Klaasplastist (GRP) maa-alused mahutid. Alfateguri ja beetateguri määramine

Underground tanks of glass-reinforced plastics (GRP) - Determination of factor alpha and factor beta

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

Käesolev Eesti standard EVS-EN 978:1999 sisaldab Euroopa standardi EN 978:1997 ingliskeelset teksti. Käesolev dokument on jõustatud 12.12.1999 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes. Standard on kättesaadav Eesti standardiorganisatsioonist.	This Estonian standard EVS-EN 978:1999 consists of the English text of the European standard EN 978:1997. This document is endorsed on 12.12.1999 with the notification being published in the official publication of the Estonian national standardisation organisation. The standard is available from Estonian standardisation organisation.

Käsitlusala: Käesolev Euroopa standard esitab kuumuses kõvenevast klaasplastist maa-aluste vedelikumahutite katsenäidistel alfateguri ja beetateguri määramise meetodi.	**Scope:**

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Võtmesõnad: armeeritud plast, klaasplast, maa-alused mahutid, plastid, roomavuskatsed, säilitusmahuti, termokõvenevad polümeerid, vanandamistestide materjalid

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English version

Underground tanks of glass-reinforced plastics (GRP)

Determination of factor α and factor β

Réservoirs enterrés en plastiques renforcés de verre (PRV) – Détermination du facteur α et du facteur β

Unterirdische Tanks aus textilglasverstärkten Kunststoffen (GFK) – Bestimmung des Faktors α und des Faktors β

This European Standard was approved by CEN on 1997-06-21.

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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.

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CEN

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

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Foreword

This European Standard has been prepared by Technical Committee CEN/TC 210 "GRP tanks and vessels", the secretariat of which is held by DIN.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by January 1998, and conflicting national standards shall be withdrawn at the latest by January 1998.

This standard is drafted in support of EN 976-1 and EN 976-3, Horizontal cylindrical tanks for the non-pressure storage of liquid petroleum based fuels - Part 1 : Requirements and test methods for single wall tanks - and Part 3 : Requirements and test methods for double wall tanks, in order to assess the structural stability and the environmental behaviour of the tank.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

1 Scope

This European Standard specifies a test method for the determination of the factor α and the factor β of test specimens of tanks of glass reinforced thermosetting resins for the underground storage of liquids.

2 Normative references

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies.

prEN 976-1 Underground tanks of glass-reinforced plastics (GRP) - Horizontal cylindrical tanks for the non pressure storage of liquid petroleum based fuels - Part 1 : Requirements and test methods for single wall tanks.

3 Definitions

For the purposes of this standard the following definitions apply :

3.1 factor α : Ratio of the initial deformation of a material under load and the deformation under the same constant load , extrapolated to a given period .

3.2 factor β : Ratio between the beam stiffness after storage in water of 50 °C for 1000 h and the initial beam stiffness determined in dry condition at 23 °C after postcuring of the sample.

4 Principle

From the cylindrical part of the tank a series of segments is taken in the circumferential direction.

Depending on the tank construction, the segments can consist of a solid GRP wall, or in the case of a rib construction a representative part of the rib construction as well as the part between the ribs and in the case of a sandwich construction a sandwich wall segment.

From this series a portion of the segments is subjected to a creep test under defined loading conditions and the rest of the segments is subjected to a water immersion test.

From the results of these tests the factor α and the factor β are determined.