

SINTEF Technical Approval

TG 2268

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 Provided listed on
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SINTEF confirms that

Unilin Durelis TG 22 mm

has been found to be fit for use in Norway and to meet the provisions regarding product documentation given in the regulation relating to the marketing of products for construction works (DOK) and regulations on technical requirements for building works (TEK), with the properties, fields of application and conditions for use as stated in this document



1. Holder of the approval

Unilin bv, division Panels
 Ooigemstraat 3,
 BE-8710 Wielsbeke, Belgia
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2. Product description

Unilin Durelis TG 22 mm are particleboards made of wood chips, approx. 30 % from hardwood and 70 % from softwood, bonded together under high temperature and pressure with MUF synthetic resin (melamine-urea-formaldehyde). The boards are made with three layers, using larger chips in the middle layer and finer material in the surface layers.

Unilin Durelis TG 22 mm are moisture resistant particle-boards, type P5 boards according to EN 13986.

Standard nominal thickness is 22 mm, with tongue and groove on all four sides as shown in fig. 1. Standard dimension is 600 mm x 2400 mm (as installed).

Declared tolerances measured according to EN 324-1 and 324-2:

Thickness: ± 0.3 mm
 Length and width: ± 2.0 mm
 Edge straightness: 1.5 mm/m
 Squareness: 2.0 mm/m

- Mean density is $700 \text{ kg/m}^3 \pm 20 \text{ kg/m}^3$ measured according to EN 323
- The boards are delivered from the factory with a moisture content of 9 ± 3 % weight
- Formaldehyde class E1 according to EN 13986

3. Fields of application

Unilin Durelis TG 22 can be used as counterfloor in buildings in risk class 1-6 in fire class 1, 2 and 3. Use in fire rated constructions in fire class 3 is not covered by the approval and must be separately documented by an enterprise with liability in each single building project.

With conditions as described in cl. 6 Unilin Durelis TG 22 mm may be used as floor decking on joists in residential houses, office buildings and other buildings with floor load category A or B according to EN 1991-1-1. The boards may be applied in platform construction.

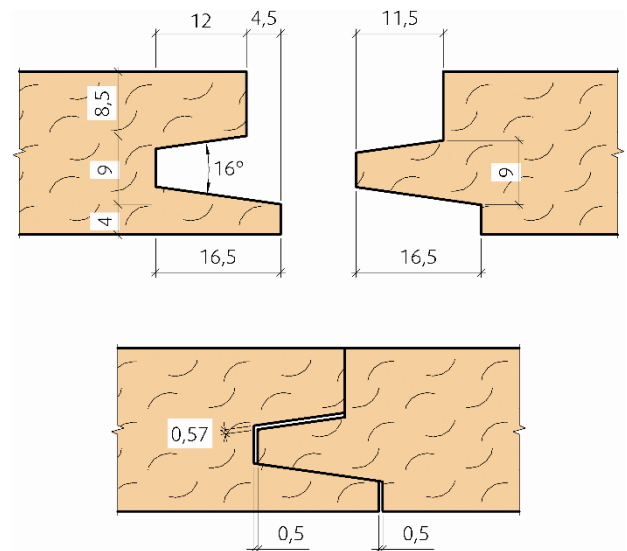


Fig. 1
 Unilin Durelis TG 22 mm. Tongue and groove profiles.

4. Properties

Load-carrying capacity

The boards comply with the minimum material requirements for particleboards according to EN 13986 type P5.

When installed as specified in cl. 6, the Unilin Durelis TG 22 mm comply with the requirements in EN 12871.

Characteristic values for structural design are given in EN 12369-1.

Reaction to fire

Unilin Durelis TG 22 has reaction to fire classification D-s2,d0 according to EN 13501-1 for use as underlaying floor. See chap. 6 *Safety in case of fire* regarding special conditions for use and installation.

Sound insulation

Guidance for sound insulating constructions with particleboards is shown in the Building Research Design Guide, sections 520 and 522.

Thermal insulation

Design thermal conductivity is $\lambda = 0.13 \text{ W/mK}$ according to EN 13986.

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Properties related to moisture

- Moisture movement in the plane of the boards when the moisture content changes from equilibrium at 35 % RH to equilibrium at 85 % RH may be taken as approx. 2.5 mm/m determined according to EN 318.
- Thickness swelling is maximum 10 % after 24 hours water immersion measured in accordance with EN 312.
- The glue in the board material is moisture resistant. The boards may be exposed to free water for a short period during construction. In permanent service the moisture content of the surrounding air must not exceed 85 % RH except for short periods.
- The water vapour resistance according to EN-ISO 10456/EN 13986 is:
 $s_d = 0,33$ m in wet conditions
 $s_d = 1,10$ m in dry conditions
- The boards are not treated against growth of mould or fungi.

5. Environmental aspects*Substances hazardous to health and environment*

Unilin Durelis TG 22 mm contain no hazardous substances with priority in quantities that pose any increased risk for human health and environment. Chemicals with priority include CMR, PBT or vPvB substances.

Effect on indoor environment

Unilin Durelis TG 22 mm are not regarded as emitting any particles, gases or radiation that have a perceptible impact on the indoor climate, or to have any significant impact on health.

Waste treatment/recycling

For disposal the boards shall be sorted as wood material, and delivered to an authorized waste treatment plant for energy recovery.

Environmental declaration

No environmental declaration (EPD) has been worked out for Unilin Durelis TG 22 mm.

6. Special conditions for use and installation*Design considerations*

Unilin Durelis TG 22 mm can be used as subfloor on beams and battens spaced maximum c/c 600 mm, provided that the maximum imposed floor load is 3.0 kN/m² uniformly distributed load, and 2.0 kN concentrated load according to EN 1991-1-1.

Safety in case of fire

Fire classification D-s2,d0 provides mounting directly on an underlay with fire classification A1 or A2-s1,d0 and a density no less than 10 kg/m³ (e.g mineral wool or gypsum board) or fire classification D-s2,d2 and a density no less than 400 kg/m³ (e.g wooden structure or wooden board). Alternatively mounted with an open or closed cavity behind the board, where the opposite side of the cavity must consist of a product with fire classification D-s2,d2 and a density no less than 400 kg/m³.

Installation

- The boards shall be installed on floor joists or battens spaced maximum c/c 600 mm.
- The boards shall be installed over at least two spans.
- The long sides shall be perpendicular to the joists. End joints shall be staggered, and positioned over a joist.
- All board edges along walls and floor openings must be supported.

- All tongue and groove joints must be glued with a suitable adhesive, using one string in the groove and one on top of the tongue.
- It is recommended to always apply glue also between the boards and the floor joists.
- The boards shall be fixed to the joists with approx. 50 mm long particleboard screws, using five screws at the ends and three screws at intermediate supports.
- It must be taken into account that some swelling in the plane of the boards will take place after installation.
- The screw heads shall be countersunk.

Surface treatment

The boards shall be cleaned and the moisture content shall be maximum 10 % before installing the floor covering. Surface damages shall be repaired with a filler compound, and edge topings must be sanded, before installation of thin floor coverings. Countersunk screw heads shall not be filled with filler compound.

Subfloor for ceramic tiles

When used as an underlay for ceramic tiles the joist spacing should be maximum c/c 300 mm. Alternatively the boards can be installed on joists spaced c/c 600 mm if a double layer of boards or a screed material is used.

Transport and storage

The boards shall be transported and stored under dry conditions.

7. Factory production control

Unilin Durelis TG 22 mm is produced by Unilin Panels, BE-8780 Oostrozebeke, Belgium.

The holder of the approval is responsible for the factory production control in order to ensure that Unilin Durelis TG 22 mm is produced in accordance with the preconditions applying to this approval.

The manufacturing of Unilin Durelis TG 22 mm is subject to continuous surveillance of the factory production control in accordance with the contract regarding SINTEF Technical Approval.

The manufacturer's factory production control is certified by WOOD.BE (Belgian Technical Centre of Wood transformation and Furniture), who performs supervising factory production control according to the provisions in EN 13986 with reference standards.

The producer has a certified quality management system in accordance with EN ISO 9001; N° BQA_QMS019_C_199455.

8. Basis for the approval

The approval is primarily based on the verification of product properties following the certification as particleboard type P5 according to EN 13986.

9. Marking

Unilin Durelis TG 22 mm shall be CE-marked according to the provisions given in EN 13986. The approval mark for SINTEF Technical Approval No. 2268 may also be used on the boards and/or packaging.

10. Liability

The holder/manufacturer has sole product responsibility according to existing law. Claims resulting from the use of Unilin Durelis TG 22 mm cannot be brought against SINTEF beyond the provisions of Norwegian Standard NS 8402

for SINTEF

A handwritten signature in blue ink that reads "Hans Boye Skogstad". The signature is written in a cursive style with a large initial 'H'.

Hans Boye Skogstad
Approval Manager