

FINNFOREST SPRUCE

PRODUCT

FINNFOREST Spruce is an uncoated softwood plywood of thick veneer with a longitudinal grain, suitable for both interior and exterior applications. Even though FINNFOREST Spruce is a general construction panel, it can also be used for shuttering and packaging purposes.



CONSTRUCTION

The raw material used in **FINNFOREST Spruce** is Finnish spruce. Ply thickness is normally 3.0 mm, and in some BFU 100 plywoods 2.6 mm.

Thickness mm	Number of plies pcs	Ply thicknesses mm	Ply order - longitudinal grain / cross grain
9	3	3,0 + 3,0 + 3,0	-/-
12 *	4	3,0 + 3,0 + 3,0 + 3,0	-//-
15	5	3,0 + 3,0 + 3,0 + 3,0 + 3,0	-/-/-
18	6	3,0 + 3,0 + 3,0 + 3,0 + 3,0 + 3,0	-/-/-/-
21	7	3,0 + 3,0 + 3,0 + 3,0 + 3,0 + 3,0 + 3,0	-/-/-/-/-
24 *	8	3,0 + 3,0 + 3,0 + 3,0 + 3,0 + 3,0 + 3,0 + 3,0	-/-/-/-/-
27 *	9	3,0 + 3,0 + 3,0 + 3,0 + 3,0 + 3,0 + 3,0 + 3,0 + 3,0	-/-/-/-/-
30 *	10	3,0 + 3,0 + 3,0 + 3,0 + 3,0 + 3,0 + 3,0 + 3,0 + 3,0 + 3,0	-/-/-/-/-

* the optional BFU 100 construction has a ply thickness of 2.6 mm and a higher ply count.

GRADES

FINNFOREST Spruce grades are determined by the grade of the surface veneers as follows:

Grade II : sound surface, might be repaired with filler. Unrepaired defects with a Ø max. 5 mm are permitted.

Grade III+: open defects repaired with filler.

Grade III: standard quality, with open defects such as knotholes and veneer checks.

Primary grade combinations are II/III and III/III.

For more specific grade data, see RT Card 10731 (2000).

Surface veneers are always spruce.

SURFACE OPTIONS

FINNFOREST Spruce surface options are unsanded or sanded on both sides.

EDGE TYPES

Panel edge types are either square or tongue-and-grooved. All edges can be tongue-and-grooved. Tongue-and-groove plywood thicknesses are 12, 15, 18, 21, 24, 27 and 30 mm.

BONDING

Standard plywood panels bonded with weather and boil-resistant phenolic resin adhesive meet the following international bonding standards: SFS-EN 314-1, SFS-EN 314-2/Class 3, (former) BS 6566 Part 8/Type WBP, DIN 68705 Teil 3/BFU 100, JAS/Structural plywood/Class 2 and EN 636-3 (exterior use).

FORMALDEHYDE EMISSIONS

As the plywood panel is bonded with a phenolic resin adhesive, it meets the Class E1 requirements of the EN 13986 standard in regard to formaldehyde emissions. It also meets the Japanese JAS FC0 requirement, which is the highest possible rating.

STRENGTH AND ELASTIC PROPERTIES

FINNFOREST Spruce strength and elastic properties have been published in VTT certificates No. 3 (Finnish), No. 4 (English) and No. 7 (Swedish). The above values are also found in the Plywood Handbook.

THICKNESSES AND WEIGHTS

FINNFOREST Spruce thicknesses, thickness tolerances and weights in accordance with SFS-EN 315 based on a moisture content of 10+/- 2%.

Nominal-mm thickness/number of plies, pcs	Average thickness	Tolerance of nominal thickness		Weight kg/m ²
	Unsanded mm	Unsanded mm	Sanded mm	
12/4	12,0	+1,2/-0,8	+0,6/-0,8	5,5
15/5	15,0	+1,3/-0,9	+0,7/-0,9	6,9
18/6	18,0	+1,3/-0,9	+0,7/-0,9	8,3
21/7	21,0	+1,4/-1,0	+0,8/-1,0	9,7
24/8	24,0	+1,5/-1,1	+0,9/-1,1	11,0
27/9	27,0	+1,6/-1,2	+1,0/-1,2	12,4
30/10	30,0	+1,7/-1,3	+1,1/-1,3	13,8

PANEL SIZES

2440 x 1220 mm	1830 x 1830 mm
2440 x 1200 mm	1820 x 910 mm
2400 x 1200 mm	910 x 1820 mm
2500 x 1250 mm	

The first measurement is the longitudinal grain orientation of the surface veneer.
Panels can also be special ordered in cross-grain sizes.

TONGUE-AND-GROOVE PANELS

Tongue-and-groove panels are always sanded. All edges can be tongue-and-groove. Tongue-and-groove machining decreases net panel size by 10 mm.

PANEL LENGTH/WIDTH AND OTHER TOLERANCES

Length +/- 3 mm. Width +/- 2 mm.
Panel squareness +/- 0.1% (i.e. +/-1 mm/m)
Edge straightness +/- 0.1% (i.e. +/-1 mm/m)

QUALITY CONTROL

In addition to Finnforest's own quality control, the Technical Research Centre of Finland (VTT) oversees FINNFOREST Spruce production operations, their internal quality control, and ensures that the quality of panel bonding is in accordance with agreement concluded. External plywood quality control will continue to be conducted in accordance with CE standards.

APPROVALS

FINNFOREST Spruce has been officially approved as a load-bearing and stiffening construction panel in Finland, Sweden, Norway, Denmark and England, and bears the CE mark in all CEN countries. FINNFOREST Spruce also meets the requirements of German BFU 100 structural plywood and Japanese JAS standards.

PACKING

The number of panels per packing are as follows:

	9 mm	12 mm	15 mm	18 mm	21 mm	24 mm	27 mm	30 mm
normal packing	110	85	65	55	45	40	35	30
special packing	130	100	80	65	55	50	44	40

Special packings are used in specific cases for the packing of deliveries with "Japanese measurements".

APPLICATIONS

FINNFOREST Spruce is a general construction panel. It is suitable for use on floors, walls and ceilings. Other applications include various types of packaging, concrete moulds, fences, canopies, various agricultural structures, etc.

FURTHER INFORMATION

VTT certificates No. 3 (Finnish), No. 4 (English) and No. 7 (Swedish).

FINNFOREST Spruce Brochure

Finnforest Plywood Handbook, 1997.

Vanerikäsi kirja (Plywood Handbook), Metsäteollisuus ry, 2001

RT 361.3.-35837 FINNFOREST Spruce conifer plywood in housing construction (formerly MetsäSpruce)

www.finnforest.com

Finnforest plywoods are manufactured with the industry's best, most reliable methods and materials. Product development keeps pace with developments in technology and raw materials. Finnforest offers the customer state-of-the-art products and is actively involved in product development.

As Finnforest reserves the right to alteration of its products and the materials used in them without consulting other parties, existing product information is subject to change.