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Technical Information Sheet 2

Acoustic Glass

OVERVIEW

Noise is described as any sound that is considered to be disturbing, annoying or painful. It consists of many different sounds across a wide range of frequencies.

There are many contributing factors as to why noise is a bigger problem now than it has previously been in the past :

- Increased activity in road, rail and air traffic
- Higher population density
- Increased cases of stress and illness

Noise intensity is measured in Decibels (dB) and the scale used to measure levels of noise reduction is known as the sound reduction index. 'Rw' is the weighted sound reduction in decibels which allows for a correction for the human ear's response and this is the most commonly used term when specifying noise reduction values.

KEY FACTORS

REQUIRED SOUND REDUCTION

To assess the level of sound reduction required, taking into consideration the location of the construction and the number of noise factors present.

DOCUMENT L

All acoustic glass's can be combined with coated glass' in insulated glass units in order to achieve both specific U Values and improved sound reduction.

SAFETY

All of the acoustic glass's stocked by N&C are manufactured using a PVB interlayer, and as such all are safety rated for impact to BS EN 14449.

INSULATED GLASS UNITS

When specifying double glazed units, it is wrong to assume that using two skins of acoustic glass will double the acoustic value of the unit. In some cases you can achieve a higher sound reduction rating using a single piece of acoustic glass as opposed to a sealed unit.

COMMONLY USED TERMS

dB – Decibel – This is the unit of measurement used when measuring sound levels.

Rw – Weighted Sound Reduction – The level of sound reduction offered which incorporates a correction for the response of the human ear.

Rw+C – This is an adjustment to the Rw scale used for selecting a product to reduce noise from music, radio, TV, high speed traffic and other medium to high frequency noises.

Rw+Ctr – This is an adjustment to the Rw scale used for selecting a product to reduce noise from urban road traffic, loud disco music and other low frequency noises.

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COMPARISON CHART

The charts below show comparisons between various types of glass and insulated glass units and also between the Rw, Rw+C & Rw+Ctr indices.

Single Glass	Rw	Rw+C	Rw+Ctr
6.4mm Laminated Safety Glass	32 dB	31 dB	29 dB
6.8mm Laminated Safety Glass	33 dB	31 dB	29 dB
10.8mm Laminated Safety Glass	34 dB	33 dB	31 dB
6.8mm Acoustic Laminated	35 dB	34 dB	32 dB
8.8mm Acoustic Laminated	37 dB	36 dB	33 dB
10.8mm Acoustic Laminated	38 dB	37 dB	36 dB
12.8mm Acoustic Laminated	39 dB	39 dB	37 dB
16.8mm Acoustic Laminated	40 dB	40 dB	38 dB

Double Glazed Units	Rw	Rw+C	Rw+Ctr
4mm / 20 spacer / 4mm IGU	31 dB	30 dB	25 dB
6mm / 16 spacer / 6mm IGU	31 dB	30 dB	27 dB
8mm / 16 spacer / 6mm IGU	35 dB	33 dB	29 dB
10mm / 16 spacer / 6mm IGU	40 dB	38 dB	35 dB
6.8mm Acoustic / 16 spacer / 6mm IGU	38 dB	36 dB	33 dB
8.8mm Acoustic / 16 spacer / 6mm IGU	41 dB	38 dB	34 dB
10.8mm Acoustic / 16 spacer / 6mm IGU	41 dB	39 dB	35 dB
12.8mm Acoustic / 16 spacer / 6mm IGU	41 dB	40 dB	36 dB
16.8mm Acoustic / 16mm spacer / 16.8mm Acoustic	48 dB	46 dB	42 dB

Triple Glazed Units	Rw	Rw+C	Rw+Ctr
4mm / 8mm spacer / 4mm / 8mm spacer / 4mm	31 dB	30 dB	27 dB
4mm / 10mm spacer / 4mm / 10mm spacer / 4mm	32 dB	31 dB	26 dB

Secondary Glazing	Rw	Rw+C	Rw+Ctr
6 / 100 / 4	46 dB		37 dB
6 / 150 / 4	47 dB		39 dB
10 / 200 / 6	49 dB		45 dB

Sound insulation data measured in accordance with BS EN ISO 140-3 and indices derived in accordance with BS EN ISO 717-1

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