

KOMO[®] attest with product certificate

Installed in
building

Stichting Keuringsbureau Hout SKH

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TECH-WOOD[®] SIDING

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Producent

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Verklaring van SKH

This attest-with-product certificate is issued by SKH on the basis of BRL 4103 "Wooden and wood-based façade covering systems, complies with the SKH Regulations for Certification.

SKH declares that there exists a justified confidence that Tech-Wood[®] Siding is suitable to be applied for the covering of exterior façades furnishing performances as described in this attest-with-product certificate, provided that Tech-Wood[®] Siding complies with the technical specification laid down in this attest-with-product certificate and provided that the assembly of Tech-Wood[®] Siding takes place in accordance with the processing requirements laid down in this attest-with-product certificate.

SKH declares that there exists a justified confidence that the Tech-Wood[®] Siding produced and certified by Tech-Wood Nederland B.V. complies with the technical specification laid down in this attest-with-product certificate, provided that Tech-Wood[®] Siding has been marked with the KOMO[®] depicted hereunder, in a way as indicated in this attest-with-product certificate.

Control shall be executed in respect of the manufacture of Tech-Wood[®] Siding by SKH within the framework of this attest-with-product certificate; no control is executed on the assembly of Tech-Wood[®] Siding in the exterior façade.

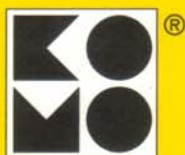
Refer to the 'Overview of quality declarations in the building industry' as published by the 'Stichting Bouwkwaliiteit SBK' (Foundation for Building Quality) in Rijswijk, the Netherlands, for the relationship between statements in this attest-with-product certificate and the 'Bouwbesluit' (Building Act) regulations.

For SKH:


R. Wigboldus, director

Users of this attest-with-product certificate are advised to enquire at SKH whether this document is still valid.

This attest-with-product certificate consists of 9 pages
The Dutch version shall be consulted in case of doubt.



Building Act

The following has
been assessed:
quality system
product
performance in its
application
Periodic control

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BUILDING ACT ENTRY

No.	Section	Limiting value/ method of determination	Performances according to quality declaration	Remarks in connection with application
2.1	General strength of the building construction	Extreme limiting state, calculation according to NEN 6760	Tech-Wood [®] Siding complies with the requirements	
2.12	Limitation development of fire	Class 1, 2, 3 or 4 according to NEN 6065	Class 3: Tech-Wood [®] Siding untreated Class 2: Tech-Wood [®] Siding	See section 3.1.2
3.6	Resisting moisture from outside	Waterproof according to NEN 2778	Depends on the type of Tech-Wood [®] Siding 50-300 Pa	See table 1, section 3.2.1
3.15	Limitation of applying harmful materials	According to instructions of ministerial regulation	Complies with the regulations	
3.17	Protection against rats and mice	Openings $\leq 0,01$ m	Processing requirements	
4.12 4.14	Rain resistance of exterior partition construction	Rain resistant according to NEN 2778	Rain resisting	

1 PRODUCT SPECIFICATION

1.1 Subject

Tech-Wood[®] Siding intended to be applied before or during the completion of new or existing dwellings, flats or buildings not being used for residential purposes is suitable for application in exposed exterior and non-exposed "exterior" situations (such as in atriums) for dwellings, sheds, utility buildings etc.

1.2 Composition

Tech-Wood[®] Siding consists for 70% of softwood fibres and for 30% of thermoplastic synthetic materials (polypropylene). Colorants could, if necessary, be added. Tech-Wood[®] Siding is being brought into its final shape by means of the so-called pushtrusion technique.

1.3 Realisation of façade coverings

Tech-Wood[®] Siding is being supplied in three designs:

- Tech-Wood[®] Bevel-Siding
- Tech-Wood[®] Dutch-Siding
- Tech-Wood[®] Channel-Siding

Tech-Wood[®] accessory profiles are available for all designs. Drawings and details are given in appendix 1.

1.4 Marking

Tech-Wood[®] Siding is marked with the KOMO[®]-certification mark.

The execution of this mark is as follows:

- logo;
- attest-with-product certificate no. **32841**;
- type Tech-Wood[®] Siding;
- production code / time of production;
- recycling symbol;
- text: 'assemble according to assemble instructions'.



Position of the logo: at the back of the Tech-Wood[®] Siding.

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2 INSTALLATION INSTRUCTIONS

2.1 Storage and transport

Tech-Wood[®] Siding shall be supported over the full length during transport and during the time of storage. Measures shall be taken during stacking of packages in order to prevent damage to the underlying packages. More than 2 packages shall never be packed on top of each other. Should Tech-Wood[®] Siding be provided with a coating, the face-sides shall be protected adequately. Care shall also be taken to prevent shifting of the packages during transport and processing. This is to prevent damage of the coating. Preceding transport and processing, Tech-Wood[®] Siding shall be stored in a dry, ventilated place and protected from direct sunlight, in spite of its applicability outside. This is to prevent inhomogeneous discoloration of (untreated) components of Tech-Wood[®] Siding.

2.2 Processing

Tech-Wood[®] Siding can be processed with standard woodworking tools. These tools shall be in good condition and shall be sufficiently sharp. Sawn edges, drilled holes and similar need not be finished, unless this is required for aesthetic reasons. The crosscut edges of the Siding components shall, however, be roughened with sandpaper.

2.3 Assembly:

Tech-Wood[®] Siding shall be installed on a sound construction at the back by means of a vertical or horizontal placed framework. The battens shall have a minimum thickness of 20 mm. Timber for the battens shall comply with at least C18 in accordance with NEN-EN 338. Horizontally placed battens shall be chamfered towards the outside over the full width on the top, under an angle of at least 15° (but not exceeding 30°). Take also into account the required degree of ventilation behind the Tech-Wood[®] Siding, when carrying out the horizontal assembly of the rail construction. Installation solutions can be found in the KVT.

The centre to centre distance between the fixing points shall not exceed 450 mm. At least three battens shall be used should the parts be shorter than 500 mm. A continuous opening of 10 mm shall be kept free in the bottom and top sides of the façade covering. The distance between the

beginning or end of a Siding component and the first batten may never exceed 20 mm. For façade widths up to 5,4 m a free space of at least 12 mm shall be available at both ends of the façade covering for the free expansion of the material. A free space of at least 6 mm shall be available between two Siding components.

The Tech-Wood[®] dilatation profile shall be used for the connection between two Siding components, should the total width of the façade exceed 5,4 m.

Fixing takes place by means of stainless steel screws. Before screwing the slip clutch of the battery operated drilling machine shall be set in such a way that the head of the screw does not penetrate into the surface of the Tech-Wood[®] Siding. The screws shall be located in the middle of the groove.

The bottom part of the Siding component shall be assembled on the starting profile as prescribed by Tech-Wood. That also applies to Siding components above openings of window frames and similar. The screws, by which the starting profile shall be fixed, shall be assembled counter-sunk.

When it is found that half a Siding component occurs above an opening or when the last part is half a siding component, these shall be filled out at the back and shall be fixed with a high-speed assembly screw 4,8 x 38 mm. Tech-Wood[®] Siding shall be pre-drilled with a drill with a diameter of 8 mm.

The most occurring horizontal and vertical details for Tech-Wood[®] Siding are laid down in appendix 2 of this attest-with-product certificate.

TECH-WOOD[®] SIDING

3 PERFORMANCES ON THE BASIS OF BUILDING ACT REQUIREMENTS

3.1 Performance from the point of view of safety

GENERAL STRENGTH; Building Act, section 2.1

3.1.1 Strength; Building Act 2.1

Tech-Wood[®] Siding, placed in an exterior façade in accordance with the details mentioned in the appendices of this attest-with-product certificate, complies with the requirements of the Building Act.

RESTRICTION OF DEVELOPMENT OF FIRE; Building Act, section 2.12

3.1.2 Contribution to fire propagation; Building Act, section 2.91

The contribution to fire propagation of untreated Tech-Wood[®] Siding complies with the requirements of class 3, determined in accordance with NEN 6065. The contribution to fire propagation of Tech-Wood[®] Siding, provided with Flame Guard WL/Topcoat exterior coating system with a total application of 0,4 kg/m² complies at least with the requirements of class 2, determined in accordance with NEN 6065.

3.2 Performances from the point of view of health

PREVENTION OF MOISTURE FROM OUTSIDE (WATER TIGHTNESS); Building Act, section 3.6

3.2.1 Water tightness; Building Act, section 3.22

Tech-Wood[®] Siding placed in the outer façade, is determined in accordance with NEN 2778, watertight up to a maximum testing pressure as mentioned in the following table 1.

Table 1

Type Tech-Wood [®] Siding	Maximum testing pressure
Bevel-Siding, assembled horizontally	300 Pa
Dutch-Siding, assembled horizontally	250 Pa
Channel-Siding, assembled horizontally	250 Pa
Channel-Siding, assembled vertically	50 Pa

RESTRICTION OF APPLYING HARMFUL MATERIALS; Building Act, section 3.15

3.2.2 Applying harmful materials; Building Act, section 3.106

Materials applied comply with the regulations mentioned in the Building Act.

PROTECTION AGAINST RATS AND MICE; Building Act, section 3.17

3.2.3 Openings; Building Act, section 3.114

Openings have no greater width than 0,01m, see installation instructions.

3.3 Performances from the point of view of serviceability

RAIN RESISTANCE OF EXTERIOR PARTITION CONSTRUCTIONS; Building Act, sections 4.12, 4.13 en 4.14

3.3.1 Rain resistance; Building Act, sections 4.65 and 4.75

Exterior partition constructions, covered with Tech-Wood[®] Siding are rain resistant, determined in accordance with NEN 2778.

TECH-WOOD[®] SIDING

4 OTHER PERFORMANCES ON THE BASIS OF REQUIREMENTS BRL 4103

4.1 Resistance against pulling out and shearing of securing materials; Building Act, section 5.1

Tech-Wood[®] Siding assembled in accordance with the installation instructions laid down in this attest-with-product certificate complies with the requirements of the BRL.

4.2 Strength in connection with the impact load; BRL, section 5.2

Tech-Wood[®] Siding shows no permanent changes in shape or fracture in the securing of the covering after impact load in accordance with NEN-EN 950 (3 Nm) and NEN-EN 949 (50 Nm).

4.3 Strength in connection with changing wind loads; BRL, section 5.3

Tech-Wood[®] Siding shows no permanent changes in shape or fracture in the securing of the covering after mechanical fatigue by changing wind loads in accordance with NEN 3665.

4.4 Durability under influence of changing moisture and temperature changes; BRL section 5.4

Tech-Wood[®] Siding shows no damages or fractures influencing the life cycle of the system adversely after changing moisture and temperature pressures in accordance with the accelerated weathering cycle laid down in BRL 4103.

5 MATERIALS

5.1 Strength and elasticity

5.1.1 Modulus of elasticity

The modulus of elasticity of Tech-Wood[®] Siding, determined in accordance with NEN-EN 310, is at least 3000 N/mm².

5.1.2 Bending strength

The bending strength of Tech-Wood[®] Siding, determined in accordance with NEN-EN 319, is at least 30 N/mm².

5.1.3 Internal Bond Strength

The internal bond strength of Tech-Wood[®] Siding before the cyclic test, in accordance with NEN-EN 319 and after the cyclic test in accordance with NEN-EN 321, is at least 1,0 N/mm² and 0,2 N/mm² respectively.

5.2 Behaviour of moisture

5.2.1 Changes as a result of changing air humidity

The changes as a result of changing air humidity of Tech-Wood[®] Siding, determined in accordance with NEN-EN 318, are 0,07% in the length direction and maximum 1,7% in the thickness direction.

5.2.2 Changes as a result of contact with water

The thickness swelling after immersion in cold water, determined in accordance with NEN-EN 317, shall be 2,4%.

5.3 Other provisions

5.3.1 Linear thermal coefficient of expansion

The linear thermal coefficient of expansion of Tech-Wood[®] Siding, determined in accordance with NEN-EN 13471, is $13 \times 10^{-6} \text{ } ^\circ\text{C}^{-1}$.

5.3.2 Suitability for finishing

Tech-Wood[®] Siding is suitable to be finished with opaque or transparent film forming coatings.

5.3.3 UV-sensibility for untreated Tech-Wood[®] Siding.

Untreated Tech-Wood[®] Siding shows, after a total load duration of 8 weeks QUV weathering cycle, executed in accordance with section 7.6 of SKH-publication 97-04, no checking or cracking. Deposits do not exude. The surface of the top layer discolours to a light grey.

5.3.4 Resistance against temperature (in particular frost)

Tech-Wood[®] Siding shows, after changing moisture and temperature loads, including frost, tested in accordance with the accelerated weathering test laid down in BRL 4103, no damage or ruptures influencing the life cycle of the system adversely.

5.3 Fasteners

The screws used shall be of rustfree steel.

TECH-WOOD[®] SIDING

6 GUIDE LINES FOR THE BUYER

6.1 Application and use

Observe the conditions of application laid down in this attest-with-product certificate. Tech-Wood[®] Siding is meant to be applied before or during the completion of the building of new dwellings or existing dwellings, flats or buildings not intended to be used for permanent residence.

6.2 On delivery inspect whether the products mentioned in the specification:

- have been delivered as agreed upon;
- have been marked correctly;
- have no visible defects caused by transport or similar aspects.

If the products are rejected on the basis of the above, contact shall be made with:

Tech-Wood Nerderland B.V.

and if desirable:

The certification-body Stichting Keuringsbureau Hout SKH
Office building 'Het Cambium',
Nieuwe Kanaal 9c, 6709 PA Wageningen
P.O. Box 159, 6700 AD Wageningen, the Netherlands
Telephone: +31 (0) 317 45 34 25 E-mail: mail@skh.org
Fax: +31 (0) 317 41 26 10 Website: <http://www.skh.org>

6.3 Product certificate

It is the duty of the producer to make sure that the buyer receives a copy of the complete attest-with-product certificate.

6.4 Application and use

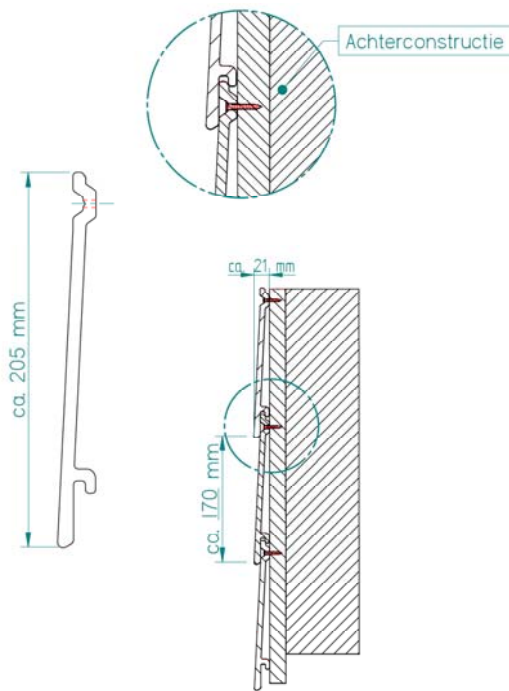
It is essential to take care of the timber in such a way that no deterioration in quality takes place between delivery and processing.

6.5 Period of validity

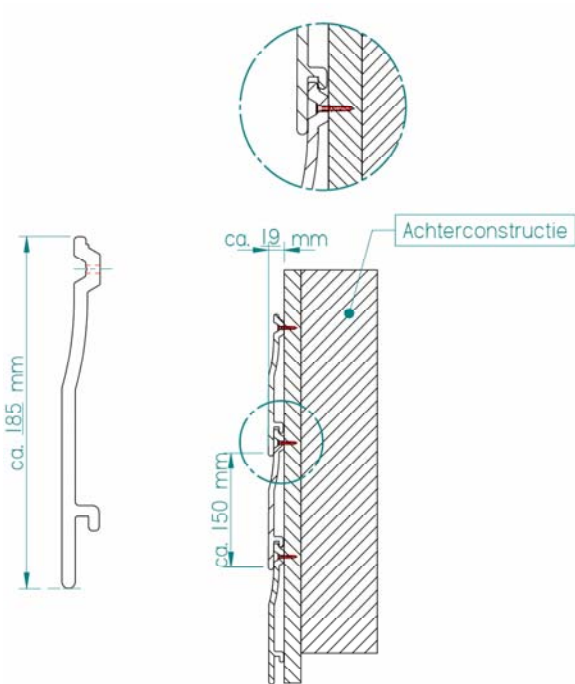
Consult the SKH-website <http://www.skh.org> to verify whether the attest-with-product certificate is still valid.

TECH-WOOD[®] SIDING

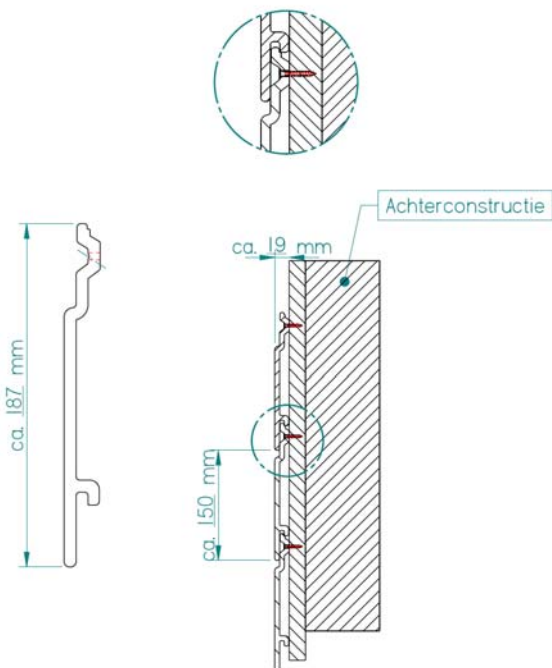
Appendix 1 Drawings with the designs of Tech-Wood[®] Siding



Bevel-Siding



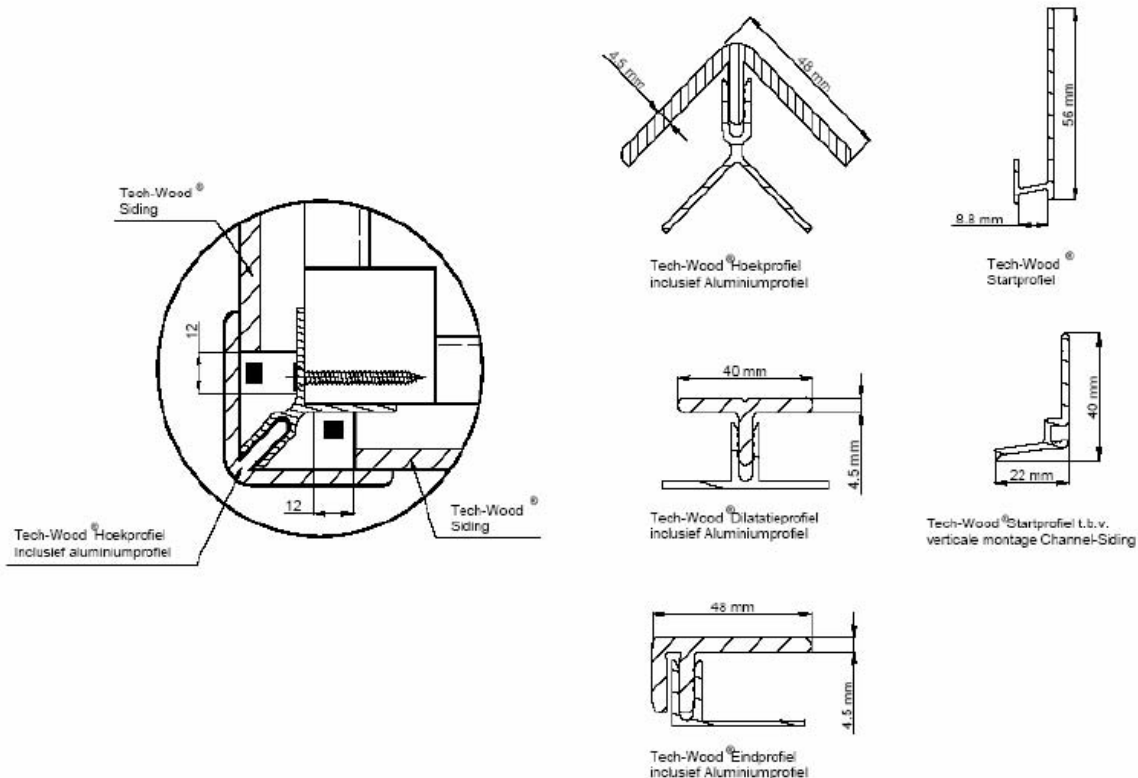
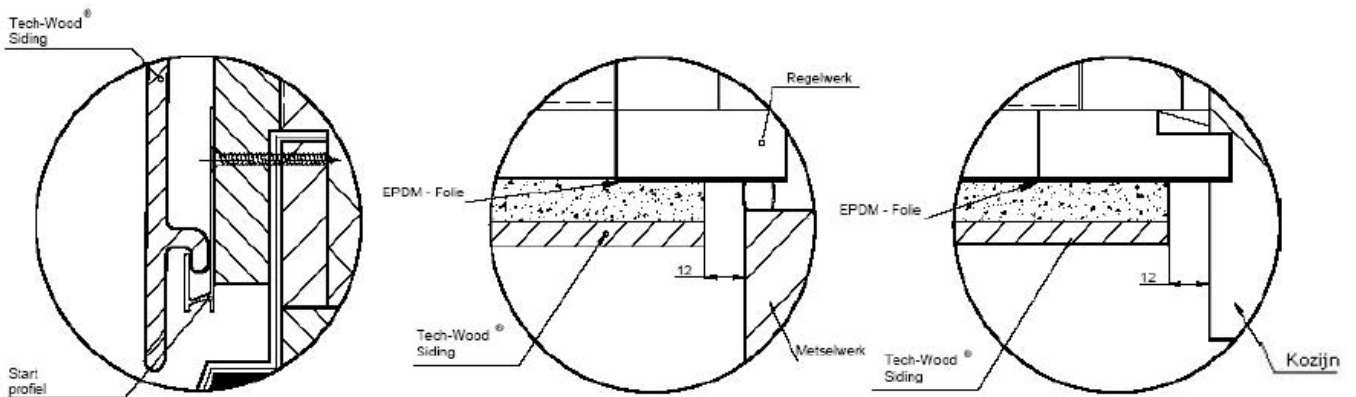
Dutch-Siding



Channel-Siding

TECH-WOOD[®] SIDING

Appendix 2 Details of Tech-Wood[®] Siding



TECH-WOOD[®] SIDING

