Natural solid wood • Timeless design • Proven solution



SOLID WOOD BUILDING SYSTEM



Healthier and more beautiful spaces for life











WHAT IS NOVATOP



CZECH PRODUCTION SINCE 1992, SWISS KNOW-HOW

NOVATOP is a comprehensive building system of large format panels made of cross laminated solid wood (CLT). It combines highly advanced technology, solidity of all elements and the beauty of natural wood. The whole system is manufactured in the Czech Republic. Swiss experts on wooden structures cooperated with us on its development.



REVERENCE AND RESPECT FOR NATURE

We respect the principles of sustainable architecture, which is environmentally friendly, and protects the climate and, above all, human health. NOVATOP is manufactured of a natural, renewable raw material under strict environmental regulations.



RELIABLE AND COMPREHENSIVE SOLUTIONS FROM ONE MANUFACTURER

- construction panel
- acoustic panels
- · boards for the interior as well as the exterior

INDIVIDUAL APPROACH AND FLEXIBILITY

We like challenges! We can flexibly adapt your wishes to our production possibilities. We focus on detail and comprehensive service and we satisfy individual customer requirements.





ADVANTAGES OF NOVATOP SYSTEM

VISUAL QUALITY WOOD IN THE INTERIOR

NOVATOP bearing structure can also make the internal surface. High visual quality of wood in the interior is guaranteed by drying the wood to 8%. The surfaces of the panels can be treated in the same way as natural wood.

SPEED OF CONSTRUCTION

A NOVATOP building is assembled as a construction kit-precisely, quickly, and easily. All panels are custommade and shipped directly to the construction site. There, they are assembled to make the massive structures of the building using a crane.

AIRTIGHTNESS

All NOVATOP panels are airtight and make an airtight envelope, even without foil moisture stops. In order to achieve airtightness, the design as well as the rigorous implementation of all the details (the number of which is much smaller than with other building systems) on the site are crucial.

DIFFUSIONAL OPENNESS

The high-quality material and structure will provide indoor environment free from mould! A NOVATOP structure remains diffusionally open with suitably chosen insulation. There is no need for a foil moisture stop, so one of the most problematic areas in the assembly of wooden buildings is eliminated. The panels consist of solid wood in the whole crosssection and effectively reduce the penetration of moisture.

ACOUSTICS

NOVATOP achieves an increase in sound attenuation and a reduction in the level of impact noise by correctly designing the structural composition and details, which is conditioned by consistent execution on the construction site. The requirements for architectural acoustics can be met by cladding the interior with acoustic panels NOVATOP ACOUSTIC.

PHASE SHIFT

NOVATOP prevents summer overheating! Phase shift of the panels are, according to thickness, in the range of 3 to 7 hours; in combination with wood fibreboard insulation, it is up to about 15 hours.

FIRE RESISTANCE

On the basis of fire tests, NOVATOP can be also used for construction of buildings with increased requirements for fire resistance. Individual segments of the construction can be optimized to the required dimensions.

CERTIFICATION

The entire production meets strict criteria for a number of certifications. All products show ten times lower formaldehyde emissions than the limits for Class E1 and, in 2008, we were the first company in the Czech Republic to receive the Natureplus certificate.



WHAT DOES NOVATOP ENABLE?

NOVATOP system is suitable for the construction of houses and apartment buildings, office buildings, schools, sports facilities and large industrial buildings. However, it can also be used in extensions, superstructures and reconstructions. The NOVATOP system has successfully proved that it meets the strict criteria for construction of passive and energy-efficient buildings. The individual elements of the system can be combined with other structures on the basis of wood as well as a brick, steel or glass buildings.

NOVATOP SYSTEM CONSISTS OF SIX ELEMENTS

All elements of the system are distinguished by their high strength, stability and outstanding static load-carrying capacity – they create a solid, secure and true all-wood construction.



Wall panels are made of layered solid wood.

NOVATOP ELEMENT

Hollow rib elements made of multilayer solid panels that can be supplemented with insulation and installations.

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2

NOVATOP OPEN

Panels with a selectable degree of prefabrication that combine the advantages of KVH timber beams and multilayer panels.

4

NOVATOP STATIC

Five-layer solid wood panels that are used primarily for structures with increased static requirements.

5

NOVATOP SWP

Three-layer solid have a very wide range of applications in the interior as well as exterior.

6

NOVATOP ACOUSTIC

Acoustic panels made of a solid three-layer board are perforated into various profiles with a verified high degree of sound absorption.

HOW DO BUILDINGS MADE OF NOVATOP COME INTO **EXISTENCE**?

ARCHITECT'S DESIGN

The design of the building combines the architect's imagination with the investor's requirements and, at the same time, it takes into account the structural and aesthetic possibilities of NOVATOP.

PROJECT

2

3

5

The designer transfers the design of the building to the project documentation, which takes into account all requirements. The requirements for thermal and sound insulation, fire resistance and visual quality are specified in cooperation with the client, and, if necessary, verification of the statics of the entire building are recommended.

PRODUCTION

We will digitally transfer the 3D model of the bearing structure to CNC machines. The individual parts are machined with millimetre accuracy. The panels are fitted with all functional cut-outs (windows, doors). Routes for distribution and installations can be milled in inside the panels in the production stage.

STRUCTURE ASSEMBLY

The wooden construction kit is taken from the factory to the construction site, where the bearing structure is assembled using a crane. The installation should be put in the hands of trained builders.

COMPLETION OF THE BUILDING

Fillings of openings, insulation and the facade are then applied to the structure according to the requirements of the project. In the interior, the panels can be left without cladding as the final surface.



NOVATOP is unique due to the high proportion of manual labour, which cannot be replaced by any machine. But, at the same time, it is human hands that operate the most advanced and powerful technologies. We pay full attention to every detail-from the purchase of wood, through its processing to its packaging and its transportation to the customer. Over 200 people of different professions participate in this.





NOVATOP SOLID for walls and partitions

DESCRIPTION

NOVATOP SOLID are large format solid panels made of cross laminated solid wood (CLT - cross laminated timber). The panels are manufactured from dried spruce lamellas put together in layers; the layers cross at an angle of 90°. The number of layers can differ and this determines the final thickness of the panel. The longitudinal joints of the lamellas are glued together; the adhesive used is waterproof. The quality of sanding corresponds to the grain size of 100.



THICKNESS



EXAMPLE OF AN EXTERNAL WALL (W100)



A – SYSTEM FACADE PLASTER B - FIBREBOARD $(λ = 0,043 \text{ W/mK}; q = 190 \text{ kg/m}^3)$ (STEICOprotect TYP L) // MINERAL INSULATION (λ = 0,040 W/mK; q = 100 \text{ kg/m}^3) (e.g.: ISOVER - TF PROFI) C - NOVATOP SOLID

WIRING (ND126)



FORMATS - PRINCIPLES OF PUTTING PANELS TOGETHER

Vertical fibre direction. Connection of panels: with a fastener or longitudinally with overlaps 100-1,250 mm Delivery: in piece or in parts 6000 (max. 12000*)

Horizontal fibre direction. Connection of panels: with a fastener Delivery: in piece or in parts





ADVANTAGES

Large formats up to 2,950 x 12,000 mm • Dimensionally stable and firm • Variable formats and thicknesses • Atypical shapes according to the project • Precision machining • Visual quality Fast and simple assembly with high precision • Certified by ETA

Application: Panels solid can be used especially for structures of bearing and non-bearing walls, or ceilings, and also offer visual quality of solid wood in the interior.

ASSORTMENT

Basic recommended format: 2,500 x 6,000 (max. 2,950 x 12,000) More information in the technical documentation. Thicknesses for walls (mm): 62, 84 (42/42), 124 (62/62) Thicknesses for ceilings (mm): 81 (27/27/27), 84 (42/42), 116 (27/62/27) Surface quality: non-visual construction, visual living space

INNOVATIONS

SOLID with veneer Surface finishes (oak, beech, walnut, cherry, ash) Surface finishes 2 in 1 – protective coating and final surface finish in the interior



FIRE RESISTANCE

8500 (max. 12000*)

NOVATOP ELEMENT for ceilings and roofs

DESCRIPTION

NOVATOP ELEMENT consists of a bearing bottom multilayer panel (SWP – Solid wood panel) whose thickness depends on the required fire resistance of the structure. Transverse and longitudinal ribs (SWP), whose height is dependent on the required load of the element, are glued onto it. The whole structure is topped with an upper multi-layer board. Connection of the boards and the ribs is carried out by gluing and cold pressing. The cavities between the ribs can be fitted with insulation or distribution routes for installations during the production process. The elements can be supplied with a bottom board of visual quality.



Smart and efficient use of wood

Up to 2/3 less wood than in a solid CLT panel

TYPES OF FILLINGS



PREPARATION OF DISTRIBUTION





Clamping length ℓ [mm] Live load (n.) Permanent load (g,) Other possibilities, see the Dead weight taken into consideration technical documentation.

FIRE RESISTANCE







ADVANTAGES

Very low weight and very high static load capacity • Makes the structure of the building very stiff and stable in both axes • Immediate load capacity • Large formats up to 2,450 x 12,000 mm · Atypical shapes according to the project · Speed and simple assembly with high precision · The possibility to add thermal and sound insulation, the possibility of preparation of routes for distribution of installations • Certified by ETA up to 12 m

Application: Especially bearing ceilings and roofs.

ASSORTMENT

Widths (mm): 1,030, 2,090, 2,450, max. 2,450 Lengths (mm): according to the project documentation, standardly 6,000, max. 12,000 Heights (mm): 160, 180, 200, 220, 240, 280, 300, 320, max. 400

Quality of the element's bottom panel: non-visual construction, visual living space

INNOVATIONS

Surface finishes 2 in 1 – protective coating and final surface finish in the interior

EXAMPLE OF A CEILING (ND 207)

WALL WITH THE CEILING (ND 201)



NOVATOP OPEN

DESCRIPTION

NOVATOP OPEN consists of a bearing bottom multilayer panel of solid wood (SWP – Solid wood panel), onto which beams (KVH, DUO, TRIO, BSH, I-girder) fulfilling the support function are glued. For reinforcement around the perimeter and around the openings, there are inserted transverse reinforcing ribs. The dimensions and the distances of the beams can be adjusted according to the requirements of the project. Connection of the panels and the ribs is carried out by gluing and cold pressing. The space between the beams can be fitted with thermal insulation. OPEN element can be closed with another, diffusionally open, material (e.g. Fermacell, DHF, DFP, etc.).

ADVANTAGES

The elements NOVATOP OPEN combine the advantages of the well-known beam dimensioning and a multi-layer solid panel and allow a really "OPEN" degree of prefabrication according to individual requirements. • They offer an economical and safe solution for diffusionally open roofs and walls. • Large formats up to 2,450 x 12,000 mm. • Atypical shapes according to the project • The speed and



TYPES OF BEAMS

Flexible degree

of prefabrication



I GIRDER



LONGITUDINAL JOINT (ND 327)



EXAMPLE OF A ROOF STRUCTURE (R 300)





simplicity of assembly with high accuracy • The possibility to add thermal insulation • Certified by ETA

Application: For roofs, ceilings and walls.

ASSORTMENT

SWP thicknesses (mm): 27 (9/9/9), 19 (6/7/6) Total heights (mm): 227, 247, 267 and other Standard widths (mm): 1030, 2090, 2450 Lengths (mm): according to the project documentation, standardly 6000, maximum 12.000 mm KVH dimensions (DUO, TRIO, BSH, I-girders): 200/60; 220/60; 240/60 and other Maximum format (mm): 2,450 x 12,000 (Extension of the SWP with an inlay finger joint)

Qualities of the bottom panel of the element: non-visual construction, visual living space

INNOVATIONS

 $\label{eq:surface finishes 2 in 1 - protective coating and final surface finish in the interior$





structure with increased static requirements

NOVATOP STATIC for roof overhangs

DESCRIPTION

NOVATOP STATIC are five-layer panels (SWP – Solid wood panel). Each layer of the panel consists of lamellas of solid wood. The panel has one middle layer rotated by 90° relative to the two parallel surface layers on each side. The thickness of the layers can differ and determines the final thickness of the panel. The longitudinal joints of the lamellas are glued together; the adhesive used is waterproof. The quality of sanding corresponds to the grain size of 100.

ADVANTAGES

The solution for overhangs roofs minimises thermal bridges • High static characteristics • Modulus of elasticity up to 11,500 N/mm² • High bending strength in the main axis up to 48 N/mm² · Variable formats and thicknesses • Large formats up to 2,500 x 12,000 mm.





Application: Structures of overhanging edges of roofs, cladding with increased static demands, bearing and non-bearing walls and partitions, doors, gates, shelves, containers, etc.

ASSORTMENT

Thicknesses (mm): 45, 60 mm Qualities: non-visual construction, visual living space

NOVATOP STATIC L

Longitudinal direction of the fibres of the surface lamellas Standard lengths (mm): 2,500, 5,000, 6,000 Maximum length (mm): up to 12,000 (with the inlay finger joint) Widths (mm): 1,040, 1,250, 2,100, 2,500

NOVATOP STATIC O

Transverse direction of the fibres of the surface lamellas Standard lengths (mm): 4,950 (with an inlay finger joint) Widths (mm): 2,500

MACHINING

grooves from the side • inlay finger joint • milling of various shapes, etc.

EXAMPLES PRELIMINARY DIMENSIONING



High aesthetic value and functionality





DESCRIPTION

NOVATOP SWP are multilayer boards consisting of an odd number of layers, most often three and five. Each layer consists of lamellas of massive solid wood. The layers are rotated 90° relative to each other. The thickness of the lamellas is different and determines the final thickness of the panel. For production, coniferous wood is dried to 8-12%. The surface layers are repaired, essentially with natural knots and putty. The surfaces are ground with a grit of 100. The boards show ten times lower formaldehyde emissions than the limits for Class E1 and, in 2008, they were the first in the Czech Republic to receive the Natureplus certificate.

Use in the construction industry - flat construction material

- wooden buildings, brick buildings, reconstruction
- reinforcing boards horizontal and vertical structures,
- · load-bearing roof and ceiling decking, roof soffit decking,
- subtle offset structures without rafters and beams (for lean and saddle roofs)
- façades and façade elements
- bearing and non-bearing walls, partitions
- cladding of walls, ceilings, floors

Use in joinery

- cross-glued composition minimizes twisting and bending in larger areas, even with changes in temperature and humidity
- production of furniture, interior accessories
- easy machining (milling, cutting, drilling)
- stairs, or risers
- interior doors

ADVANTAGES

the character of natural solid wood • natural non-toxic material • dimensional stability, high bending strength • excellent workability of surfaces and edges • large format • easy manipulation and assembly

ASSORTMENT

Wood: Central European spruce Standard thicknesses (mm): 19, 27, 42 Basic recommended format (mm): 2100 x 5000 mm For more information go to: www.novatop-swp.com

MACHINING

Spring and groove + chamfered edge, grooves from the side, inlay finger joint

SURFACE FINISH

For exterior (Remmers), for interior (Adler)













NOVATOP ACOUSTIC

DESCRIPTION

Acoustic panels NOVATOP ACOUSTIC are made of a solid three-layer panel (SWP) perforated into various profiles. The shape of the profile and the proportion of the perforated surface varies by type. In the production process, the panels are complemented with absorbers according to the acoustic requirements of the project. The prefabricated panel is ready for direct assembly.

Application: NOVATOP ACOUSTIC panels optimize acoustic properties of the space. A suitably selected combination of wood, profile, absorber and surface treatment offers a wide range of options in the process of formation of a modern interior design.

ADVANTAGES

Natural and ecological structure • Colourful combinations of profiles and absorbers • Low weight • Solutions for new buildings as well as reconstructions • Creation of shape changes of ceilings and new layout options. • Verified for sports halls and gyms

PROFILES

Marilyne (8/25, 4/12, S1, S2) • Sonata (4/10, S1) Lucy (Ø 8 mm - 16/16, Ø 10 mm - 32/32, Ø 16 mm - 32/32) • Domino • Suzanna • Giulia Tina • Beata (dispersing element) • Mikado design panel

WOOD

Spruce • Silver fir

VENEERS

Standard: tangential oak • radial oak Made to order: • rustic oak • beech • walnut • cherry • ash tree

ACCOUPLEMENTS

SWP – 3-layer spruce board • MDF black, brown • MDF black, brown

ABSORBERS

Steico Therm SD • Steico Flex + Fibertex • Ursa Aku • Fibertex

SURFACE TREATMENT

Standardly without surface treatment, or a primer or a final coat in 4 shades (Natur, Zugspitze, Mont Blanc, Spock)

Basic recommended format (mm): 625 x 2500 (Comprehensive overview according to the profiles in the technical documentation)

















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3D LIBRARY

Real textures for a perfectly visual world

PBR standard / 8K









Certificates:



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Reference



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