



# DET NORSKE VERITAS

## TYPE APPROVAL CERTIFICATE

CERTIFICATE NO. S-6713

This is to certify that the  
**Seats**

with type designation(s)

**Transit Super Nova 1400, Transit Super Nova 1400+, Transit Super Nova 1410, Transit Super Nova 1420,  
Transit Premier 1500, Transit Premier 1500+, Transit Atlantic, Transit Voyage**

Manufactured by

**Georg Eknes Industrier AS**  
**EIKANGERVÅG, Norway**

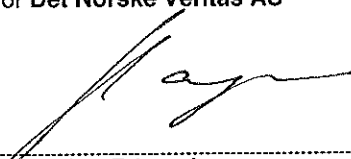
is found to comply with  
International Code of Safety for High-Speed Craft, 2000 - Annex 10

Application

**Passenger Seats for design level 1 and 2: g coll up to 12g**

Høvik, 2011-08-09  
for Det Norske Veritas AS

This Certificate is valid until  
2013-06-30

  
for Ian Edwards  
Head of Section

DNV local office:  
Bergen

  
Anders Kirste Egge  
Surveyor

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.

If any person suffers loss or damage which is proved to have been caused by any negligent act or omission of Det Norske Veritas, then Det Norske Veritas shall pay compensation to such person for his proved direct loss or damage. However, the compensation shall not exceed an amount equal to ten times the fee charged for the service in question, provided that the maximum compensation shall never exceed USD 2 million. In this provision "Det Norske Veritas" shall mean the Foundation Det Norske Veritas as well as all its subsidiaries, directors, officers, employees, agents and any other acting on behalf of Det Norske Veritas.



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File No.: 499.50  
Job Id.: 262.1-011682-1

### Product description

Passenger Seats of "Reclining"-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 Super Nova 1400" and "Transit Super Nova 1400 +",  
"Transit Super Nova 1410" and "Transit Super Nova 1420",  
"Transit Premier 1500" and "Transit Premier 1500+",  
"Transit Atlantic" and "Transit Voyage".

Basic construction consists of: Back/Bottom, Beam, Legs and Floor-Rails.

Basic materials are aluminium-profiles/plate/casting 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 '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;
- 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*.  
Seat/Lap-belts are assumed to be installed when no protection structure in front of Seats.

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.



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

### Type Approval documentation

This Certificate is a renewal of Type Approval Certificate S-5575.

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

- Assembly "SuperNova": drwg.no. 051/46-G, 421/22, 331/95-C and 421/32  
date 25.03.98, 02.02.06, 25.03.98 and 02.03.2006.
- Assembly "Premier": drwg.no. 071/90-C and 421/26, date 27.06.91 and 02.02.06
- Assembly "Atlantic": drwg.no. 421/27, date 3.2.06
- Assembly "Voyager": drwg.no. 421/28, date 3.2.06
- 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', date 11.5.2005

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

Any Seat/Lap-belts are assumed separately approval 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. Super Nova" (Bottom/Back): drwg.no.053/98,-97,-96,-99 and 063/01, date 11.09.91
- 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