SK-DoP

SK - Declaration of Performance

Version: 02/2026
Issued according to Act No. 133/2013 Coll. on Construction Products
Based on Slovak Technical Assessment SK-TP – 25/0007

UNIQUE IDENTIFICATION CODE:	EcoCocon Straw Panel
TYPE:	Prefabricated wood-based structural panels filled with compressed straw insulation
INTENDED USE:	External load-bearing walls, internal partition walls, separating (division) walls, and non-load-bearing infill walls in buildings
MANUFACTURER:	**EcoCocon s.r.o.** ID: 52416151 Záhradnícka 60 821 08 Bratislava Slovak Republic
PLACE OF MANUFACTURE:	**Industrial park Voderady** 919 42 Voderady Slovak Republic
SYSTEM OF PERFORMANCE ASSESSMENT:	SK Technical Assessment SK TP-25/0007 – version 02 of 24/02/2025 Certificate SK 04-ZSV-3419, 8/4/2025, issued by the authorised body SK 04, TSÚS.

DECLARED PERFORMANCE:

Essential characteristic	Parameter	Declared performance
Mechanical resistance and stability		
Mechanical resistance	The mechanical resistance of EcoCocon straw panels	See Table 1 in the Appendices*
Density	- Wood density, moisture content 12% - Plywood density - Density of compressed straw insulation	350 kg/m³ 680 kg/m³ (98-127) kg/m³
Load conversion and duration	The duration of the load	See Table 1 in the Appendices*
Dimensional stability and permissible deviations	Permissible deviations due to relative humidity: - Panel height, width and thickness - Panel rectangularity, flatness of surfaces - Structural timber and KVH prisms	 ± 2 mm See Table 1 in the Appendices* According to EN 336 tolerance class 1
Fire safety		
Reaction to fire	Classification of materials and components of assemblies according to STN EN 13501-1. - EcoCocon straw panel (without additional layers) - Reaction to fire for specific compositions	 Class E See Table 3 in the Appendices*
Fire resistance	Fire resistance performance of EcoCocon straw panel for load-bearing walls: - With diffusion-open (breather) membrane on the exterior side and without coating on the interior side - Fire resistance for panels with other layer build-ups	 RE 45 / REI 45 / REW 45 See Table 4 in the Appendices*

Hygiene, health and environment		
Content, emission and/or release of dangerous substances	Suitable for the intended use	Assemblies must comply with the requirements of Act No. 67/2010 Coll. Formaldehyde emission class: E1 (KVH beams and wood-based boards)
Water vapour permeability and resistance to moisture	Water vapour permeability coefficient values for components: - Compressed straw - Other materials and structural components	 μ = 3.3 See Table 7 in the Appendices*
Resistance of compressed straw to mould at elevated humidity	Relative air humidity up to 50% Elevated relative humidity up to 95%	0 points 2 points
Safety and accessibility in use		
Impact resistance	The impact resistance of EcoCocon straw panels	See Table 5 in the Appendices*
Noise protection		
Airborne sound insulation	Airborne sound insulation of EcoCocon straw panels: - EcoCocon straw panels, 300 mm thick without surface finish - Airborne sound insulation for panels with layer build-ups	 Rw (C; Ctr) = 26 (−1; −4) dB See Table 6 in the Appendices*
Energy efficiency and heat retention		
Thermal conductivity	Thermal conductivity (λ) of materials and components - Compressed straw (best value declared by the manufacturer based on testing) - Structural timber and solid structural timber	 λ = 0.053–0.060 W/m·K λ = 0.180 W/m·K See Table 7 in the Appendices*
Sustainable use of natural resources		
Natural durability	Durability classes of spruce wood	According to STN EN 350 Used classes according to STN EN 335 See Tables 8–9 in the Appendices*
Moisture content	Moisture content of structural timber and structural solid timber with finger joints Moisture content of compressed straw infill	 max. 14.2 % max. 20%

* If the appendices are not included in this document, please refer to the Declaration of Performance available on the website.

PRODUCT INCORPORATION:

The EcoCocon straw panel is intended for incorporation into building structures. When designing buildings, the manufacturer recommends taking into account the parameters specified in the Slovak Technical Assessment. For the execution of constructions using EcoCocon straw panels, the manufacturer provides an Assembly Guide. Construction works shall comply with applicable regulations. The manufacturer does not provide any specific additional recommendations.

This declaration of performance is issued under the sole responsibility of the manufacturer.

In Bratislava, 27.04.2026

Bjorn Kierulf, CEO

Appendices

The following tables are part of this Declaration of Performance and contain detailed data on product performance according to SK TP – 25/0007.

TABLE 1 – Mechanical resistance of EcoCocon straw panels (load applied on one side of the wall)

Panel type	Characteristic vertical load (kN/m)	Load combinations		Instantaneous shear load (kN/m)
		Short-term horizontal load (kN/m²)	Medium-term vertical load (kN/m)	
EcoCocon straw panel, type P (standard)	18.2	0.8	18.2	-
		1.2	17.1	
		1.6	13.4	
EcoCocon straw panel, type B (braced)	18.2	0.8	18.2	1.4
		1.2	17.1	
		1.6	13.4	

TABLE 2 – Permissible deviations

Dimensions, squareness, flatness	Permissible deviation	Note
Panel height	± 2 mm	-
Panel width	± 2 mm	-
Panel thickness	± 2 mm	-
Squareness of panel	± 5 mm	Diagonal measurement
Flatness of surfaces	± 2 mm / 2 m	-
Structural timber and KVH beams	According to STN EN 336 tolerance class 1	-

TABLE 3 – Reaction to fire of EcoCocon straw panels

EcoCocon straw panel composition	Reaction to fire classification	Extended application
Straw panel (without additional layers) - Timber frame (C 24) filled with compressed straw	E	-
Straw panel with 4.8 mm wood fibre board strips covering the timber structure Layer on the fire-exposed side: gypsum board, 12.5 mm, taped and jointed	B-s1, d0	Straw panel thickness including straw insulation ≥ 180 mm Gypsum board thickness ≥ 12.5 mm
Straw panel with 4.8 mm wood fibre board strips covering the timber structure Layer on the fire-exposed side: gypsum plaster, 25 mm thick, mass per unit area: 36 kg/m²	B-s1, d0	Thickness of compressed straw insulation ≥ 170 mm
Straw panel with 4.8 mm wood fibre board strips covering the timber structure Layer on the fire-exposed side: wood fibre board 60 mm (density 270 kg/m³) + reinforcing mesh + adhesion primer + render Baumit NanoporTop 2 mm	B-s1, d0	Straw panel thickness including straw insulation ≥ 160 mm Any unpainted mineral render ≥ 2 mm may be used

Straw panel with 4.8 mm wood fibre board strips covering the timber structure Layer on the fire-exposed side: clay plaster, 3 layers + reinforcing mesh, total thickness 25 mm + white clay finish plaster, 2 mm (density 1600 kg/m³)	B-s1, d0	Panel thickness including straw insulation ≥ 170 mm

TABLE 4 – Fire resistance

Load-bearing wall construction	Wall surface treatment	Fire resistance classification
EcoCocon straw panels 250 mm thick	Variant A: Exterior side: breather membrane, fastened to the studs with plywood strips (6x45) mm and screws (4.5x50) with washer head TX20 Interior side: without surface treatment	Fire on the interior side without surface layer: RE 45 / REI 45 / REW 45
	Variant B: Exterior side: breather membrane, fastened to the studs with plywood strips Wood fibre board with tongue and groove, density 265 kg/m³. Interior side: clay plaster, min. 20 mm, reinforced with glass textile mesh and fine clay plaster, 5 mm	Fire on interior side covered with clay plaster: RE 120 / REI 120 / REW 120
		Fire on exterior side covered with wood fibre board (Steico Protect H): RE 120-ef / REI 120-ef / REW 120-ef
	Variant C: Exterior side: breather membrane FireStop A2, fastened to the studs with plywood strips Interior side: gypsum boards (H2), 12.5 mm, thin wood fibre strips are fixed to the studs to level the surface below	Fire on exterior side covered with breather membrane FireStop A2: RE 90-ef / REI 90-ef / REW 90-ef
	Variant D: Exterior side: breather membrane fastened to the studs with plywood strips Interior side: gypsum boards (H2), 12.5 mm, thin wood fibre strips are fixed to the studs to level the surface below	Fire on interior side covered with gypsum board, 12.5 mm (Knauf KGBi H2): RE 30 / REI 45 / REW 30
	Variant E: Exterior side: breather membrane fastened to the studs with plywood strips Interior side: gypsum fibre board, 12.5 mm, thin wood fibre strips are fixed to the studs to level the surface below	Fire on interior side covered with gypsum fibre board 12.5 mm (Fermacell): RE 30 / REI 45 / REW 30
	Variant F: Exterior side: breather membrane fastened to the studs with plywood strips Interior side: gypsum plaster in 2 layers, total thickness 25 mm	Fire on interior side covered with gypsum plaster Knauf MP75: RE 90 / REI 90 / REW 90
	Variant G: Exterior side: breather membrane fastened to the studs with plywood strips + straw boards VestaEco PROTECT (60 mm, 180 kg/m³) with tongue and groove Interior side: gypsum fibre board, 12.5 mm, thin wood fibre strips are fixed to the studs to level the surface below	Fire on exterior side covered with straw boards VestaEco PROTECT: RE 90-ef / REI 90-ef / REW 90-ef

TABLE 5 – Impact resistance of EcoCocon straw panels

Panel	Impact points and drop height	Impact damage
EcoCocon straw panels with surface finish, (subject to impact): - Base coat clay plaster 2 layers min. 25 mm, reinforced with glass textile mesh - Fine clay plaster, 5 mm thick	Steel ball, mass 500 g; Drop height: 408 mm	Damage to surface layer
	Steel ball, mass 1000 g; Drop height: 1020 mm	Damage to surface layer; glass textile mesh visible

TABLE 6 – Airborne sound insulation of EcoCocon straw panels

EcoCocon panel wall buildup	Rw (C; Ctr) (dB)
thickness 300 mm without surface finish	26 (-1; -4)
thickness 300 mm, interior: 2x gypsum board 12.5 mm; exterior: breather membrane + 2x gypsum board, 12.5 mm (standard screws)	52 (-1; -4)
thickness 300 mm, interior: 2x gypsum board 12.5 mm; exterior: breather membrane + 2x gypsum board, 12.5 mm (fixed using Ewes sound fastener screws)	65 (-2; -7)
thickness 300 mm, interior: wood fibre board 60 mm (265 kg/m³) STEICO protect H + clay plaster 25 mm; exterior: wood fibre board 60 mm + clay plaster 25 mm	61 (-2; -9)
thickness 400 mm, interior: clay plaster, 2 layers, min. 25 mm (glass fibre mesh) + fine clay plaster 5 mm; exterior: wood fibre board 60 mm STEICO Protect H (265 kg/m³)	54 (-1; -3;)
thickness 300 mm, interior: gypsum fibreboard 12.5 mm (Fermacell, 1 150 kg/m³); exterior: breather membrane + wood fibre board 60 mm STEICO protect H	53 (-3; -10)
thickness 300 mm, interior: 2x gypsum fibreboard 12.5 mm (Fermacell); exterior: breather membrane + 2x gypsum fibre board 12.5 mm	52 (-2; -5)

TABLE 7 – Identification parameters and technical specifications of materials and structural components

Material / structural component	Technical specification	Class/type	λ (W/m·K)	μ	Fire reaction class
Structural timber with rectangular cross-section	STN 49 1531, STN EN 14081-1, STN EN 338	min. C 24	0.180	50	D-s2, d0 Commission Decision 2003/43/EC[1)]
Structural solid timber with finger joints (KVH beams)	STN EN 15497, STN EN 338	min. C 24	0.180	50	D-s2, d0 Commission Decision 2003/43/EC[1)]
Wood screws	ETA-11/0024 and according to manufacturer's specification	–	–	–	No performance determined
Joining nails	According to manufacturer's specification	–	–	–	No performance determined
Other mechanical fasteners	According to manufacturer's specification	–	–	–	No performance determined
Plywood	STN EN 13986	Formaldehyde emission class: E1	0.170[2)]	50[2)]	D-s2, d0 Commission Decision 2003/43/EC[1)]
Compressed straw thermal insulation	According to manufacturer's specification	Density (98–127) kg/m³	0.053–0.060[3)]	3.3[4)]	E STN EN 13501-1

[1)] Supplemented by Commission Decisions 2003/593/EC, 2006/673/EC and 2007/348/EC.
[2)] λ declared by the manufacturer in the Declaration of Performance.
[3)] λ of compressed straw declared by the manufacturer (based on testing).
[4)] μ of compressed straw declared by the manufacturer (based on testing).

TABLE 8 – Natural durability of wood (STN EN 350)

Wood species	Fungi	Hylotrupes	Anobium	Termites
Norway spruce (Picea abies)	4	S	S	S

TABLE 9 – Use classes for wood (STN EN 335)

Component type	Use class
Load-bearing structure of external wall – external surface	2
Load-bearing structure of internal wall Load-bearing structure of external wall – internal surface Load-bearing roof structure (interior side) Load-bearing floor structure	1