

TYPE APPROVAL CERTIFICATE

This is to certify:**That the Seats**

with type designation(s)

Transit Yacht 3000 High, Transit Yacht 3000 High +, Transit Yacht 7000, Transit Yacht 7000 Lux, Transit Yacht 7000 High

Issued to

**Georg Eknes Industrier AS
EIKANGERVÅG, Norway**

is found to comply with

International Code of Safety for High-Speed Craft, 2000 - Annex 10**Application :****Passenger Seats for design level 1 and 2: gcoll up to 12g**This Certificate is valid until **2019-06-30**.Issued at **Høvik** on **2015-04-16**DNV GL local station: **Bergen**Approval Engineer: **Marcus Gustafsson**for **DNV GL**

**Odd Arne Lyngstad
Head of Section**

This Certificate is subject to terms and conditions overleaf. Any significant change in design or construction may render this Certificate invalid. The validity date relates to the Type Approval Certificate and not to the approval of equipment/systems installed.

Certificate No: **S-8652**
File No: **499.50**
Job Id: **262.1-019298-1**

Product description

Passenger Seats of *fixed*-design mounted on legs/rails fixed to deck of craft.
Number of legs depends on number of Seats and actual level of collision design acceleration.

Type designation:

"Transit Yacht 3000 High", "Transit Yacht 3000 High+", "Transit Yacht 7000", "Transit Yacht 7000 Lux" and "Transit Yacht 7000 High".

Basic construction consists of: Back/Bottom, Beam, Legs and Floor Rails.
Basic materials are aluminium-profiles/plate/castings and steel bolts/details.
Upholstery consists of foams/fabrics composed of different types and quality.

Application/Limitation

The approval covers *strength and mounting* of Seats according to '2000 HSC-Code':

- *Design level 1* as specified for *collision* acceleration/ g_{coll} up to 3g.
- *Design level 2* as specified for *collision* acceleration/ g_{coll} from 3 to 12g.

Seats are approved for the following conditions relative to the craft:

- For leg type 'G-foot 4bolts':

- Forward* facing and g_{coll} up to 12g;
- maximum 4 Seats in row when placed on 2 legs without belt
- maximum 4 seats in row when placed on 4 legs with belt.

Rearward facing and g_{coll} up to 9g (Transit Yacht 3000 high not accepted);

- maximum 4 seats in row when placed on 3 legs.

Forward and Rearward facing, for g_{coll} up to 3g;

- maximum 4 Seats in row when placed on 2 legs.

Seats are to be mounted to deck as tested (ref. documentation overleaf):

- Fixation by 5mm rivets A2 spaced according drwg.no. 421/01-A.

Deck structure of craft is *not* part of this approval, but is assumed separately approved.

Seat/Lap-belts are *not* required to be installed for *Design Level 1*.

Other mounting and g_{coll} may be accepted based on separate approval case by case.

Approval conditions

Type Approval is issued based on Program 3-499.50-1 in DNV's Certification Note 2.9.

The approval covers requirements to Seats/Tables in ch. 4.4, 4.5 and Appendix 10 of the "International Code of Safety for High-Speed Craft 2000, 2008 edition", as referred in Pt.3 Ch.7 of DNV's: "Rules for Classification of High Speed, Light Craft and Naval Surface Craft" at date of issue.

The approval covers the *strength* of Seat/Table and mounting with respect to collision only.

Note: Restricted use of combustible materials according to HSC-Code sec.7.4.3 is not part of this approval.

Any Seat/Lap-belts are assumed separately approved according to relevant standard.

Any changes which may influence the strength/safety of the Seat/Table, shall be reported for evaluating the need for revision of the approval.

Any additional equipment may be accepted based on documentation and/or survey prior to installation, showing that strength/safety will not be influenced.

Certificate No: **S-8652**
File No: **499.50**
Job Id: **262.1-019298-1**

Type Approval documentation

Seats/mounting is covered by the following main drawings/documents, reference:

- Assembly "Yacht" drwg.no. 021/78-I, 421/29, 421/30, 421/31 and 131/88-E, dated 22.4.92, 6.2.2006, 6.2.2006, 6.2.2006 and 22.4.92
- Back and Bottom see Assembly drawings
- Bottom drwg.no. 351/91-A, date 20.01.99
- Beam drwg.no. EKS 0242, 'Hydro Al. Profiler', date 10.10.89
- Leg (G-foot 2/4bolt) drwg.no. 411/76, 'G-foot', date 23.11.2004
- Rail (1-track) drwg.no. EKS 0200, 'Norsk hydro', date 4.1.85
- Rail Fixation (1-track) drwg.no.421/01-A, 'Sammenst..G-foot 2/4bolts', date11.5.2005

Materials used are specified/referred in drawings/documentation above.

Any Seat/Lap-belts are assumed separately approved according to relevant standard.

Tests carried out

Dynamic test according to '2000 HSC-Code' Annex 10 section 3 was undertaken by Autoliv Sverige AB, reference:

- Report TO-11008568, project 90210, test T-11053365, 11053366 and 11053368 dated 2011-06-10; Covering forward and rearward tests of Seats mounted on typical aluminium deck panel.

Static test according to '2000 HSC-Code' Annex 10 section 2 was undertaken by Georg Eknes Industrier AS, reference:

- Procedure and Jig; drwg.no. 173/54, date 31.01.96
- Statiske tester.... : document 340021, date 31.05.2006
- Skjema for reg...test (Leg/Rail): 'G-foot 4bolts'/drwg.no. 421/33-A, date 02.03.2006
- Test.."Tr.3000/7000High" (Bottom/Back): drwg.113/70-69, 143/27-26-25, date 30.6.93/12.8.94
- Technical report Mongstad Test og Inspeksjon AS: M-52316, date 21.2.2001/18.6.2002.

Note: Fire test of combustible materials in accordance with HSC-Code sec. 7.4.3 is not part of this approval.

Marking of product

Seats are to be marked with type/model-designation(s) and name of manufacturer.

Note: MED-marking (acc. to Maritime Equipment Directives 96/98/EC) does not apply for strength of Seats, but applies to fire safety of combustible materials, which are not part of this approval.

Certificate Retention Survey

Det Norske Veritas may perform Certification Retention Surveys at any time during the validity period of this certificate. The arrangement is to be in accordance with scopes described in item 2.6.4 of Certification Note 2.9.

END OF CERTIFICATE