NOISE REDUCTION

Noise insulation is very important and still more recent characteristics of glass and glazing as materials in modern building, along with insulating characteristics of the glazing and protection against burglary. Sound insulation of glazing is an indicator of the degree of absorption of the sound vvaves.The acoustic characteristics of a window is measured by the sound insulation value Rw in dB (decibel logarithmic scale). It is important to know the percentages of noise reduction at certain levels of sound insulation in dB (logarithmic decibel scale):

- o 3 dB — hardly discernible noise
- o 10 dB – noise is reduced by 50%
- o 20 dB – noise is reduced by 75%
- o 30 dB – noise is reduced by 88%
- o 40 dB – noise is reduced by 94%

Good sound insulation is achieved by:

- o Glass structure – combination of glasses with different thickness (for example 4+5mm) gives better absorption of resonance vibrations
- o VWidth of gas space – bigger distance between glasses, better noise reduction will achieve. In spite of that, distances between glasses have definite maximum and it's exceeding will decrease thermal isolation characteristics of the insulating glass unit
- o Usage of special kinds of foiling (such as laminated glasses are made of) improves the sound insulation.
- o Gas filling – filled with gas (argon, krypton or mixture of gasses), glazing have better sound- and thermal insulation

GLAZING	FOIL	WIDTH	GAS	NOISE INSULATION [DB]
DOUBLE GLAZING				
4/16/4		24,00	Argon	31
4/15/5		24,00	Argon	35
4/14/6		24,00	Argon	35
4/12/8		24,00	Argon	36
6/12/6		24,00	Argon	33
6/12/ 33.1	PVB	24,00	Argon	35
4/12/44.2	PVB	24,76	Argon	37
33.1 /12/33.1	PVB	24,76	Argon	36
4/16/44.2	SR	29,00	Argon	39
6/16/44.2	SR	33,00	Argon	41
8/18/44.2	SR	33,00	Argon	42
10/16/44.2	SR	35,00	Argon	44
TRIPLE GLAZING				
4/12/4/12/4		36,00	Argon	32
4/12/5/12/4		36,00	Argon	33
6/10/4/10/6		36,00	Argon	35
4/12/4/12/4		36,00	Argon	32
4/10/4/12/33.1	PVB	36,00	Argon	34
33.1 /10/4/10/33.1	PVB/PVB	36,00	Argon	35
4/10/4/12/33.1	SR	36,00	Argon	36
4/16/4/16/4		44,00	Argon	32
4/16/5/16/4		44,00	Argon	34
6/14/4/16/4		44,00	Argon	34
6/12/4/12/10		44,00	Argon	38
6/14/4/14/6		44,00	Argon	36
8/16/4/16/6		50,00	Argon	37
4/14/4/16/33.1	PVB	44,38	Argon	37
4/14/4/14/44.2	PVB	44,76	Argon	37
6/12/6/12/44.2	PVB	44,76	Argon	39
8/12/6/12/33.1	PVB	44,38	Argon	40
8/14/4/14/55.2	PVB	50,76	Argon	42
33.1 /14/4/14/33.1	PVB/PVB	44,76	Argon	38
44.2/12/4/14/33.1	PVB/PVB	45,14	Argon	39
44.2/12/6/10/44.2	PVB/PVB	44,00	Argon	40
55.2/12/6/12/44.2	SR/SR	49,52	Argon	47
6/12/6/12/44.2	SR	44,76	Argon	41
8/12/4/12/44.2	SR	45,00	Argon	42
8/12/5/12/44.2	SR	46,00	Argon	43