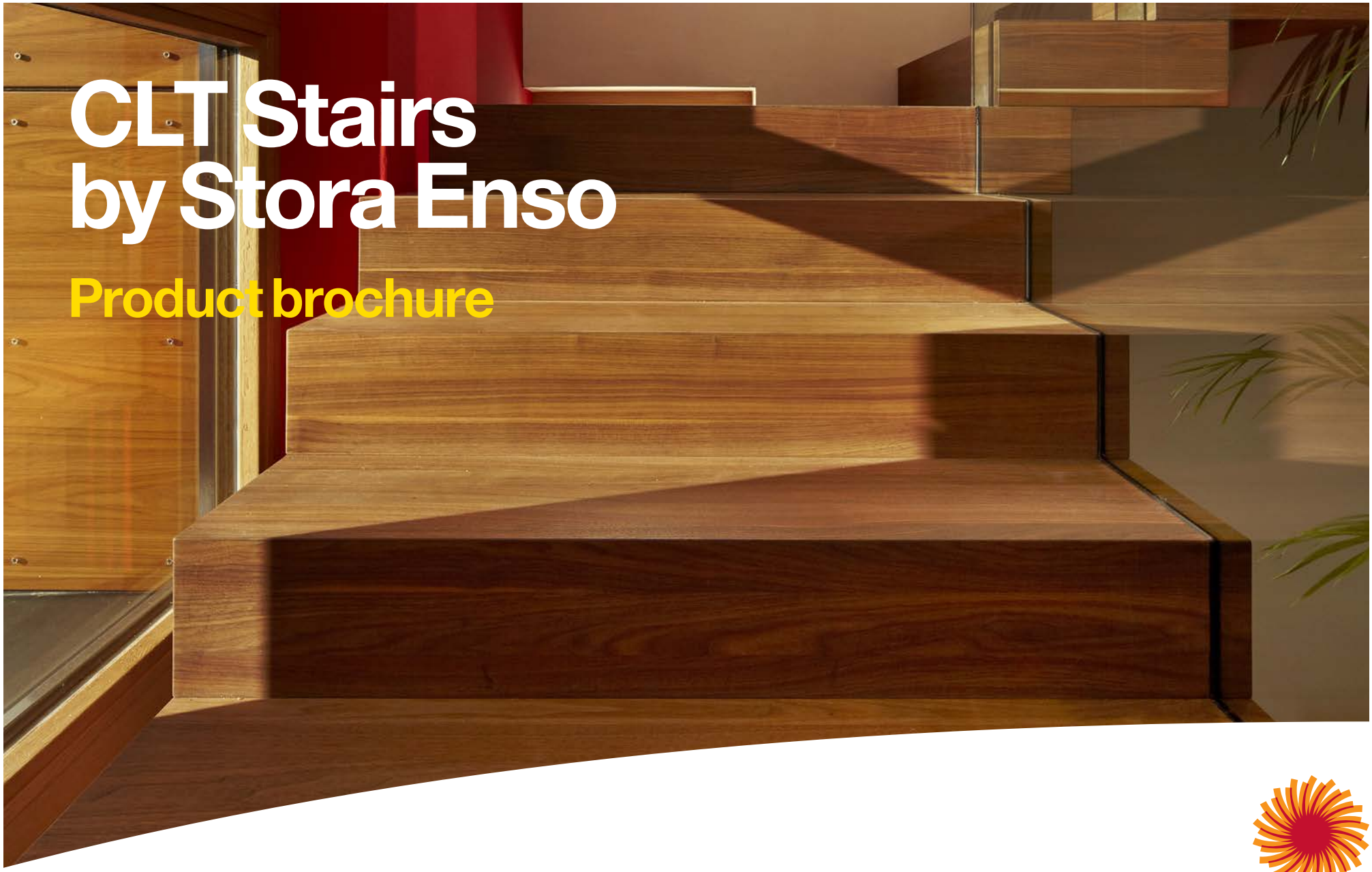
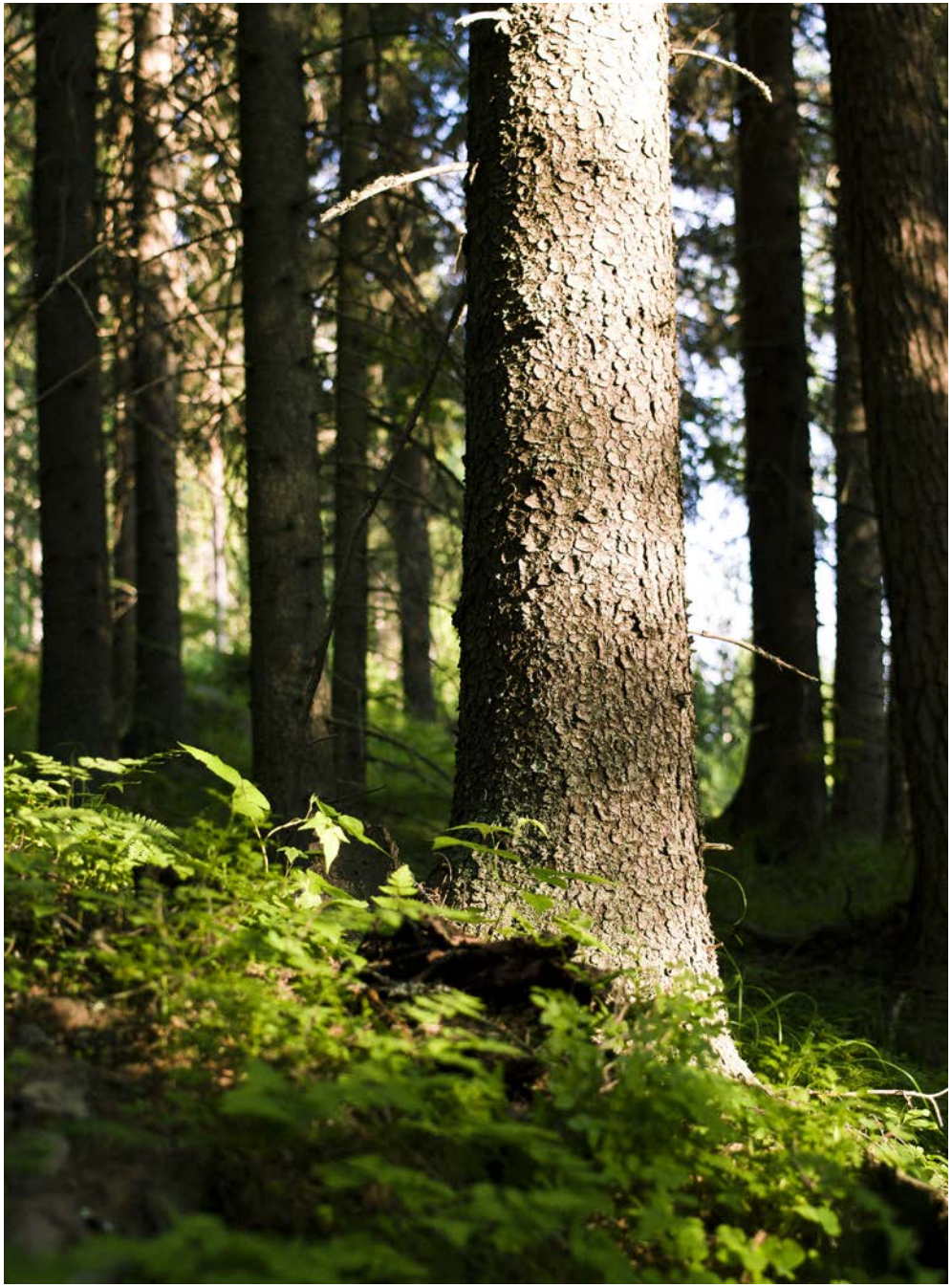


CLT Stairs by Stora Enso

Product brochure

THE RENEWABLE MATERIALS COMPANY

storaenso



Stora Enso
The renewable materials company

Part of the bioeconomy, Stora Enso is a leading provider of renewable solutions in packaging, biomaterials, wooden constructions and paper on global markets.

We believe that everything that is made from fossil-based materials today can be made from a tree tomorrow. Our materials are renewable, reusable and recyclable, and form the building blocks for a range of innovative solutions that can help replace products based on fossil fuels and other non-renewable materials.

With carbon captured in the wood, the products offer a truly sustainable means of combating climate change.

Stora Enso products are entirely made from renewable wood, sourced from sustainably managed forests. The wood supply chains to Stora Enso's Wood Products units are covered by a third-party certified wood traceability system.

Contents

CLT Stairs 4
Prefabricated stairs 5
CLT stair lay up 5
Straight stairways 5
Dog leg stair with half landing 5
Benefits of CLT stairs 6
Fire safety 7
Economics 7

This brochure is a summarised version of the technical CLT Stairs folder. Please refer to the folder for more information about the references to sources.

See also: **storaenso.com/woodproducts/clt**
Stora Enso Wood Products GmbH accepts no liability for the completeness or accuracy of the information contained.

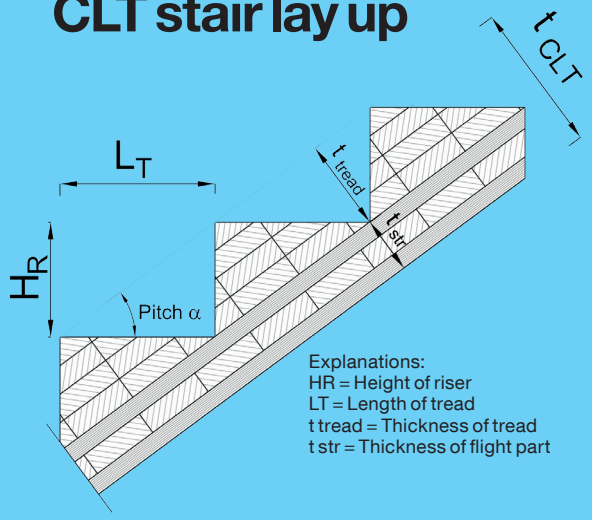
CLT Stairs



Prefabricated stairs

Prefabricated Stora Enso CLT stairs are based on the idea of one-piece staircases that mainly use cross laminated timber. They are suitable for straight stairways as well as for dog leg stairs. Due to the lightweight and very fast to install component, they are a good alternative to conventional precast concrete stairs.

CLT stair lay up



Explanations:
HR = Height of riser
LT = Length of tread
t tread = Thickness of tread
t str = Thickness of flight part

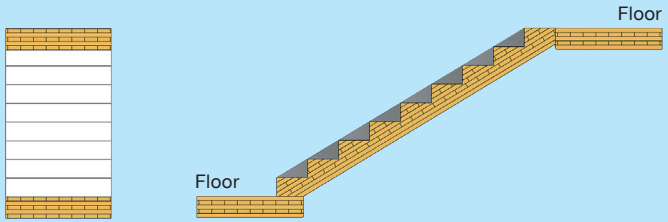
Cross lamellas
20, 30 or 40 mm
E.g.:
CLT 60 L3s
CLT 80 L3s
CLT 90 L3s
CLT 100 L3s
CLT 120 L3s

CLT standard lay up for the flight and special lay up (cross oriented layers only) for the treads. Alternatively a CLT standard build up with milled out treads can be selected.

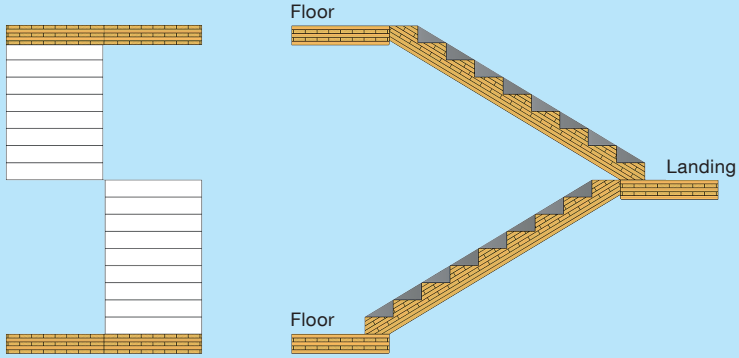
- Better performance in case of fire due to possibility of double outer layer
- No end grain on treads
- Efficient solution for spans > 4.00 m and live load 2.00 kN/m²
- Improved resistance to water and moisture swelling

Stair types by Stora Enso

1. Straight stairway



2. Dog leg stair with half landing

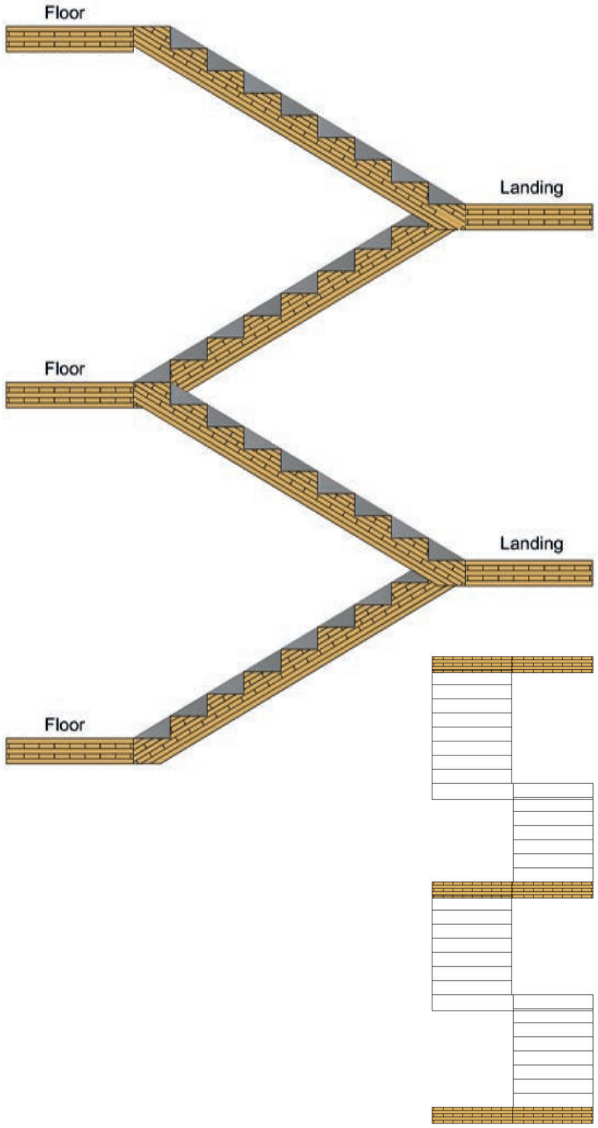




Benefits of CLT stairs

- Factory prefabrication under safe weather conditions ensures the quality of the product
- CE marked building component according to ETA-14/0349
- Supplied with all other required components (walls, floors, etc), therefore, no delay in the construction process
- Ready to install, no forming and curing time
- Easy connection of stairs to the floor slab, usually with screws
- The CLT stairs are installed already during the construction of the shell, no temporary stairs are needed. Saves time & money, and increases safety
- Final surface finish not needed before completion of the shell
- Early planning, involving all needed work, ensures that all connection details are considered (Stora Enso is happy to support you during this phase)

For further information, please contact your Stora Enso representative.



Fire safety

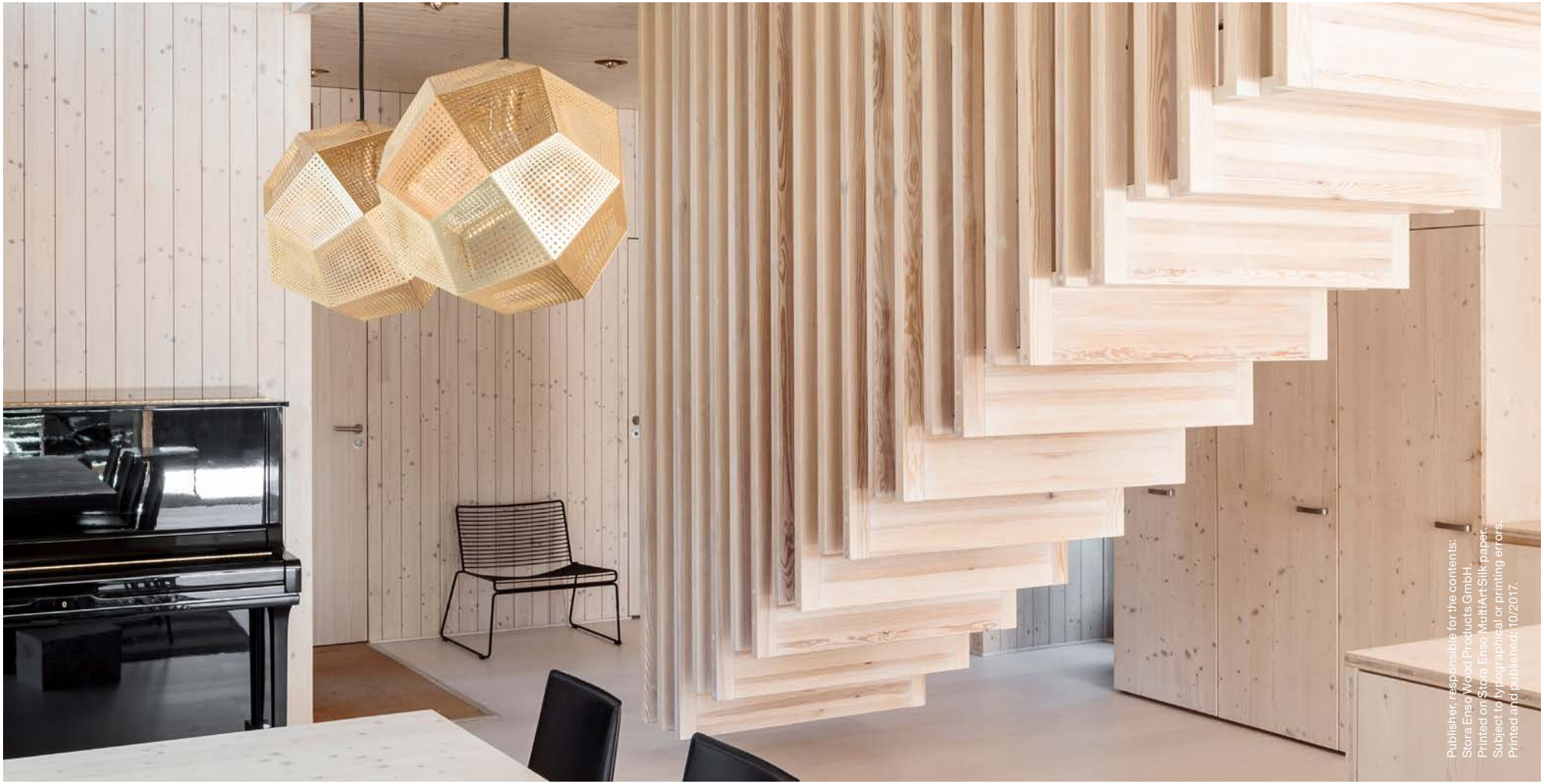
Stairs are typically not fire rated as they are not part of the structural integrity or separation of compartments. In some countries, the combustibility of the material used for stairs has to be checked and respected to meet the requirements. When required, reaction to fire of the covering shall be verified and chosen according to standard EN 13 501-1.

Fire performance requirement in Austria (extracted from OIB Richtlinie 2)

Building class						
Designation	GK2	GK3	GK4	GK5 With mechanical ventilation system	GK5 With automatic fire detection system and smoke extraction device	GK5 With lock and smoke extraction facility
Treads and platforms in staircase	**R 30**	**R 60**	**R 60 and A2**	**R 90 and A2**	**R 90 and A2**	**R 60 and A2**

Economics

Stairs made out of timber can be a cost competitive alternative to concrete stairs. For example, a cost-efficient stair solution for a residential scheme is one processed from a CLT master panel piece with a stair width that utilises the master panel fully to reduce waste.



Publisher, responsible for the contents:
Stora Enso Wood Products GmbH.
Printed on Stora Enso MultiArt Silk paper.
Subject to typographical or printing errors.
Printed and published: 10/2017.

Stora Enso
Division Wood Products

Business Line CLT
storaenso.com/woodproducts/clt
facebook.com/storaensolivingroom

THE RENEWABLE MATERIALS COMPANY