



## Impedance tube

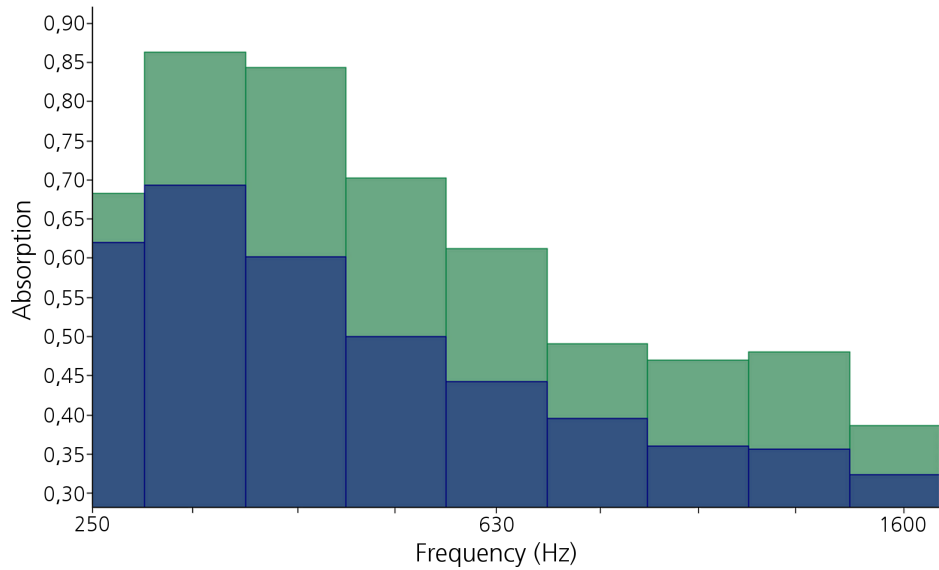
Measured parameters	Sound reflection factor, sound absorption coefficient, sound insulation, transmission coefficient, complex impedance, complex wave number, impedance ratio
Measurement objects	Cylindrical samples of arbitrary materials, e.g. boards, foams, fabrics, lattice, foils (samples can optionally be prepared by IDMT) diameter 40 mm/100 mm up to a thickness of 260 mm (absorption) resp. 80 mm (transmission)
Specifications	Frequency range: 50 Hz bis 1900 Hz (100 mm), 100 Hz bis 4400 Hz (40 mm)
DIN standards	DIN EN ISO 10534-2, DIN EN ISO 11654, DIN EN ISO 717-1
Measurement equipment	Impedance tube AcoustiTube AFD 1000/AFD 1200 with analysis software AFD 1001/AFD 1201 Akustik Forschung Dresden, 4 measurement microphones Microtech Gefell M360, speaker amplifier APART-Audio MBR-150, acoustic measurement system Soundbook Sinus Messtechnik

## Measurement examples

Sound absorption coefficient measurement of a floor panel with and without textile covering

green: sound absorption coefficient  
100 mm floor panel with textile covering  
1/3-octave

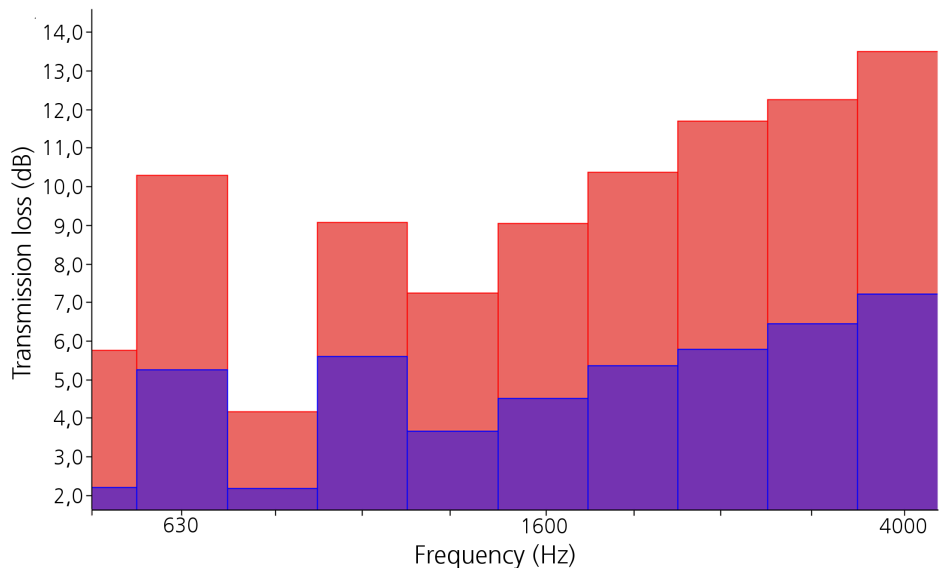
blue: sound absorption coefficient  
100 mm floor panel  
1/3-octave



Transmission loss measurement of an acoustic panel (perforated sheet with mineral wool) with and without synthetic fibre covering

red: transmission loss  
1 mm perforated sheet with 40 mm mineral wool and 10 mm high density synthetic fibre covering  
1/3-octave

blue: transmission loss  
1 mm perforated sheet with 40 mm mineral wool  
1/3-octave



**Fraunhofer Institute for  
Digital Media Technology IDMT**

Ehrenbergstr. 31  
98693 Ilmenau  
Germany

Contact Person

Dr.-Ing. Daniel Beer  
Phone +49 3677 467-385  
daniel.beer@idmt.fraunhofer.de  
[www.idmt.fraunhofer.de](http://www.idmt.fraunhofer.de)