

Danpal Acoustics performances

- The acoustic insulation property of a building material is defined by an index representing the difference between internal and external noise levels.
- Until recently, glazing specification has been based on a single performance figure, without taking all the characteristics of the noise source into account, which can sometimes lead to unwise investment and over-specification
- For this reason a common index has been created: R_w (C; C_{tr}).
- The weighted sound reduction index, R_w , is a rating method given in EN ISO 717-1.
- The R_w value is completed by two C-terms which are applied to two models of the noise spectra for various types of noise.
- These two terms, $R_w + C$ and $R_w + C_{tr}$, also include the frequency range 100 – 3150 Hz but can be extended to 50 – 5000 Hz
- The correction C_{tr} should be used when the source of the noise in question, is road traffic. For outside background noise, it is better to use the correction C.
both corrections are generally negative and are deducted from the R_w to determine the noise reduction properties of a building element.

Product name	R_w (C,C _{tr}) dB
DP608 PC connector	16(0,-2)
DP608 ALU connector	18(0,-2)
DP610 PC connector	20(0,-1)
DP610 ALU connector	19(0,-1)
DP616 PC connector	20(0,-1)
DP616 ALU connector	21(0,-1)
DP1040-16PC connector	22(0,-2)
DP1040-16 ALU connector	21(0,-2)
DP10+40mm air+DP8 with polycarb. Connector	21(0,-3)
DP10+40mmair+DP10 with polycarb. Connector	23(0,-3)

DP16+40mm air+DP8 with polycarb. Connector	24(0,-4)
DP10+40mm air+DP16 with polycarb. Connector	26(0,-3)
DP16+40mm air+DP16 with polycarb. Connector	26(0,-3)
DP16+200mm air+DP16 with polycarb. Connector	27(0,-3)
DP10+40mm air+DP16 with polycarb. Connector	26(0,-3)
22 mm	23(-1,-1)
K7 Danpatherm	26(-1,-5)
K12 Danpatherm	29(-2,-7)
K12 acoustic (2x4 mm)	32(-1,-5)
K12 acoustic (3x4 mm)	37(-1,-5)
K12 acoustic (4x4 mm)	41(-2,-7)
Controlite close louvers	19(0,-1)
Controlite open louvers	20(0, -1)
4 mm	26
35 mm	22 (-1;-2) dB
50 mm	21 (-1;-1)

Using 80mm connector for better acoustic properties than this

Rain noise: measurement standard

- Goal : Characterization of roof and roof element regarding rainfall noise
- The ISO Standard for the measurement of rain noise in the laboratory is ISO 140-18
- The draft rain noise standard describes two types of artificial rainfall that can be used: Intense and Heavy. In CSTB the heavy rainfall is used

Table 1 Parameters for artificial rainfall from ISO/CD 140-18 (ISO TC43/SC2 N 0751)^[3]

Rainfall type	Rainfall rate (mm/h)	Volume median drop diameter (mm)	Fall velocity (m/s)
Intense	15	2	4
Heavy	40	5	7

Rain noise

Product name	Li dB	Lia dB
Danpalon 16	70	68
Double DP 16 + AIR 67mm + H ALU connector	64	60
Controlite Single		72
Controlite double		63
Double DP 10 + glass wool 50mm + HPC connector		63
DP 22 mm		68

L_I - Sound Intensity Level in (dB) Sound intensity is the flow of sound power per unit area in a given direction, measured over an area perpendicular to the direction of flow, and is measured in Watts per metre squared (W/m^2).

L_{IA} - A-weighted Sound Intensity Level in (dB) This is the Sound Intensity Level 'A-weighted' to reflect how we actually hear noise.