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**Väikelaevad. Kerekonstruktsioon ja prussid
. Osa 1: Materjalid: Termoreaktiivsed
vaigud, klaasfiibrist armatuur, tugilaminaat**

Small craft - Hull construction and scantlings - Part
1: Materials: Thermosetting resins, glass-fibre
reinforcement, reference laminate

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

<p>Käesolev Eesti standard EVS-EN ISO 12215-1:2001 sisaldab Euroopa standardi EN ISO 12215-1:2000 ingliskeelset teksti.</p> <p>Käesolev dokument on jõustatud 16.02.2001 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes.</p> <p>Standard on kättesaadav Eesti standardiorganisatsioonist.</p>	<p>This Estonian standard EVS-EN ISO 12215-1:2001 consists of the English text of the European standard EN ISO 12215-1:2000.</p> <p>This document is endorsed on 16.02.2001 with the notification being published in the official publication of the Estonian national standardisation organisation.</p> <p>The standard is available from Estonian standardisation organisation.</p>
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<p>Käsitlusala: Part 1 of this standard is applicable to thermosetting resins and glass-fibre reinforcement used in the construction of small craft with a length of hull (Lh) of up to 24 m, in accordance with ISO 8666. It defines the minimum requirements for material properties of glass reinforcement and resin matrix and the reference laminate made thereof.</p>	<p>Scope: Part 1 of this standard is applicable to thermosetting resins and glass-fibre reinforcement used in the construction of small craft with a length of hull (Lh) of up to 24 m, in accordance with ISO 8666. It defines the minimum requirements for material properties of glass reinforcement and resin matrix and the reference laminate made thereof.</p>
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ICS 47.080

Võtmesõnad: glass fibres, laminates, materials specifications, pleasure boats, reinforcing materials, ship hulls, shipbuilding, thermosetting resins

English version

Small craft – Hull construction and scantlings

Part 1: Materials: Thermosetting resins, glass-fibre reinforcement,
reference laminate
(ISO 12215-1 : 2000)

Petits navires – Construction de
coques et échantillons – Partie 1:
Matériaux: Résines thermodurcis-
sables, renforcement de fibres
de verre, stratifié de référence
(ISO 12215-1 : 2000)

Kleine Wasserfahrzeuge – Rumpf-
bauweise und Dimensionierung –
Teil 1: Werkstoffe: Härtbare Harze,
Verstärkungsfasern aus Textilglas,
Referenzlaminat
(ISO 12215-1 : 2000)

This European Standard was approved by CEN on 2000-06-30.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CEN member.

The European Standards exist in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the Central Secretariat has the same status as the official versions.

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CEN

European Committee for Standardization
Comité Européen de Normalisation
Europäisches Komitee für Normung

Central Secretariat: rue de Stassart 36, B-1050 Brussels

Foreword

International Standard

ISO 12215-1 : 2000 Small craft – Hull construction and scantlings – Part 1: Materials: Thermosetting resins, glass-fibre reinforcement, reference laminate,

which was prepared by ISO/TC 188 'Small craft' of the International Organization for Standardization, has been adopted by Technical Committee CEN/CMC as a European Standard.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, and conflicting national standards withdrawn, by March 2001 at the latest.

In accordance with the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard:

Austria, Belgium, the Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, the Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, and the United Kingdom.

Endorsement notice

The text of the International Standard ISO 12215-1 : 2000 was approved by CEN as a European Standard without any modification.

NOTE: Normative references to international publications are listed in Annex ZA (normative.)

1 Scope

This part of ISO 12215 is applicable to thermosetting resins and glass-fibre reinforcement used in the construction of small craft with a length of the hull (L_H) of up to 24 m, in accordance with ISO 8666. This part of ISO 12215 specifies the minimum requirements for material properties of glass reinforcement and resin matrix and the reference laminate made thereof.

This part of ISO 12215 may be applicable to materials other than those specified, provided that the minimum requirements and properties of the reference laminate are met.

NOTE The underlying reason for preparing this International Standard is to harmonize existing standards and recommended practices for loads on the hull and the dimensioning of small craft because they differ too considerably and thus limit general worldwide acceptability of boats.

2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this part of ISO 12215. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this part of ISO 12215 are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. For undated references, the latest edition of the normative document referred to applies. Members of ISO and IEC maintain registers of currently valid International Standards.

ISO 62:1999, *Plastics — Determination of water absorption.*

ISO 75-1:1993, *Plastics — Determination of temperature of deflection under load — Part 1: General test method.*

ISO 75-2:1993, *Plastics — Determination of temperature of deflection under load — Part 2: Plastics and ebonite.*

ISO 178:1993, *Plastics — Determination of flexural properties.*

ISO 527-1, *Plastics — Determination of tensile properties — Part 1: General principles.*

ISO 527-4, *Plastics — Determination of tensile properties — Part 4: Test conditions for isotropic and orthotropic fibre-reinforced plastic composites.*

ISO 1675:1985, *Plastics — Liquid resins — Determination of density by the pyknometer method.*

ISO 1887:1995, *Textile glass — Determination of combustible-matter content.*

ISO 1889:1997, *Reinforcement yarns — Determination of linear density.*

ISO 2078:1993, *Textile glass — Yarns — Designation.*

ISO 2535:1997, *Plastics — Unsaturated polyester resins — Measurement of gel time at 25 °C.*

ISO 2555:1989, *Plastics — Resins in the liquid state or as emulsions or dispersions — Determination of apparent viscosity by the Brookfield Test method.*

ISO 2811-1:1997, *Paints and varnishes — Determination of density — Part 1: Pyknometer method.*

ISO 2884-1:1999, *Paints and varnishes — Determination of viscosity using rotary viscometers — Part 1: Cone-and-plate viscometer operated at a high rate of shear.*

ISO 3344:1997, *Reinforcement products — Determination of moisture content.*

ISO 3374:2000, *Reinforcement products — Mats and fabrics — Determination of mass per unit area.*

ISO 3521:1997, *Plastics — Unsaturated polyester and epoxy resins — Determination of overall volume shrinkage.*

ISO 4901:1985, *Reinforced plastics based on unsaturated polyester resins — Determination of residual styrene monomer content.*

ISO 8666:—¹⁾, *Small craft — Principal data.*

ISO 14130:1997, *Fibre-reinforced plastic composites — Determination of apparent interlaminar shear strength by short-beam method.*

EN 59:1977, *Glass reinforced plastics — Measurement of hardness by means of a Barcol-impresor.*

DIN 16945:1989, *Testing of resins, hardeners and accelerators, and catalysed resins.*

ASTM D 4255, *Testing in-plane shear properties of composite laminates.*

3 Terms and definitions

For the purposes of this part of ISO 12215, the following terms and definitions apply.

3.1

reinforcement

strong, inert material, usually fibres, strongly bonded into a resin to achieve enhanced strength, stiffness and impact resistance

NOTE Reinforcement fibres are commonly available in the following forms:

- chopped strand mat, formed of strands cut to a short length, randomly distributed, without intentional orientation, and held together by a binder;
- continuous mat, formed of strands, randomly distributed, without intentional orientation, and held together by a binder that is not soluble in styrene;
- roving, which is a collection of parallel strands (multistrand roving) or parallel filaments (multifilament roving) assembled without intentional twist;
- woven roving, which is a fabric woven from rovings;
- multidirectional roving, which is a fabric of crossply rovings in two or more directions;
- unidirectional roving, which is a fabric of rovings arranged in one direction;
- cloth, which is a fabric woven from yarn.

1) To be published.