

CORK UNDERLAYS and Sound Attenuation

Typical Sound Attenuation

based on manufacturer's tests

NOT TO BE RELIED ON FOR DESIGN

Small variations in details can cause

large changes in performance

IMPACT
NOISE
REDUCTION
EFFECT

NOISE
TRANSMISSION
REDUCTION
EFFECT

23dB	Wood Pre-coated T&G Flooring with silicon seal in joints RUBERISED GLUE 6mm Thick Cork Acoustic Underlay RUBERISED GLUE	24dB
27dB	150mm thick concrete	27dB
NOT TO SCALE		

Cork comes in many forms and not all cork performs the same. The specification for cork underlays we supply is below and we take no responsibility for floors installed using other products.

Density	200 Kg/m ³	
Compression	20-50%	Recovery; up to 95%
Longitudinal Tensile Strength		414 kPa
Formaldehyde Emission		E0 [no emission]

Impact Insulation - Impact noise is generated when one body strikes another, such as footsteps, hammering, and objects falling. Impact noise travels through structures with little loss of energy if the structure is continuous and rigid. Transmission of impact noise can be controlled by isolation. An intuitive guide – good heat insulation products generally provide impact noise isolation.

Sound Transmission Insulation refers to the amount of audible noise such as music, voices and noise not related to impact noise, that is transmitted. Audible noise is most easily transmitted by air, so intuitively, the eliminating air pathways between rooms will reduce the sound transmitted. Audible sound is absorbed most easily by a combination of the elasticity/energy absorbing capacity of the material and the total mass.

Noise Reflection is a third factor to consider when examining acoustic performance. Hard and

smooth/flat surfaces in a room generally reflect more noise and soft furnishings and floor coverings absorb noise energy.

When considering noises in domestic applications most attention is given to the transmission to other rooms. There is a balance to be achieved between sound transmission insulation which relies on eliminating air pathways, elasticity and mass and impact transmission which relies on isolation.

Using a layer of cork provides both isolation as well as energy absorption, and when associated with hard topplings and hard supporting structures [that provide mass] can be the best noise insulation possible.

Noise is measured in DECIBELS [dB]. The attenuation data indicated the reduction from one room to another that may be achieved if the noise path is ONLY THROUGH THE FLOOR. To give a feel for dB the following indications are provided.

Typical Sound	dB
Jet takeoff (200 ft)	120
Subway Train	100
Heavy Truck (15 Meter), City Traffic	90
Noisy Restaurant, Business Office	70
Conversation (1m)	60
Light Traffic (50 Meter), Average Home	50
Living Room, Quiet Office	40