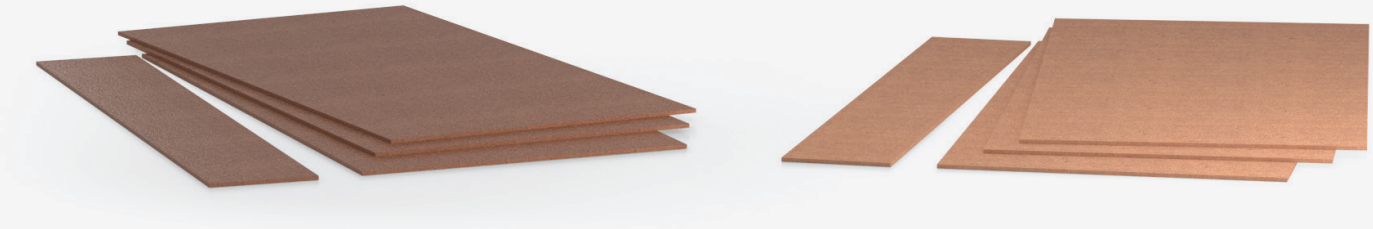
CORK

Ecological panel for acoustic insulation

Natural cork compact agglomerate

ECO



PACKAGING

Marketed in 50x100 cm panels easily shaped in strips; usable as profile for walls or layer for floors

CERTIFIED

Natural cork agglomerate tested by the Industrial research centre of the University of Bologna in accordance with EN ISO 10848

ECOLOGICAL

Natural VOC-free cork panel; compact and waterproof element, also usable on concrete and masonry

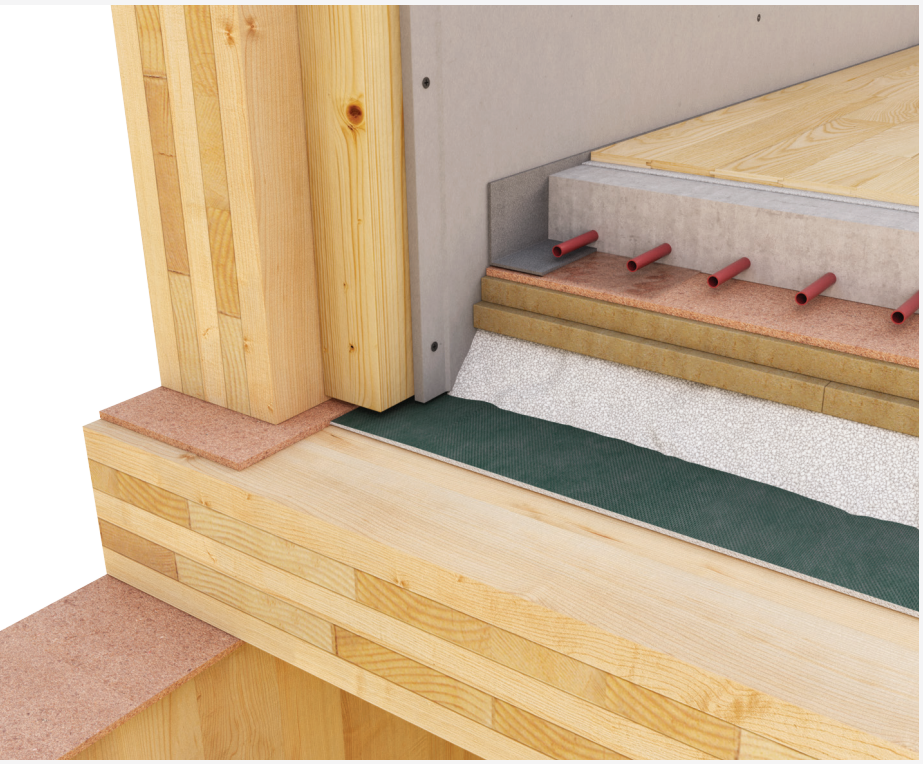
GREEN BUILDING

Available in two versions: SOFT as substrate for floors, HARD as support for walls. Ideal for environmentally-friendly buildings

APPLICATIONS

Mechanical desolidarisation of wood-wood, wood-concrete and wood-steel connections

- Xlam (Cross Laminated Timber)
- platform frame
- LVL structure
- Blockhaus



SUSTAINABLE BUILDING

Significantly reduces the transmission of airborne and structural noise
Natural VOC-free cork is ideal for structures requiring minimisation of the environmental impact during construction

ENVIRONMENT

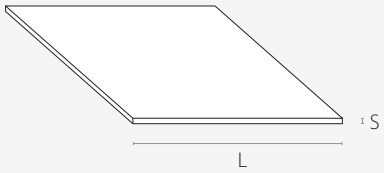
Cork and wood are the natural choice for the acoustic insulation of passive buildings. Cork to protect wood: perfect combination between eco-friendly materials for excellent living comfort

LIVING COMFORT

The compactness of the cork agglomerate makes it fully waterproof, thus it can be used both on cement and masonry for protection against capillary rise and as a wall barrier

CODES AND DIMENSIONS

CORK



CODE	version	length	width (L)	thickness (S)	pcs/pack.
D82511	**SOFT**	1 m	50 cm	5 mm	1
D82512	**HARD**	1 m	50 cm	5 mm	1

MATERIAL AND DURABILITY

Cork agglomerate resistant to moisture and ageing, including under load.
CORK SOFT: version with lower density and larger granules.
CORK HARD: high density and smaller granules.

TECHNICAL SPECIFICATIONS

PROPERTY	STANDARD	UNIT OF MEASURE	D82511	D82512
Version			**SOFT**	**HARD**
Specific weight / density	-	kg/m^3	approx. 410	approx. 850
Static permanent load	-	N/mm^2	0.2	1.0
Permissible load	UNI 29052	N/mm^2	0.75	6.5
Dynamic stiffness s' **	-	MN/m^3	246	1211
Max processing temperature	-	°C	> 100	> 100
Thermal conductivity	EN 13501-1	W/mK	0.091	0.091
Reaction to fire	EN 13501-1	class	E	E

The complete reports of the mechanical-acoustic characterisation of the material are available from the Rothoblaas technical department

** s' = s' (t) the air contribution is not calculated because the product is infinitely airtight (extremely high flow resistivity values)

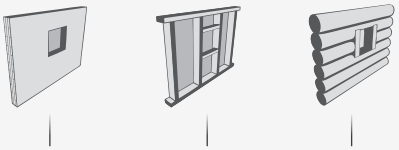
TABLE OF USE

			APPLICABLE LINEAR LOAD* [kN/m]		APPLICABLE COMPRESSION [N/mm^2]		LOWERING [mm]	
CODE	WIDTH OF STRIP [mm]	TYPE	from	to	from	to	min	max
D82511	100*	**SOFT**	20	75	0.20	0.75	0.25	1
D82512	100*	**HARD**	75	300	0.75	3.00	0.25	1

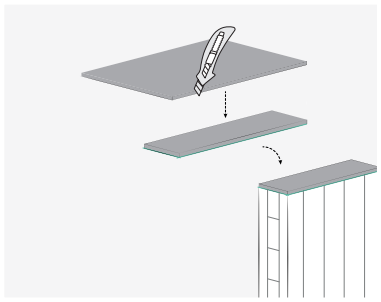
* The product is supplied in slabs. A standard width of 100 mm is shown as it is the most common case. For different widths different data can be deduced starting from "Applicable compression"
For further information on use and calculation, go to page 31

APPLICATION

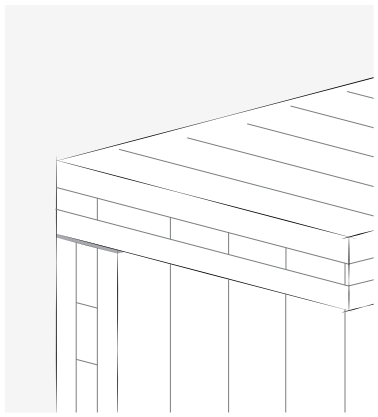
Separating resilient layer for connections between the structural elements.



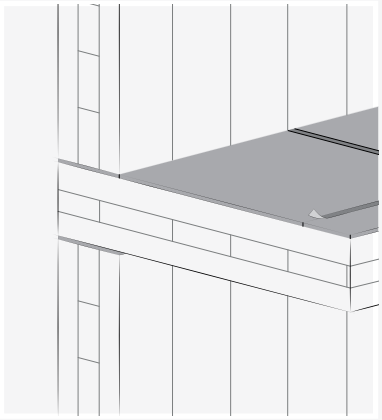
APPLICATION TIPS



1) Cut the panel to the desired width and place it on the top section of the wall. For 100 mm walls, cut the panel in 5 equal sections



2) Mechanically fasten with staples every 40/60 cm and position the floor. Repeat the operations from step 1



3) If used as a substrate for the floor, position the panels adjacently and tape with Rothoblaas acrylic tapes

ADDITIONAL PRODUCTS

See **page 19** (additional products **XYLOFON**)
For a comprehensive overview of the available equipment, refer to the catalogue "Equipment for wood constructions"

EXAMPLE OF CALCULATION OF THE NORMALISED FINISHED FLOOR LEVEL FOR LIGHTWEIGHT WOOD FLOORS

Lightweight wood floor in which the only significant side transmission is between the floor and lightweight wood walls from the receiving room below.

WOOD FLOOR COMPOSITION

- dry floating system
- OSB layer (18 mm)
- 45x220 mm joists spaced by 40 cm
- cavity filled with 10 mm of rock wool
- double plasterboard slab (13+13 mm) fastened to a metal structure

STRATIGRAPHY OF THE SIDE WALLS

- plasterboard slab (13 mm)
- OSB layer (16 mm)
- frame structure (45 x 95 mm) with uprights spaced by 60 cm
- cavity filled with 10 cm of rock wool
- floor surface area 20 m² (**S**)
- joint length 4 m

FLOOR AND WALL ACOUSTIC PROPERTIES [1]:

$L_{n\,(500Hz)} = 97.0$ dB $R_{(500\,Hz)\,floor} = 22$ dB

$\Delta L_{i\,(500Hz)\,floating\,screed} = 19.0$ dB

$\Delta L_{i\,(500Hz)\,false\,ceiling} = 25.2$ dB

$R_{(500Hz)\,wall} = 28.9$ dB

$D_{vijn\,floor\,wall} = 18.0$ dB

CALCULATIONS

with $D_{v,n\,floor\,wall} = 18+3.3 \log {}^{f}/_{fk} = 18+3.3 \log {}^{500}/_{500} = 18$ dB with $f_k = 500$ Hz

$L_{nDd} = 97 - 19 - 25.2 = 52.8$ dB

$$L_{nDf} = L_{nji} - \Delta L_i + \frac{R_{floor} - R_{wall}}{2} - \Delta R_i - D_{vijn} - 10log\frac{S}{L_0\,L_{ij\,floor}} = 97 - 19 + \frac{22 - 28,9}{2} - 18 - 10log\frac{20}{4} = 49,6\ dB$$

$$L'_{n,w(500Hz)} = 10log\sum_{j=1}^{n} 10^{\frac{Lnij}{10}} = 10log\left(10^{\frac{L_{nDa}}{10}} + 10^{\frac{L_{nDf}}{10}}\right) = 10log\left(10^{\frac{52,8}{10}} + 10^{\frac{49,6}{10}}\right) = 54,5\ dB$$

[1]The values can be found in different databases or test reports provided by manufacturers. All calculations will be carried out by way of example at the frequency of 500Hz. The calculation must be carried out for all frequencies for third octave band between 100 and 3150 Hz, pursuant to Standard EN 12354-2.