

Noise Measurements Results at renovation of wood beam ceilings at acoustic Laboratory IFT Rosenheim

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Noise Measurements Results

Many of old houses in Germany have wood beam ceilings. When the renovation of these ceilings take place, they have to accomplish the values of insulation of airborne and impact noise insulation required for house ceilings by the german Norm DIN 4109.

The German Society for Wood Research (DGFH in german) decided to open a project where several different systems of renovated wood beam ceilings would be measured.

The DGFH called different product manufacturers who covered whole components to be found in state-to-the-art suspended ceilings. **AMC Mecanocaucho** was as well kindly invited to test its ceiling **Akustik+Sylomer**® suspensions in combination with other components.

AMC tested product was **Akustik + Sylomer 30 Typ B** (Ref.AMC: 23534), specially designed for 60 mm wide profiles. Our products were assembled with 2 x 12,5 mm gypsum boards.

The IFT Centre for acoustics Rosenheim (LSW) was assigned to carry on these measurements. During 2007 several measurements were done with the different systems.

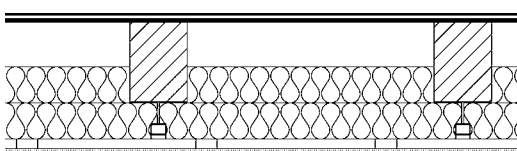
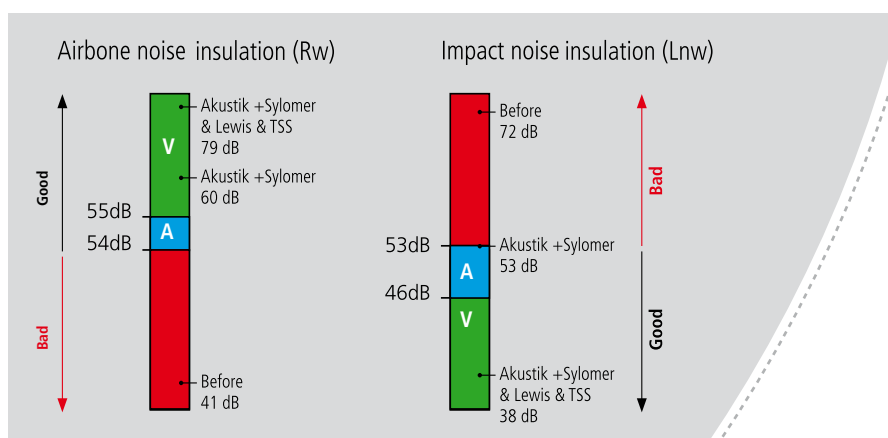
The measurement of the original non renovated ceiling showed following: Insulation of airborne noise ($R_w=41$ dB) was 13 dB below the lowest permitted german Norm (A) and the impact noise insulation ($L_{nw}=72$ dB) 19 dB higher than the maximal permitted german Norm (A).

Just the implementation of the renovated ceiling with **Akustik+Sylomer**® suspensions helped to achieve the highest V Class for the insulation of airborne noise ($R_w=60$ dB) and the A Class for the insulation of impact noise ($L_w=53$ dB).

The highest class V was fully achieved by the ceiling with **Akustik+Sylomer**® suspensions in combination with Lewis® plates and TSS. ($R_w=79$ dB and $L_{nw}=38$ dB).



Renovation of wood beam ceilings with Akustik+Sylomer suspension at Laboratory IFT Rosenheim.



Renovated wood beam ceiling

German Norm for insulation of airborne and impact noise in residential buildings DIN 4109

Classification	A	V (best)
$R'_w \geq$	54 dB	55 dB
$L'_{nw} \leq$	53 dB	46 dB

Full results of the tests can be downloaded on <http://www.akustik.com/ingles/7-rosenheim.asp>



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