A partition is defined as an internal dividing, and non-load bearing wall. As well as providing a division for work spaces, and visual privacy between areas, partitions can also be designed to limit the transmission of sound between work areas.

PERFORMANCE REQUIREMENTS

BS 5234-1:1992 [1] provides guidance on the design and installation of partitions, including recommendations for the requirements for acoustic performance, based on laboratory measurements.

Table 1 - R_w (dB) Requirements for Partitions between Rooms

Location	Suggested R_w (dB)
Habitable Rooms (Dwellings)	30
Quiet Rooms (Dwellings)	44
Enclosing Bathrooms in Dwellings	38
General Offices	38
Private Offices	44
Executive Offices	50
Hotel Rooms	55
Music Practice Rooms	60
Cinemas	60

Reference is also made to BS 8233:1997 (replaced with BS 8233:2014 [2]), which provides a matrix for the recommended weighted standardised level difference ($D_{nt,w}$), which is the whole partition performance on site.

Table 2 - $D_{nT,w}$ (dB) Requirements for Partitions between Rooms

Privacy Requirement	Source Room Activity	Receiving Room Sensitivity		
		Low	Medium	High
Confidential	Very High	47	52	57
	High	47	47	52
	Typical	47	47	47
	Low	42	42	47
Moderate	Very High	47	52	57
	High	37	42	47
	Typical	37	37	42
	Low	---	---	37
Not Private	Very High	47	52	57
	High	37	42	47
	Typical	---	37	42
	Low	---	---	37

GLASS PERFORMANCE

Glazed partitions will often incorporate single or double glazed configurations, depending on the acoustic requirements. Example performance values, as per Table 3, would typically give an indication only. For most conventional glazing applications, specifically windows and facades, a set dimension sample would be measured, and this would likely not equate to the sizes used in partition applications, which are generally full height.

Table 3 - Acoustic performance (R_w) for various glass configurations

Glass Configuration	Attenuation, R_w (dB)
10 mm SGG PLANICLEAR	35
12 mm SGG PLANICLEAR	36
10.8 mm SGG STADIP SILENCE	38
12.8 mm SGG STADIP SILENCE	39
16.8 mm SGG STADIP SILENCE	41
12.8 mm SGG STADIP SILENCE 15 mm Cavity 12.8 mm SGG STADIP SILENCE	47
16.8 mm SGG STADIP SILENCE 15 mm Cavity 16.8 mm SGG STADIP SILENCE	49

GLAZING INSTALLATION

In addition, due to variations between partition designs, specifically with regards how the glass is retained and installed into the surrounding structure, measured data for the specific partition system would typically be required. Installation may be influenced by flanking transmission through the partition structure and surrounding building elements, and indirect transmission through building elements such as vents and ducts. This would need to be considered alongside the direct transmission through the partition infill. The various transmission paths are illustrated in Figure 1.

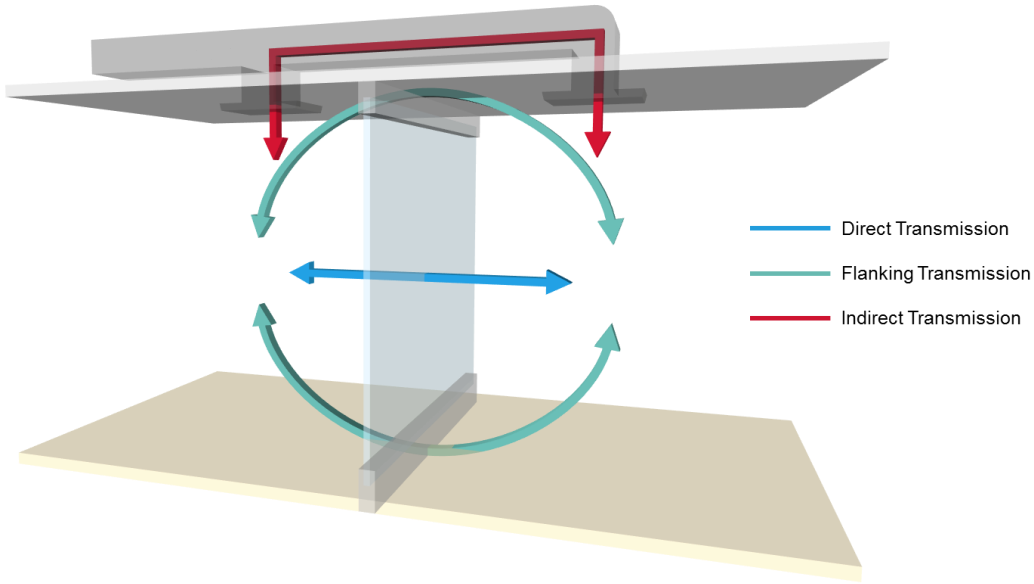

Figure 1 - Illustration of sound transmission paths through a partition

REFERENCES

[1] British Standards Institute, *BS 5234-1:1992 - Partitions (including matching linings). Code of practice for design and installation,* BSI, 1992.

[2] British Standard Institute, *BS 8233:2014 - Guidance on sound insulation and noise reduction for buildings,* BSI, 2014.