this approval program can be applied in analogous manner.

5 Validity and renewal

5.1

The validity of a welding workshop approval certificate is restricted to the manufacturer/fabricator receiving the approval. It is valid for workshops under the same technical management and working in accordance with the same QA system and procedures, and with equipment, facilities, welders and welding supervisors covered by the WWA certificate.

5.2

The approval will be valid for three years. To maintain the approved status, the welding workshop shall be re-assessed every three years. Application for renewal shall be made not later than three months before the expiry date of the approval certificate.

5.3

If the preconditions under which approval was granted is changed significantly, see [5.4], the Society shall be notified.

5.4

A re-assessment during the period of validity may be required when deemed necessary by the Society e.g. if:

- significant alterations to the approved conditions occur, e.g. significant changes to the infrastructure or welding supervisory staff
- no fabrication welding activity for the Society is taking place over a certain time period of typically more than one year
- serious defects are detected in manufactured components or welds.

5.5

This program may be revised during the period of validity for the WWA certificate, giving new requirements to the welding workshop. Unless otherwise required by the Society, the new requirements shall be implemented at next certificate renewal, change or extension.

6 Extension or change of approval

6.1

For extensions and/or changes to the approval conditions, the approval documentation already submitted during the initial approval process, shall not be resubmitted. Only the documentation with new information relevant for the extensions and/or changes shall be submitted.

SECTION 2 APPROVAL PROCEDURE

1 Application

Application for approval (DNV GL form [WELD 901](#)) shall be sent to the local DNV GL office, and it should be sent at least three months before starting the fabrication.

2 Documentation requirements

The following documents shall be provided by the applicant:

- a description of the welding workshop (general) (DNV GL form [WELD 901](#))
- qualification documents of the nominated supervisors for welding (e.g. copies of diploma) and/or the curriculum vitae (CV) with professional background regarding welding supervision and/or inspection
- a welder's list with information about the applied testing standard, qualified range, test category, certification body, date of initial testing and date of last retest testing
- qualification documents of inspection and testing personnel for non-destructive testing, as appropriate.

If deemed necessary additional documentation may be requested by the Society, e.g. as given in [Sec.3 \[5.1\]](#) and [Sec.3 \[5.2\]](#).

3 Workshop assessment

After receipt and review of the requested application documentation, the Society's surveyor will carry out a workshop assessment (on a spot-check basis), e.g. in order to:

- verify adequate fabrication and testing conditions
- verify that the necessary fabrication, testing, and inspection facilities are available and applied according to adequate procedures and working instructions from the manufacturer
- verify that the fabrication is properly supervised and performed by qualified personnel.

For this purpose the attending surveyor shall be given access to all departments and laboratories relevant to fabrication and testing. The nominated welding supervisor, the deputy as well as nominated quality and testing staff shall be available during the assessment.

The fabrication and quality control procedures shall be described and explained by the responsible staff from the manufacturer upon the attending surveyor's request.

The workshop assessment may reveal non-conformities with the requirements and expectations of the Society. In this case, the surveyor will provide the findings to the welding workshop in a written assessment report, e.g. DNV GL form [WELD 401](#)).

The applicant shall implement corrective and preventive measures in order to close the reported findings, and prepare a report accordingly, which shall be submitted to the Society's local station. The Society's local station shall be invited for follow up (if necessary), in order to close the findings.

Depending on the scope of findings and a time-line for the settlement of the findings, the Society may require a re-assessment. Findings shall normally be closed before an initial WWA certificate is issued.

4 Welding workshop approval certificate

Welding workshops successfully assessed and evaluated by the Society will be granted a welding workshop approval (WWA) certificate.

SECTION 3 REQUIREMENTS FOR WELDING WORKSHOPS

1 Facilities and equipment

1.1

Welding workshops shall have at their disposal suitable fabrication site(s), facilities, equipment, machinery and jigs on a scale necessary for proper performance of the welding work for the applied range of approval. This includes also e.g. the provision of:

- storage facilities for welding consumables and auxiliary materials
- if needed, baking equipment for the welding consumables and auxiliary materials
- if applicable, preheating and heat treatment equipment
- testing appliances and equipment
- means of weather protection for carrying out welding work in the open air.

Guidance note:

Upon request, equipment and facilities not being part of or owned by the welding workshop, e.g. testing appliances, may be acknowledged when evaluating the capabilities of a welding workshop, provided such equipment and facilities are available without restriction.

---e-n-d---o-f---g-u-i-d-a-n-c-e---n-o-t-e---

1.2

Welding workshops shall have documented plans for regular maintenance of welding and testing equipment. The plan shall particularly specify maintenance tasks ensuring correct control and reading of parameters listed in the relevant procedure specifications, e.g. welding parameters like speed, voltage, ampere, gas flow.

2 Welding supervisor

2.1

The welding workshops shall have appropriate welding supervisor personnel. Such persons are responsible for welding quality activities and shall have sufficient authority to implement any necessary corrective and preventive actions. The tasks and responsibilities of such persons shall be clearly defined in accordance with ISO 14731. At least one qualified and experienced welding supervisor shall be nominated. A deputy welding supervisor may be nominated.

2.2

If the supervision role is carried out by more than one person, the responsibilities and tasks of each person shall be established and specified. The welding supervisor in charge and, if nominated, his deputy shall be recognized by the Society as part of the approval for the welding workshop.

2.3

Welding supervisors shall be permanently employed by the welding workshop. Supervision of the welding work by others will only be accepted by the Society on a case-by-case basis with additional conditions such as extended surveys, additional quality measures and/or limited validity of the welding workshop certificate.

3 Welders and operators

3.1

Welding workshops shall be staffed with certified welders according to the applicable rules (e.g. [DNVGL-RU-SHIP Pt.2 Ch.4](#)) and, for fully mechanized and automatic welding equipment, adequately qualified operators. The required number of certified welders and qualified operators is determined by the size of the welding workshop and the scope of the welding work to be performed in accordance with the rules. However, a minimum of two certified welders and two qualified operators is normally required for each welding process.

3.2

The welding workshops shall establish an evaluation system for welders' performance in accordance with a relevant standard.

4 NDT operators and supervisors

Appropriate non-destructive testing personnel shall be qualified according to the applicable rules (e.g. [DNVGL-RU-SHIP Pt.2 Ch.4 Sec.3](#)). Approval as NDT service supplier may be required, i.e. where specified by the rules.

5 Quality control of welding and related activities

5.1 Procedures and working instructions

The welding workshops shall have implemented appropriate quality documents such as:

- master list / inventory of "quality manual and procedures" and "working instruction related to production welding"
- procedure on document control
- procedure on subcontractor control, e.g. introduction, evaluation, training
- welding consumable storage and handling
- welding procedure specification qualification and management
- welders and welding-operators qualification and management
- maintenance plan for essential welding equipment and facilities
- welding environment
- welding repair
- preheating
- forming.

5.2 Quality records

Quality records shall be maintained and include, as applicable:

- record of requirement/technical review
- production plan
- material inspection documents
- welding consumable inspection documents
- welding procedure specifications (WPS)
- welding procedure qualification records (WPQR)
- welder certificates and operator qualification records

- non-destructive testing personnel certificates
- non-destructive testing and destructive testing procedures and reports
- heat-treatment procedure specification and records
- dimensional reports
- records of repairs and non-conformance reports
- equipment maintenance records
- other documents, if required.

Unless otherwise agreed or required, quality records shall be retained for a minimum period of five years.

5.3 Welding procedure specification and its qualification

The welding workshop shall apply properly qualified welding procedure specifications (WPS), applicable for the intended welding. Welding on important materials and components intended for class shall be approved by the Society, see e.g. [DNVGL-RU-SHIP Pt.2 Ch.4 Sec.5](#). Provided sufficient and adequate WPS are not available, successful qualification and approval of relevant WPS may be required in order to approve the welding workshop.

6 Sub-contracting

If a welding workshop places sub-contracts for fabrication welding on their own product (e.g. parts of the components, systems) or source out the welding work, the welding workshop placing the contract shall be responsible for the quality of the whole product. In some cases, the subcontractor is also required to be certified as welding workshop, see [Sec.1 \[5.1\]](#).

7 Welding consumables

Storage shall be such that the material, including material supplied by the client, will not be adversely affected. Identification shall be maintained during storage.

The welding workshops shall establish and implement procedures according to the manufacturer's recommendation regarding storage, temperature in storage ovens and quivers, handling, identification and use of welding consumables.

8 Material identification and traceability

A material identification system which ensures correct installation and documentation of the material grades shall be established.

SECTION 4 SUSPENSION OR WITHDRAWAL OF CERTIFICATES

1 General

A welding workshop approval certificate may be suspended or withdrawn if the Society finds it justified.

Directions for suspension and withdrawal of certificates are given by the Society's rules, see [DNVGL-RU-SHIP Pt.1 Ch.1 Sec.4](#).

CHANGES – HISTORIC

There are currently no historical changes for this document.

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