

Quality assurance and documentation for marine components



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1 Purpose and general information

This policy describes the standard requirements for quality assurance and quality documentation of marine components.

MAN Energy Solutions SE (MAN ES) orders the required scope of quality documentation for selected components under 61.600 00-0002. This scope will be ordered as an additional item, subordinated to the component.

Included with the 61.60000-0002 see section "4.3 Quality documentation (order-specific)" in this Directive.

If further quality agreements (QV) have been concluded with suppliers, the requirements defined in these QV must be complied with.

If no further QVs were closed, then sections "3.1 Producer responsibility" to "5 Proceeding in the case of faulty delivery", of this Q10.09028-2103 shall apply.

Responsible for the contents of the guideline is the Quality Dept. for Marine, MAN Energy Solutions (MAN ES), Augsburg. Distribution and passing on of the guideline to third parties, which do not have any business relations with MAN ES, also in extracts, is only permitted with the express consent of MAN Energy Solutions SE.

2 Scope

This quality guideline applies to the corresponding order placed with the Supplier.

The requirements which the purchaser stated in the order for the component placed with the Supplier, apply additionally and/or take priority. The Supplier's liability resulting from warranty and claims for damages owing to faulty supplies/services is not affected by this quality guideline.

This guideline fixes the technical and organizational basic conditions and processes of the business partners which are to ensure that the common purpose, zero defects, have to be reached. It applies to orders placed by MAN ES.

3 General part quality assurance and documentation for marine components

3.1 Supplier's responsibility

If the ordered scope of supply is not based on a development / design of MAN ES, manufacturing is assigned to the Supplier and he is responsible for the manufacture of the ordered scope. As a rule, the Supplier's scope consists of a number of components which are arranged in such a way that they will work as a unit.

3.2 Quality system of the supplier

The supplier has established a quality management system according to ISO 9001.

If the supplier is not certified according to ISO 9001, he may alternatively prove to the customer (MAN ES quality department) by means of suitable documents, that an appropriate quality management system is in place. The customer (MAN ES, Dept. Quality) will then check the supplier's qualification and approve the supplier if he is qualified.

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The products must be in accordance with the state of the art. All steps during manufacture (design, construction, procurements, production, assembly work, tests, etc.) are carried out in accordance with ISO 9001.

The purchaser is entitled to determine by means of an audit whether the quality assurance measures of the supplier fulfill his requirements.

3.3 Standards and rules of the marine-classification-societies

Products and assembly sections must comply with the actual international rules and standards. If order-specific national standards / specific standards for off shore application, as also rules for safety and the environment, the supplier will take them into consideration.

The supplier is responsible that the rules of the marine-classification-societies, which apply to his product, are accorded and he has to look that they will be approved from the marine-classification-societies.

A required acceptance test of the marine-classification-societies could be taken out of the order text. Should the execution of the order require special permissions and their compliance, the supplier will be responsible accordingly.

He will only accept the order, if he is accordingly authorized, which can be proven by the relevant documentation. Proof of compliance with these specifications will be handed over to the purchaser on request.

3.3.1 Acceptance of marine-classification-society

In addition to the order specification, the supplier has to observe all regulations, also that of the marine-classification-societies (e.g. DNV GL...) applicable to the scope of the order (off shore too). Therefore the supplier will order the required marine-classification-societies for the acceptance test. The supplier is responsible that MAN ES gets the acceptance certificate in time and complete.

We expect that the supplier has the permission of the marine-classification-societies, which is required in the order, or he gets the permission in time and he has a look that it is valid, also the laws and standards and the SOLAS and IMO regulations, etc.

If applicable to the scope of services, the supplier will assume responsibility as a manufacturer. The applicable rules of the marine-classification-societies and other regulations for components of seagoing ships (SOLAS, IMO) have to be accorded from the supplier.

The supplier will provide a complete internal documentation and keep it available over a period of 13 years from the order date. The Purchaser shall have the right to view or request submission of internal documentation of the manufacturer and also the permissions and acceptance certificates at any time.

The supplier will hand over the technical documentation required by the purchaser.

3.4 Quality responsibility

Irrespective of an inspection or even consultation by the purchaser during the construction phase, the responsibility for an order-compliant execution in accordance with the corresponding rules and regulations lies with the supplier.

The supplier is obliged to orientate his QM system towards the zero defects strategy and to take all measures required for quality assurance. Should the supplier notice any quality deficiencies, he will immediately inform the purchaser accordingly and advise him of the planned remedial measures.

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3.5 Quality tests

The Supplier will carry out suitable tests under his own responsibility, record quality-influencing process parameters as well as the results of quality tests, which he will keep the records available over a period of 13 years.

In the case of an actual important requirement, these records or parts thereof will be made available to the Purchaser.

3.6 Marking

Marking of the products, components and the corresponding quality documentation must permit reliable identification. Traceability of the materials and substructures used for the component must be possible. In the case of special Purchaser requirements, these are to be complied with.

All of the documents / minutes / test reports / certificates / confirmation, resp. each order-relevant record must at least be marked with the MAN ES (Purchaser) order and item No., the component description / identification as well as the company logo and the serial number of the supplier as well as the date of manufacture.

3.7 Process changes

The supplier is to ensure that changes/disturbances in the processes, within the entire order handling, will not affect the entire order system and its reliability (quality with regard to time).

Changes/disturbances, also problems regarding delivery date or capacity which may affect processing of the Purchaser's customer order will be reported to the Purchaser immediately.

3.8 Production at affiliates

Should the entire or part of the production take place at the works of sister companies, the supplier shall ensure that the same criteria as well as the stipulations of this contract will also be observed and that the quality requirements will be complied with by the sister company without any restrictions.

The purchaser will be informed in advance and in due time about essential production transfer. In the case of current orders, the Purchaser is entitled to objection.

3.9 Purchase, orders placed with sub-suppliers

The supplier will procure the components / materials required for manufacture of the scope of the order. In individual cases, supply by the Purchaser is also possible.

The supplier carries out an incoming goods inspection. In the case of deviations, he will take appropriate measures against his supplier.

If the purchaser issues instructions regarding the purchase of individual components, the Supplier observes these. These instructions do not release the Supplier from his responsibility as manufacturer and/or regarding quality both for these individual components and for the entire order.

In the case that the purchaser did not issue any other instructions regarding quality assurance / quality documentation and/or the technical documentation, for procurement of components / materials required for building the scope ordered, the supplier ensures that the purchaser receives a quality documentation which provides sufficient proof of the delivery quality of his sub-suppliers.

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If technical documentation is required for components, the supplier will request it from his sub-supplier (user manuals, assembly instructions, terminal diagram etc.) and will pass them on to the purchaser.

The standard for procurement is described in Paragraph "3.2 Quality System of the Supplier"

3.10 Environment, legality

The purchaser aims at minimizing the negative impact of his products on man and environment, taking technical and economic aspects into consideration. For this reason, he has established an environmental management system (ISO 14001).

The supplier is also bound to contribute to the protection of the environment. Also the supplier has to keep the conditions to the applied environment-regulations of sea going ships and off shore applications.

3.10.1 Materials, material content

Utilization of certain materials and material contents are regularized by law (e.g. prohibition of heavy metal, ban on asbestos, etc.). The supplier is obliged to comply with these regulations. With regard to dangerous materials, he has to issue material and safety data sheets, which are to be included in the technical documentation for the Purchaser.

3.10.2 Emissions

The supplier is to minimize exhaust gas, noise, and substance emissions and radiation in accordance with the state of the art and to comply with the applicable requirements.

3.10.3 Recycling

Utilization of materials, which cannot be recycled, is to be reduced as far as possible. Recyclable materials are to be marked as far as possible. The ability to disassembly is to be ensured by the design.

4 Order processing procedure

4.1 General information on order processing

In many cases, after completion of the scope of delivery and picking, direct dispatch from the supplier to the destination takes place.

It is up to the purchaser to attend in-process inspections, classification- or final acceptances (if required, also with the customer) at the place of manufacture (usually in the works of the supplier or those of his sub supplier) and to carry out an order-related inspection (regarding quality, schedule, shipping) and to check the documents.

The basis of the quality control on the part of the customer are:

- Results of tests (target/actual comparisons, production controls) which the supplier carries out on his own responsibility (the scope of testing can be agreed with the supplier).
- The quality documentation.
- If required, an on-site inspection.
- The release for use of the components in the quality reports signed by the supplier.

4.2 Test scope

The test scope comprises the following:

- Inspections during manufacture (e.g. non-destructive material testing, incoming goods inspections).
- Outgoing goods inspections, performance tests (factory acceptance tests - FAT) which the supplier carries out in his works prior to dispatch of the equipment.
- Completeness check for dispatch carried out by the supplier.
- Incoming goods inspection at the designation.
- Performance tests during assembly, e.g. at the yard by the purchaser.

In the case of a project requiring quality documentation, Inspection and Test Plans (ITP) are to be handed over to the purchaser. For this purpose, the supplier shall contact the contact person for quality issues from the plant engineering department in order to coordinate the inspection planning for the components. The requirement is to be taken from the purchase order.

If a coordinated inspection planning is required, the supplier shall prepare the Inspection and Test Plans necessary for the scope of services and schedule Inspection and Test Points (H = Holdpoint, W = Witnesspoint) as well as Inspection of Quality Proofs (R = Reviewpoint).

The Inspection and Test Plans shall be submitted to the Purchaser or its authorized representative for coordination/approval no later than five working days after receipt of the Purchaser (if necessary, in a first version - subsequent versions shall be managed via revision indicators). The supplier shall take the purchaser's requirements into account and incorporate them into the Test Plans.

The supplier shall inform the contact person for quality issues about the actual date of the inspection at least 10 working days before the date of the hold and/or wait points according to ITP. A date or visit is coordinated between the purchaser and the supplier.

Attention:

Holdpoint: The purchaser has to be informed about the test date. Without the participation of the purchaser in the inspection or without his prior written approval for the inspection, production must be stopped. If a participation/inspection by the purchaser takes place, the supplier shall make the components available and support the inspection, measurement, etc. in accordance with the purchaser's requirements. At the same time, he shall make available for inspection the protocols and test reports from the previous inspections as well as material certificates, verifications, etc. Subcontractors shall be obliged by the supplier accordingly.

4.2.1 Tests carried out during manufacture

As a rule, the supplier carries out these tests according to test plans prepared internally.

The purchaser is entitled to see the test plans of the supplier as well as the documentation on the results, if he desires to do so.

4.2.2 Outgoing goods inspections, performance tests (factory acceptance tests – FAT)

The supplier creates inspection plans for the outgoing goods inspections and performance tests.

The supplier coordinates the test plans with the purchaser (MAN ES, Dept. Quality, release by the purchaser).

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The following is to be stated:

- Type of test (what), if necessary reference to subordinate test plan, test plans for in-process inspections
- Scope of tests and/or test intensity (how)
- Place, position, location in which the test is carried out (where)
- Status test point (Inspection Code, H = Hold point, W = Witness point, R = Review point)*
- Desired value/actual value – result

* = Inspection Code:

H= Hold point → the marine-classification-society and/or the purchaser is to be informed of the test date; without attendance of the marine-classification-society and/or the purchaser during the test or without his previous written release of the test, the production is to be stopped

W= Witness point → the purchaser is to be informed of the test date

R = Review point → document verification

4.2.3 Completeness check prior to dispatch

To be carried out at the sole responsibility of the supplier, usually checkpoint in paragraph “4.2.2 Outgoing goods inspections, performance tests (factory acceptance tests – FAT)”.

4.2.4 Incoming goods inspection in the purchasers works

To be carried out by the purchaser and comprises only checks with regard to identity, transport damage and completeness.

4.2.5 Performance tests during assembly

The purchaser will carry out performance tests, if necessary also an acceptance test, e.g. at the ship yard.

The scope of the acceptance tests will be coordinated beforehand between the purchaser and the supplier.

4.2.6 Deviations and non-conformance reports

If the product does not meet the requirements or specification, the purchaser (MAN ES) must be informed in writing by the supplier. The "FK0904 - Deviation Request" is to be used for this purpose. Deviations, defects and damages are only to be left if MAN ES has approved them in writing. Without this approval, the service is considered rejected.

4.3 Quality documentation (order-specific)

In order to prove compliance with the quality features and requirements, the supplier will internally provide a suitable order documentation, usually exceeding the scope of the quality documentation to be handed over to the purchaser, which he has to keep available over a period of 13 years. The purchaser is entitled to see the internal documentation after previous announcement and/or to receive copies therefrom.

Whenever a test plan has been agreed for an order, the scope of the documentation is usually also agreed upon and handed over to the customer.

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If an agreement regarding the scope of documentation does not exist, the following is to be supplied:

- a copy of the test plan applied
- record of the test results for the individual items of the test plan and, if required, certificate acc. DIN EN 10204
- certificates (e.g. acceptance of the marine-classification-societies) and permissions (marine-classification-societies, SOLAS, IMO, etc.)
- where applicable: material certificates, inspection certificates, manufacturer certifications, welding schedule / welding procedure specifications (WPS), Welding Certifications, Welding procedure tests (WPQR), welder qualifications
- documentation on CD data carrier (as described in “form of documentation”)

If an acceptance protocol of MAN Energy Solutions SE is provided for the supplier's scope of services, possibly including a list of open issues, the purchaser will submit the former to the supplier. Corresponding handling of the open issues is shall be agreed upon immediately between the purchaser and the supplier.

A certificate, which may be required in the order item for the component / system always has to be delivered to MAN ES, Dept. Quality separately and must be assignable to the corresponding item.

Unless otherwise provided for in the order, the supplier will supply the complete documentation to the purchaser at short notice, max. two weeks after the last inspection/test; partial deliveries are not permitted.

Form of documentation:

In any case, the supplier will prepare an order-specific document folder for the scope of documentation permitting assignment to the corresponding order (see also paragraph “1.7 Marking”) and comprising table of contents and the respective documents, and will supply it to the purchaser. The quality documentation is generally to be issued 1 x in English as paper copy and as electronic version on a data carrier (CD) in the pdf format with bookmarks structure.

NOTICE

The order is only considered as fulfilled once the purchaser has received the complete and correct quality documentation, as agreed.

For reasons of data processing, it may be that the quality of documentation is assigned in a separate order item to the order appointed. Thus, an order confirmation to this position is required.

User instructions as well as operation manuals with regard to components, which have to comply with EC directives have to be delivered together with the ordered technical documentation, assigned to the contract, without further demand to MAN ES, Dept. Quality.

5 Proceeding in the case of faulty delivery

The Purchaser carries out incoming goods inspection according to paragraph “4.2.4. Incoming goods inspection in the Purchasers works”.

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Notification of defects regarding deficiencies which already existed at the time the goods/services were provided which, however, only became apparent during use, are submitted to the supplier immediately, within five working days after recognition of the deficiencies at the latest.

The supplier recognizes justified defects. Further provisions are contained in the framework contract or the delivery contract.

6 Other

The customer has established a quality management system according to ISO 9001, certified by e.g. DNV GL.