

KOMO[®] product certificate

Semi-manufactured product

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MODIFIED TIMBER ACCOYA[®] RADIATA PINE AND ACCOYA[®] ALDER

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Producer

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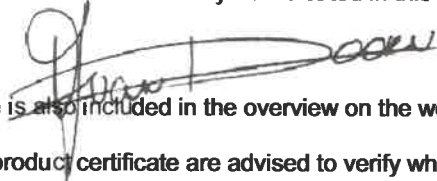
Declaration of SKH

This product certificate is based upon BRL 0605 'Modified timber' dd. 31-01-2003, issued by SKH, in conformity with the SKH Regulations for Certification.

SKH declares that:

- there is a legitimate confidence that the modified manufactured by the producer continuously complies with the technical specifications laid down in this product certificate, provided that the modified timber have been marked with the KOMO[®]-mark in a way as indicated in this product certificate.

For SKH



drs. H.J.O. van Doorn, director

The certificate is also included in the overview on the website of the KOMO foundation: www.komo.nl.

Users of this product certificate are advised to verify whether this certificate is still valid; consult the SKH-website: www.skh.nl.

This product certificate consists of 3 pages.

The Dutch version shall be consulted in case of doubt.



The following has
been assessed:
quality system
product
Periodic control

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1 PRODUCT SPECIFICATION

1.1 Description of product

Accoya[®] Radiata pine and Accoya[®] Alder are based on the acetylation of Radiata pine (*Pinus radiata* D. Don) and American and European Alder (*Alnus rubra* Bong and *Alnus glutinosa* (L.) Gaerth). Compared to untreated material the dimensional stability, the UV-stability and the natural durability is improved without addition of toxic material. The performances in respect of the properties laid down in BRL 0605 "Modified timber" are laid down in section 2.1 "Technical specification".

2 TECHNICAL SPECIFICATION

2.1 Durability

The durability of Accoya[®] Radiata pine and Accoya[®] Alder complies with the requirements for durability class 1, tested in accordance with EN 350-1. Accoya[®] Radiata pine and Accoya[®] Alder can be used in use classes 1, 2, 3 and 4 as defined in EN 335-1.

2.2 Timber moisture content

Accoya[®] Radiata pine and Accoya[®] Alder are supplied in dry condition (moisture content <8% m/m)

2.3 Equilibrium moisture content

The average equilibrium moisture content of Accoya[®] Radiata pine at a relative humidity of 65%, 80% and 90% and a temperature of 20°C is respectively 3.3%, 4.1 and 7.5% in absorption. The equilibrium moisture content of Accoya[®] Alder at a relative humidity of 65% is 3% ($\pm 0.5\%$).

2.4 Dimensional stability

The average swelling from bone dry condition to water saturation in radial and tangential direction of Accoya[®] Radiata pine, when absorbing moisture, is respectively 0.7% and 1.5%. The average swelling from bone dry condition to water saturation in radial and tangential direction of Accoya[®] Alder, when absorbing moisture, is in both directions <1%.

2.5 Glue ability

Accoya[®] Radiata pine window joints glued together with Frencken Multi-PU glue or Henkel Aquence DL 260 and hardener K102 comply with the principles of the BRL 2339 (in accordance with the SHR-report 17.0085 and the SHR-report 13.0204).

Regarding the application of the glue of Accoya[®] Radiata pine in optimized/finger jointed wood, windowframes and doors this quality declaration does not express an opinion and is referred to the KOMO[®] product certificate (attest-with-) of the manufacturer of the adhesive or the producer of the optimized/jointed wood, the frames or the doors

The quality declaration does not express an opinion about the glue ability of Accoya[®] Radiata pine and Accoya[®] Alder.

2.6 Finishing

The quality declaration does not express an opinion about the finishing of Accoya[®] Radiata pine and Accoya[®] Alder.

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2.7 Mechanical properties

The average bending strength (MOR) and average modulus of elasticity (MOE) of Accoya[®] Radiata pine and Accoya[®] Alder are not negatively effected by the modification process compared to untreated Radiata pine and untreated Alder.

The density, bending strength and stiffness properties of Accoya[®] Radiata pine of A1- or A2-quality are at least equivalent to the strength properties of C22 respectively C16 timber according to NEN-EN 338:2016 and mentioned in the table below.

Property		NEN-EN 338 C22	NEN-EN 338 C16
Bending strength	$f_{m,k}$	22 N/mm ²	16 N/mm ²
Mean modulus of elasticity	$E_{m,0,mean}$	10000 N/mm ²	8000 N/mm ²
Density	ρ_k	340 kg/m ³	310 kg/m ³

The quality requirements of Accoya[®] A1 and A2 are defined according to "Lumber Grading Specifications – Grade Names & Definitions for Accoya[®] Radiata Pine Version 9.1" and can be find on <https://www.accoya.com/downloads/>.

2.8 Janka Hardness

The average Janka Hardness of Accoya[®] Radiata pine is radial and tangential increased by 50% compared to untreated Radiata pine. The end grain Janka Hardness is increased by 80%. The average Janka Hardness of Accoya[®] Alder is radial and tangential increased by 34% compared to untreated Radiata pine. The end grain Janka Hardness is increased by 28%.

2.9 Impact bending strength

The average impact bending strength of Accoya[®] Radiata pine is equal compared to untreated Radiata pine. The quality declaration does not express an opinion about the impact bending strength of Accoya[®] Alder.

2.10 Fire behaviour

The quality declaration does not express an opinion about the fire behaviour of Accoya[®] Radiata pine and Accoya[®] Alder.

2.11 Emission of harmful materials

Waste wood of Accoya[®] Radiata pine and Accoya[®] Alder can be processed as untreated timber.

3 MARKING

Accoya[®] Radiata pine and Accoya[®] Alder shall be marked per package with the KOMO[®]-mark.

The execution of this mark is as follows:

- KOMO[®] trademark or logo;
- no. 33058-R (Accoya[®] Radiata pine);
- no. 33058-A (Accoya[®] Alder);
- durability class 1 according to EN 350;
- unique production number;
- suitable for use in use classes 1 to 4.



Location of the mark: clearly visible on each package.

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4 SUGGESTIONS FOR THE USER

4.1 On delivery of the Accoya[®] Radiata pine and Accoya[®] Alder inspect whether:

- the products comply with the contract of sale;
- the mark and the manner of marking are correct;
- the products do not show any visible defects due to transport or similar causes.

If the products are rejected on the basis of the above, the user should contact Accsys Technologies and if desirable The certification-body SKH.

4.2 Processing

The use of Accoya[®] Radiata pine and Accoya[®] Alder shall be done according to the instructions and technical advice laid down in the manufacturers 'Accoya[®] Radiata pine and Accoya[®] Alder information Guide'.

4.3 Product certificate

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

4.4 Applications and use

Transport, storage and deployment shall be effected in accordance with the working instructions included in this product certificate. If Accoya[®] Radiata pine is used in joinery (façade elements), the size of the span of between styles and between the sills have to comply to the span-tables as mentioned in SHR-Report 12.0161 (14-6-2012).

4.5 Period of validity

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