

Acoustics

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Acoustics

By combining just three natural materials – wood, cement, and water – wood wool panels offer a unique solution for noise reduction in buildings. The most effective absorption can be achieved by adding a layer of mineral wool behind CEWOOD panels. They can be mounted with screws or used in suspended ceiling constructions.

In such multi-layer applications, CEWOOD panels will significantly lower sound reverberation time, increase acoustic comfort and improve speaker clarity in private and public spaces, such as apartments, private houses, educational institutions, offices, and conference halls. Also employees in technical use premises will benefit highly from reduced sound pressure of production machinery.

Natural and simple

For the creators of modern interiors CEWOOD wood wool panels provide a variety of benefits:

1. A comfortable acoustic environment can be achieved by using materials with a high level of sustainability and natural feel. The wide range of colours, wood wool widths and surface finishes inspire with all the possibilities. Furthermore, it is possible to achieve the necessary acoustic effect with less coverage thus leading to higher flexibility in ceiling and wall finishing.
2. Determine the best CEWOOD constructive solution and sound reflection time in the room, even before the start of construction work.
3. Significantly improve speech intelligibility and the duration of echo propagation in rooms, that way creating an acoustically pleasant and soothing indoor conditions.

Certified constructions

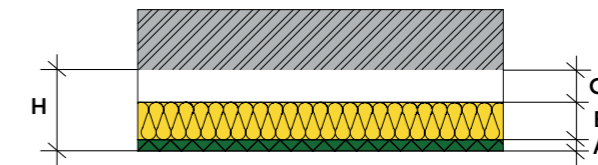
More than 20 different constructions with CEWOOD panels have proved their effectiveness in reverberation chamber tests and reached the highest absorption class A. It means that these constructions absorb 90-100% of sound waves on the surface.

In continuation, information is provided about all certified CEWOOD acoustic ceiling constructions so you can choose what fits your design vision, preferable ceiling height, technical requirements, and available budget.



Panels for mounting with screws

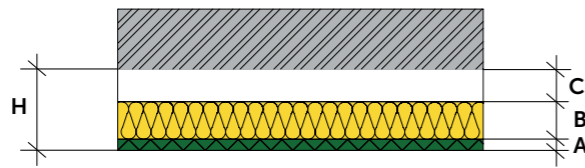
Mounting with screws onto the ceiling structure with an air gap



Panel thickness (mm)	Description	α_w	Class	Height, H (mm)	CEWOOD panel, A (mm)	Mineral wool, B (mm)	Air gap, C (mm)	Frequency						
								125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	
25	CEWOOD Panel 25 mm, mineral wool 40 mm, air gap 135 mm	●	1,00	A	200	25	40	135	0,55	0,95	1,00	1,00	0,95	1,00
	CEWOOD Panel 25 mm, mineral wool 50 mm, air gap 125 mm	●	1,00	A	200	25	50	125	0,50	1,00	1,00	1,00	0,95	1,00
	CEWOOD Panel 25 mm, mineral wool 40 mm, air gap 85 mm	●	1,00	A	150	25	40	85	0,45	0,95	1,00	1,00	0,95	1,00
	CEWOOD A2 Panel 25 mm, mineral wool 40 mm, air gap 85 mm	●	1,00	A	150	25	40	85	0,45	0,95	1,00	1,00	0,90	1,00
	CEWOOD Panel 25 mm, mineral wool 20 mm, air gap 180 mm	●	0,95	A	225	25	20	180	0,60	0,95	0,95	0,95	0,95	0,90
	CEWOOD Panel 25 mm, mineral wool 100 mm, air gap 75 mm	●	0,95	A	200	25	100	75	0,70	1,00	1,00	0,95	0,90	1,00
	CEWOOD A2 Panel 25 mm, mineral wool 100 mm, air gap 75 mm	●	0,95	A	200	25	100	75	0,70	1,00	1,00	0,90	0,90	1,00
	CEWOOD Panel 25 mm, mineral wool 30 mm, air gap 70 mm	●	0,90	A	125	25	30	70	0,35	0,70	1,00	0,90	0,80	0,90
	CEWOOD A2 Panel 25 mm, mineral wool 30 mm, air gap 70 mm	●	0,90	A	125	25	30	70	0,35	0,70	1,00	0,90	0,80	0,90
	CEWOOD Panel 25 mm, mineral wool 50 mm, air gap 10 mm	●	0,75	C	85	25	50	10	0,40	0,75	0,75	0,70	0,70	0,70

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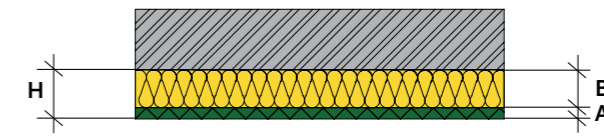
Mounting with screws onto the ceiling structure with an air gap



Panel thickness (mm)	Description	α_w	Class	Height, H (mm)	CEWOOD panel, A (mm)	Mineral wool, B (mm)	Air gap, C (mm)	Frequency						
								125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	
25	CEWOOD Panel 25 mm, mineral wool 20 mm, air gap 5 mm	●	0,75	C	50	25	20	5	0,15	0,45	0,90	1,00	0,90	0,95
	CEWOOD Panel 25 mm, mineral wool 100 mm, air gap 100 mm	●	0,70	C	225	25	100	100	0,80	0,70	0,65	0,70	0,75	0,70
	CEWOOD Panel 25 mm, mineral wool 50 mm, air gap 150 mm	●	0,65	C	225	25	50	150	0,50	0,65	0,55	0,70	0,75	0,70
	CEWOOD A2 Panel 25 mm, mineral wool 0 mm, air gap 100 mm		0,60	C	125	25	0	100	0,15	0,35	0,65	0,60	0,65	0,80
	CEWOOD Panel 25 mm, mineral wool 0 mm, air gap 100 mm		0,60	C	125	25	0	100	0,15	0,35	0,65	0,60	0,65	0,80
	CEWOOD Panel 25 mm, mineral wool 0 mm, air gap 60 mm		0,55	D	85	25	0	60	0,10	0,30	0,55	0,60	0,50	0,60
	CEWOOD Panel 25 mm, mineral wool 0 mm, air gap 25 mm		0,50	D	50	25	0	25	0,10	0,25	0,45	0,85	0,70	0,80
	CEWOOD Panel 25 mm, mineral wool 0 mm, air gap 50 mm		0,50	D	75	25	0	50	0,10	0,25	0,55	0,65	0,55	0,65
35	CEWOOD Panel 35 mm, mineral wool 30 mm, air gap 70 mm	●	0,90	A	135	35	30	70	0,35	0,70	1,00	0,90	0,85	0,90
	CEWOOD Panel 35 mm, mineral wool 0 mm, air gap 100 mm		0,65	C	135	35	0	100	0,15	0,35	0,70	0,70	0,70	0,85

● – mineral wool ~70 kg/m³ ● – mineral wool ~30 kg/m³

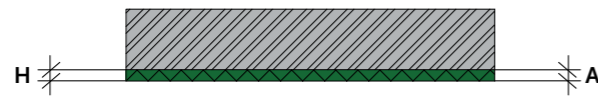
Mounting with screws onto the ceiling structure without an air gap



Panel thickness (mm)	Description	α_w	Class	Height, H (mm)	CEWOOD panel, A (mm)	Mineral wool, B (mm)	Air gap, C (mm)	Frequency						
								125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	
25	CEWOOD Panel 25 mm, mineral wool 50 mm	●	1,00	A	75	25	50	0	0,30	0,85	1,00	0,95	0,95	1,00
	CEWOOD Panel 25 mm, mineral wool 100 mm	●	1,00	A	125	25	100	0	0,60	1,00	1,00	1,00	0,90	1,00
	CEWOOD Panel 25 mm, mineral wool 40 mm	●	0,95	A	65	25	40	0	0,25	0,75	1,00	1,00	0,90	1,00
	CEWOOD A2 Panel 25 mm, mineral wool 40 mm	●	0,95	A	65	25	40	0	0,25	0,80	1,00	0,95	0,85	1,00
	CEWOOD A2 Panel 25 mm, mineral wool 100 mm	●	0,95	A	125	25	100	0	0,65	1,00	1,00	0,95	0,90	1,00
	CEWOOD Panel 25 mm, mineral wool 50 mm	●	0,90	A	75	25	50	0	0,35	0,70	1,00	0,95	0,85	0,95
	CEWOOD Panel 25 mm, mineral wool 30 mm	●	0,85	B	55	25	30	0	0,25	0,55	1,00	0,95	0,85	0,85
	CEWOOD Panel 25 mm, mineral wool 20 mm	●	0,75	C	45	25	20	0	0,15	0,45	0,95	1,00	0,90	0,95
	35	CEWOOD Panel 35 mm, mineral wool 40 mm	●	0,95	A	75	35	40	0	0,30	0,80	1,00	0,95	0,90
CEWOOD BARCODE 35 mm, mineral wool 40 mm		●	0,85	B	75	35	40	0	0,25	0,55	1,00	0,95	0,85	0,85

● – mineral wool ~70 kg/m³ ● – mineral wool ~30 kg/m³

Direct mounting

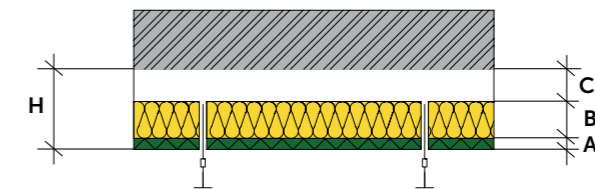


Panel thickness (mm)	Description	α_w	Class	Height, H (mm)	CEWOOD panel, A (mm)	Mineral wool, B (mm)	Air gap, C (mm)	Frequency					
								125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz
15	CEWOOD Panel 15 mm	0,30	D	15	15	0	0	0,05	0,10	0,20	0,35	0,60	0,85
	CEWOOD A2 Panel 15 mm	0,30	D	15	15	0	0	0,05	0,10	0,20	0,35	0,65	0,90
25	CEWOOD Panel 25 mm	0,40	D	25	25	0	0	0,05	0,20	0,35	0,55	0,90	0,75
	CEWOOD A2 Panel 25 mm	0,35	D	25	25	0	0	0,05	0,15	0,30	0,55	0,90	0,75
	CEWOOD BARCODE 25 mm	0,35	D	25	25	0	0	0,10	0,15	0,30	0,55	0,90	0,80
35	CEWOOD Panel 35 mm	0,50	D	35	35	0	0	0,15	0,25	0,45	0,80	0,90	0,85
	CEWOOD BARCODE 35 mm	0,45	D	35	35	0	0	0,10	0,20	0,40	0,70	0,80	0,85



Panels for mounting in suspended ceilings

Mounting in suspended ceiling structures with an air gap



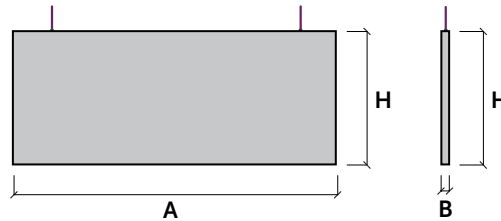
Panel thickness (mm)	Description	α_w	Class	Height, H (mm)	CEWOOD panel, A (mm)	Mineral wool, B (mm)	Air gap, C (mm)	Frequency					
								125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz
15	CEWOOD Panel 15 mm, mineral wool 20 mm, air gap 180 mm	● 0,90	A	215	15	20	180	0,35	0,70	0,90	0,90	0,85	0,90
	CEWOOD Panel 15 mm, mineral wool 50 mm, air gap 150 mm	● 0,90	A	215	15	50	150	0,50	0,80	0,95	0,90	0,85	0,90
	CEWOOD Panel 15 mm, mineral wool 0 mm, air gap 200 mm	0,60	C	215	15	0	200	0,20	0,45	0,55	0,55	0,65	0,80
25	CEWOOD Panel 25 mm, mineral wool 50 mm, air gap 125 mm	● 1,00	A	200	25	50	125	0,50	1,00	1,00	1,00	0,95	1,00
	CEWOOD Panel 25 mm, mineral wool 40 mm, air gap 135 mm	● 1,00	A	200	25	40	135	0,55	0,95	1,00	1,00	0,95	1,00
	CEWOOD Panel 25 mm, mineral wool 40 mm, air gap 85 mm	● 1,00	A	150	25	40	85	0,45	0,95	1,00	1,00	0,95	1,00
	CEWOOD A2 Panel 25 mm, mineral wool 40 mm, air gap 85 mm	● 1,00	A	150	25	40	85	0,45	0,95	1,00	1,00	0,90	1,00
	CEWOOD Panel 25 mm, mineral wool 100 mm, air gap 75 mm	● 0,95	A	200	25	100	75	0,70	1,00	1,00	0,95	0,90	1,00
	CEWOOD A2 Panel 25 mm, mineral wool 100 mm, air gap 75 mm	● 0,95	A	200	25	100	75	0,70	1,00	1,00	0,90	0,90	1,00
	CEWOOD Panel 25 mm, mineral wool 20 mm, air gap 180 mm	● 0,90	A	225	25	20	180	0,35	0,70	0,90	0,90	0,85	0,90

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Panel thickness (mm)	Description	α_w	Class	Height, H (mm)	CEWOOD panel, A (mm)	Mineral wool, B (mm)	Air gap, C (mm)	Frequency					
								125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz
25	CEWOOD Panel 25 mm, mineral wool 50 mm, air gap 150 mm	● 0,90	A	225	25	50	150	0,55	0,80	0,95	0,90	0,85	0,95
	CEWOOD Panel 25 mm, mineral wool 0 mm, air gap 200 mm	0,60	C	225	25	0	200	0,25	0,45	0,55	0,55	0,70	0,85
35	CEWOOD Panel 35 mm, mineral wool 20 mm, air gap 180 mm	● 0,90	A	235	35	20	180	0,45	0,70	0,90	0,85	0,85	1,00
	CEWOOD Panel 35 mm, mineral wool 50 mm, air gap 150 mm	● 0,90	A	235	35	50	150	0,55	0,85	0,95	0,85	0,85	0,95
	CEWOOD Panel 35 mm, mineral wool 0 mm, air gap 200 mm	0,65	C	235	35	0	200	0,30	0,50	0,60	0,60	0,75	0,90

● – mineral wool ~70 kg/m³ ● – mineral wool ~30 kg/m³

BAFFLE panels



BAFFLE thickness (mm)	Description	α_w	Class	Height, H (mm)	CEWOOD panel, A (mm)	Thickness, B (mm)	Area (m ²)	Frequency					
								125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz
30	CEWOOD BAFFLE 1200x600x30 mm	-	-	600	1200	30	1,44	0,16	0,26	0,37	0,49	0,70	1,10
	CEWOOD BAFFLE 1200x300x30 mm	-	-	300	1200	30	0,72	0,08	0,13	0,19	0,27	0,38	0,61
50	CEWOOD BAFFLE 1200x600x50 mm	-	-	600	1200	50	1,44	0,21	0,35	0,50	0,74	1,10	1,20
	CEWOOD BAFFLE 1200x300x50 mm	-	-	300	1200	50	0,72	0,10	0,14	0,20	0,30	0,49	0,64