



CERTIFICATION NOTES

No. 2.9

Type Approval Programme No. 3-449.50-1

TYPE APPROVAL PROGRAMME FOR PASSENGER AND CREW SEATS

JULY 1998

DET NORSKE VERITAS

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FOREWORD

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DET NORSKE VERITAS AS, a fully owned subsidiary Society of the Foundation, undertakes classification and certification and ensures the quality of ships, mobile offshore units, fixed offshore structures, facilities and systems, and carries out research in connection with these functions. The Society operates a world-wide network of survey stations and is authorised by more than 120 national administrations to carry out surveys and, in most cases, issue certificates on their behalf.

Certification Notes

Certification Notes are publications which contain principles, acceptance criteria and practical information related to the Society's consideration of objects, personnel, organizations, services and operations, in connection with issuance of certificates or declarations, which are not necessarily related to classification.

An updated list of Certification Notes is available on request. The list is also given in the latest edition of the Introduction-booklets to the "Rules for Classification of Ships", the "Rules for Classification of Mobile Offshore Units" and the "Rules for Classification of High Speed and Light Craft".

In "Rules for Classification of Fixed Offshore Installations", only those Certification Notes which are relevant for this type of structure have been listed.

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1. General

1.1 Scope

Type Approval is a procedure for certifying that the design of a product type is in conformity with a set of predetermined requirements.

This Type Approval Programme contains the requirements on which Det Norske Veritas normally bases its Type Approval of passenger and crew seats used in craft complying with the International Code of Safety for High-Speed Craft (HSC Code). The Type Approval Programme covers the seat and tracks of special profile delivered with the seats, but do not include the deck structure to which the seat is attached.

The requirements are based on the current IMO HSC Code.

The procedure for assessment of conformity of manufactured products (production) is not the scope for the Type Approval Programme.

2. Conformity assessment of design of product type

2.1 Procedure

The Type Approval procedure consists of the following elements :

- design assessment
- type testing
- certificate retention survey.

2.2 Documents to be submitted

Identification of the type of seats to be approved, including all versions of the type, drawings and data showing all design details and materials are to be submitted in triplicate. The data is to include the value of g_{coll} on which the Type Approval is to be based. The specification of the way the seats are to be fitted to the craft is also to be submitted.

A complete procedure for the type testing and evaluation of results are to be submitted before testing. This procedure needs to be approved before testing may commence.

2.3 Material requirements

Materials used in the seats and material testing used for documentation is to be specified.

Alternatively, other specifications such as national / international standards, etc. may be used as a basis for Type Approval. If this shall apply, the full specification of the standard is to be submitted. It must describe all relevant requirements and testing.

2.4 Design requirements

The seats will be evaluated with regard to IMO requirements as given in the HSC Code - Annex 9 and categorised in accordance with paragraph 4.4.2 and Table 4.4.2 in the HSC Code, and fire safety requirements given by paragraphs 7.4.3.3.2 and 7.4.3.3.4 in the HSC Code.

2.5 Requirements for identification of product type with certificate

The product is to be provided with visible marking, giving at least the following information :

- manufacturer's name or trade mark
- technical data necessary for the application
- type designation under which the product is type approved.

The marking at the main part of the product is to be carried out in such a way that it is visible, legible and indelible throughout the anticipated life of the product, and that the marks can be traced back to the Type Approval Certificate.

2.6 Elements of Type Approval

2.6.1 Design assessment

The design assessment is carried out to assess that the design of the product type is in conformity with given design requirements stated in item 2.4.

2.6.2 Type testing

The type testing is to be carried out in accordance with the HSC Code - Annex 9. In addition the testing is to measure the peak forces imposed by the seat mounting on the rigid surface. This measurement is to be recorded on the certificate in a form suitable for the design and verification of the supporting deck structure in a vessel.

As the Type Approval is only for the seats and is independent of the supporting deck, the testing is to be carried out with the seats mounted on a rigid surface with the specified fitting system. Seats arranged to be mounted on tracks of special profiles delivered by the seat manufacturer are to be tested mounted on this system which is to be fixed to a rigid surface.

The main objective of the type testing is to verify properties that cannot be verified by analyses or calculations with reasonable reliability. Among other measurements the tests involve measuring of permanent deformation after testing and accelerations of anthropomorphic test dummies.

The witnessing surveyor is to verify that the tested seats are a representative sample of the type to be approved. This may involve the dismantling of the tested seats at the conclusion of the tests to verify that they are the same as the approved drawings.

2.6.3 Type Approval Certificate

When the design assessment and type testing are successfully completed a Type Approval Certificate will be issued to the manufacturer for the conformity of the design of the product type. The collision acceleration category for the seat and the actual collision acceleration used for testing will be given on the certificate. The maximum number of seats on the fundament is to be specified on the certificate.

The certificate is given a validity period of normally 4 years.

2.6.4 Certificate Retention Survey

The scope of the retention survey is to verify that the conditions stipulated for the Type Approval is complied with and that no alterations are made to the product design or choice of materials.

The main elements of the certificate retention survey are:

- witnessing of tests/inspection of the product, selected at random from the production line to see that the same test results are obtained as at initial testing

- review of type approval documentation
- review of possible changes in design, materials and performance
- ensure traceability between manufacturer's marking and Type Approval Certificate.

Any changes that can affect the structural strength of the seat or the fire safety properties of the materials shall be documented. A retention survey may be required if found necessary.

2.6.5 Renewal of Type Approval Certificate

At least three months before the period of validity expires, the certificate holder has to apply for renewal of the certificate.

Upon receipt of the request for renewal, Det Norske Veritas will perform a renewal survey that has the same content as the retention survey stated in item 2.6.4.

The survey report will constitute the basis for renewal of the Type Approval and the issuance of a new certificate.