

• Sound insulation prediction of COM-2

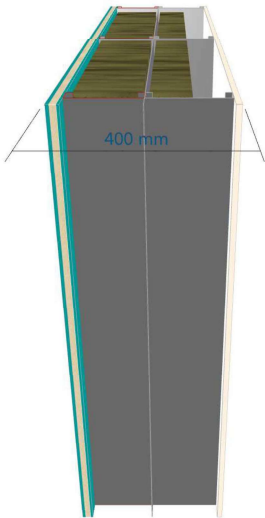
Sound Insulation Prediction (v9.0.4)

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- Key No. 5634
Job Name:
Job No.: Initials:Cibulkova
Date.:17.10.2018
File Name:COM-2_new.ixl



Notes:



Rw 54 dB
C -1 dB
Ctr -4 dB

Mass-air-mass resonant frequency = ~37 Hz , 82 Hz
Panel Size = 2,7 m x 4,0 m
Partition surface mass = 57,7 kg/m²

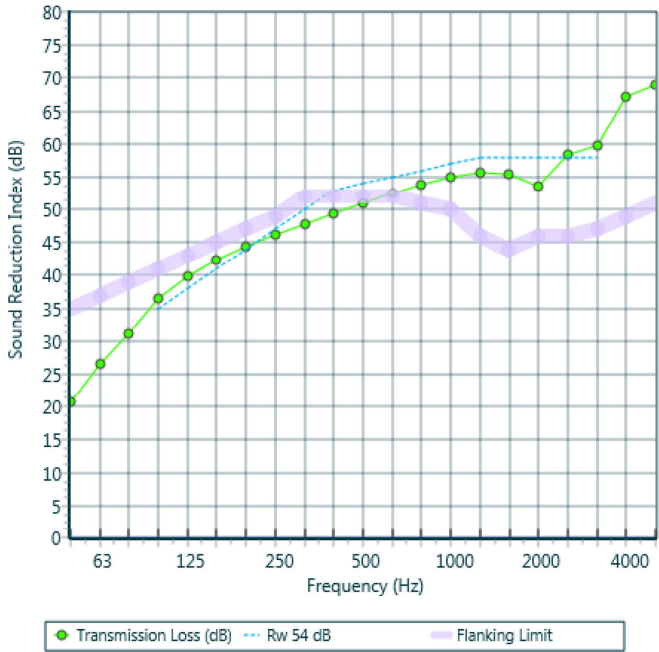
System description

Panel 1 : 1 x 29,0 mm Glazing Unit (8/15/6)

Frame: Metallständer (1,0-1,6mm); Cavity Width 170 mm ,Stud spacing 750 mm , 1 x Rockwool (60kg/m3) Thickness 160 mm (p:0 kg/m3, Rf:22000 Rayl/m)
Panel 2 + 1 x 1,0 mm Steel

Frame: Metallständer (1,0-1,6mm); Cavity Width 187 mm ,Stud spacing 750 mm , 1 x Rockwool (60kg/m3) Thickness 100 mm (p:60 kg/m3, Rf:22000 Rayl/m)
Panel 3 + 1 x 13,0 mm CSR Gyprock 13mm standard plasterboard

freq.(Hz)	TL(dB)	TL(dB)
50	21	
63	27	24
80	31	
100	36	
125	40	39
160	42	
200	44	
250	46	46
315	48	
400	49	
500	51	51
630	52	
800	54	
1000	55	55
1250	56	
1600	56	
2000	54	55
2500	58	
3150	60	
4000	67	63
5000	69	



- Sound insulation prediction of COM-3

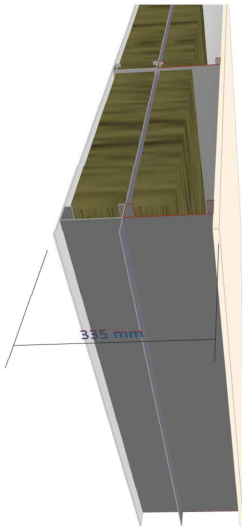
Sound Insulation Prediction (v9.0.4)

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- Key No. 5634
Job Name:
Job No.: Initials:Cibulkova
Date.:12.10.2018
File Name:COM-3_allcomposition.ixl



Notes:



Rw 48 dB
C -1 dB
Ctr -6 dB

Mass-air-mass resonant frequency = 52 Hz , 95 Hz
Panel Size = 2,7 m x 4,0 m
Partition surface mass = 37,5 kg/m²

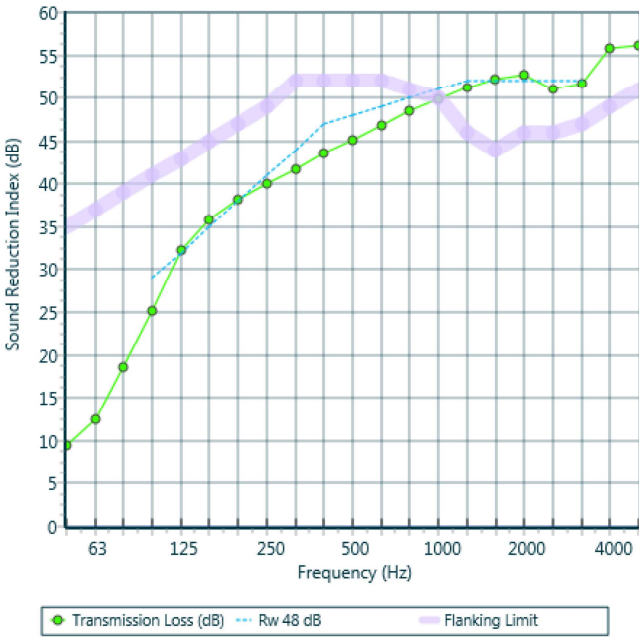
System description

Panel 1 : 1 x 3,0 mm Aluminium

Frame: Metallständer (1,0-1,6mm); Cavity Width 131 mm ,Stud spacing 750 mm , 1 x Rockwool (60kg/m3) Thickness 120 mm (p:60 kg/m3, Rf:22000 Rayl/m)
Panel 2 + 1 x 1,0 mm Steel

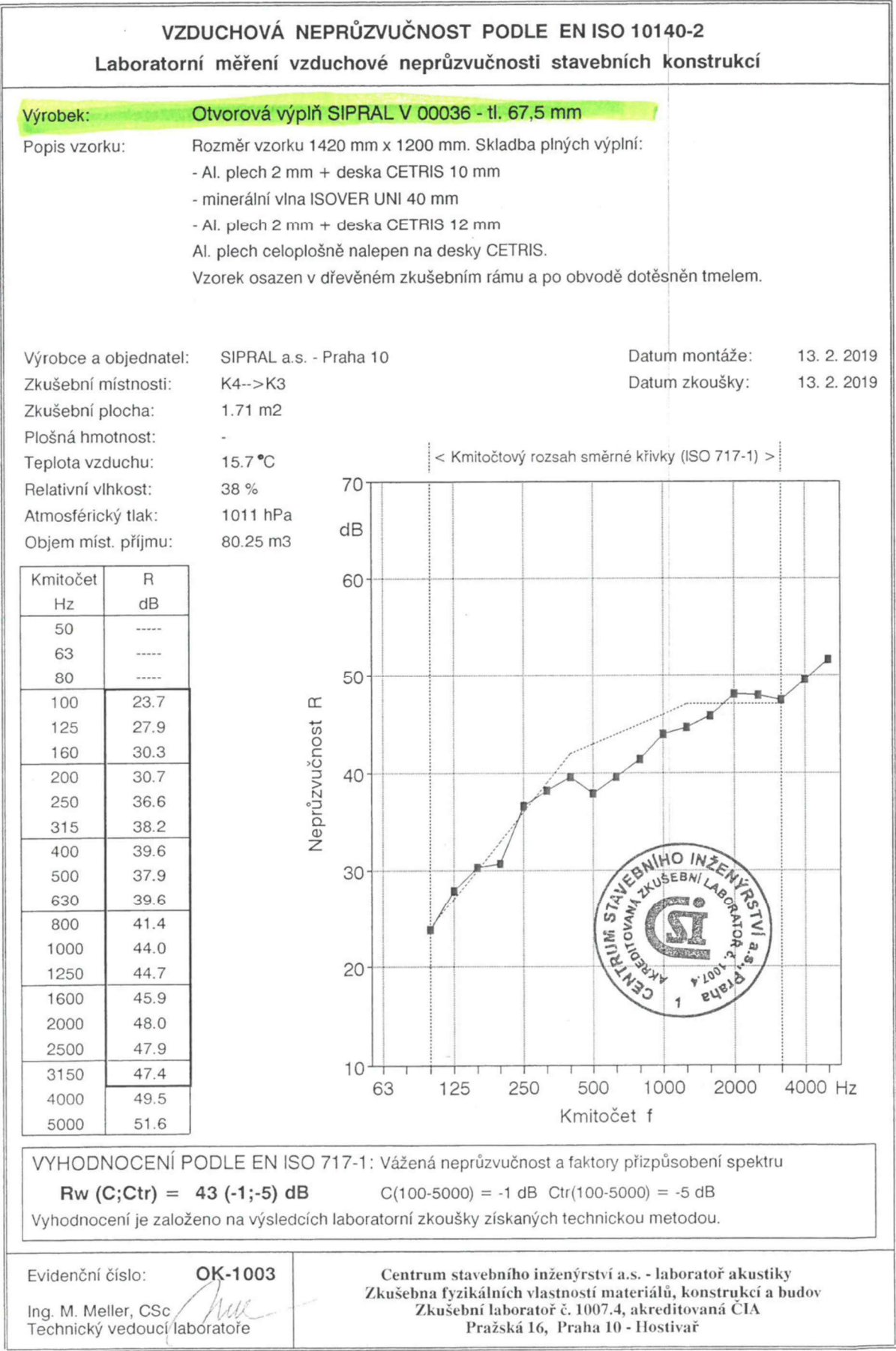
Frame: Metallständer (1,0-1,6mm); Cavity Width 187 mm ,Stud spacing 750 mm , 1 x Rockwool (60kg/m3) Thickness 100 mm (p:60 kg/m3, Rf:22000 Rayl/m)
Panel 3 + 1 x 13,0 mm CSR Gyprock 13mm standard plasterboard

freq.(Hz)	TL(dB)	TL(dB)
50	10	
63	12	12
80	19	
100	25	
125	32	29
160	36	
200	38	
250	40	40
315	42	
400	44	
500	45	45
630	47	
800	48	
1000	50	50
1250	51	
1600	52	
2000	53	52
2500	51	
3150	52	
4000	56	54
5000	56	



- Sound insulation of COM-4

Composition was tested (Z1-SIP-G251-RP-XX-006)



- **Transmission loss of the overall partition EWS 101**

Composite TL calculator (v9.0.4)

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- Key No. 5634

Job Name:

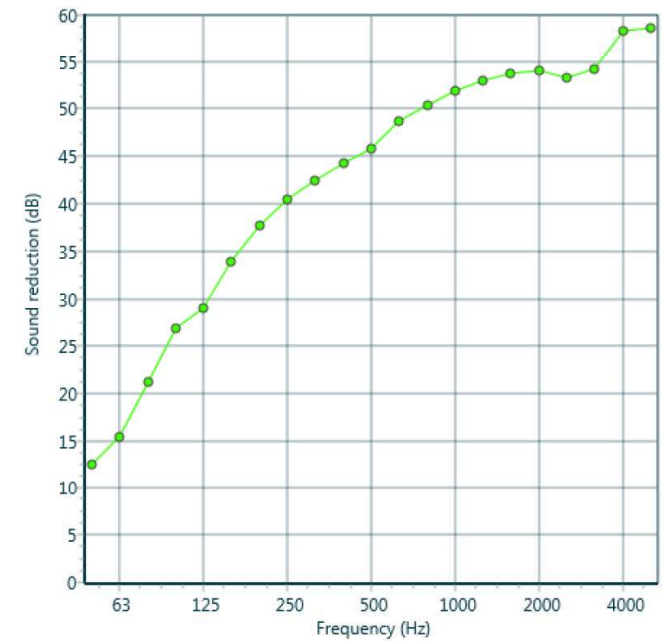
Job No.:

Date:17.10.2018

File Name:COM-2_new.ixl

Initials:Cibulkova

Notes:



Rw 49 dB
C -2 dB
Ctr -7 dB

Element	Area	Octave band centre frequency (Hz)																				Rw	C:Ctr	
		63		125		250		500		1k		2k		4k										
COM-3	2,14	10	12	19	25	32	36	38	40	42	44	45	47	48	50	51	52	53	51	52	56	56	48	-1:-6
COM-2	0,24	21	27	31	36	40	42	44	46	48	49	51	52	54	55	56	56	54	58	60	67	69	54	-1:-4
COM-1	1,9	30	30	30	30	27	32	37	41	43	45	46	52	54	56	56	56	56	58	61	66	65	50	-3:-8
Total	4,28	12	15	21	27	29	34	38	40	43	44	46	49	50	52	53	54	54	53	54	58	59	49	-2:-7

Average sound reduction index Rw (C; Ctr) 49 (-2; -7)

- **Conclusion of EWS 101 – requirement Rw+Ctr 36dB**

The composite transmission loss is calculated as the weighted average of the transmission coefficients of the individual elements that make up the partition.
Influence of the unit system (joints) is expected as a loss -3 dB.(*)

Average sound reduction index with unit system influence is calculated
Rw (C; Ctr) 46 (-2; -7); Rw+Ctr 39 dB ≥ req. 36 dB

Rw is calculated with the INSUL software, there is a margin of error within Rw +/- 3dB.
This prediction is not a substitute for test data and design should be considered by project acoustic consultant.

- Transmission loss of the overall partition EWS 102

Composite TL calculator (v9.0.8)

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margin of error is generally within $R_w \pm 3$ dB

- Key No. 5634

Job Name:

Job No.:

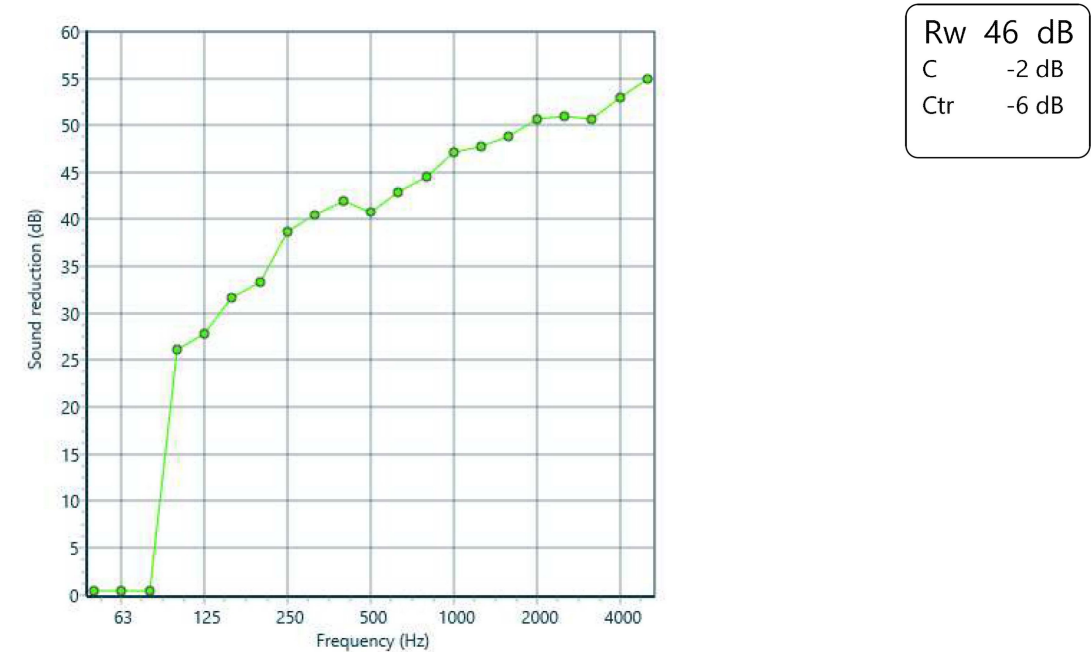
Date:17.05.2019

File Name:102_36dB.cns

Initials:Cibulkova



Notes:



Element	Area	Octave band centre frequency (Hz)																		Rw	C:Ctr			
		63		125		250		500		1k		2k		4k										
COM-2	0,49	21	27	31	36	40	42	44	46	48	49	51	52	54	55	56	56	54	58	60	67	69	54	-1;-4
COM-1	1,9	0	0	0	30	27	32	37	41	43	45	46	52	54	56	56	56	56	58	61	66	65	50	-3;-8
COM-4	1,9	0	0	0	24	28	30	31	37	38	40	38	40	41	44	45	46	48	48	47	50	52	43	-1;-5
Total	4,29	1	1	1	26	28	32	33	39	40	42	41	43	45	47	48	49	51	51	51	53	55	46	-2;-6

Average sound reduction index R_w (C; Ctr) 46 (-2; -6)

- Conclusion of EWS 102 – requirement R_w+C_{tr} 36dB

The composite transmission loss is calculated as the weighted average of the transmission coefficients of the individual elements that make up the partition.

Influence of the unit system (joints) is expected as a loss -3 dB^(*).

Average sound reduction index with unit system influence is calculated

R_w (C; Ctr) 43 (-2; -6); R_w+C_{tr} 37 dB $\geq$ req. 36 dB

Results are available from frequency 100 Hz for COM-1 and COM-4 were tested in standard frequency range 100-5000 Hz (according EN ISO 10140-2, EN ISO 10140-4, EN ISO 717-1).

- Transmission loss of the overall partition CORNER unit

Composite TL calculator (v9.0.4)

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- Key No. 5634

Job Name:

Job No.:

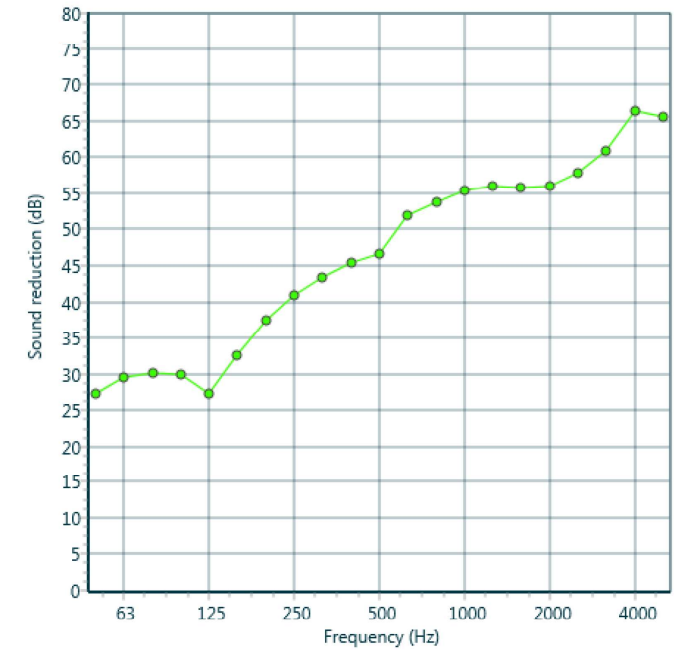
Date.:17.10.2018

File Name:COM-4.ixl

Initials:Cibulkova



Notes:



Rw 50 dB
C -2 dB
Ctr -7 dB

Element	Area	Octave band centre frequency (Hz)																		Rw	C:Ctr			
		63		125		250		500		1k		2k		4k										
COM-2	0,52	21	27	31	36	40	42	44	46	48	49	51	52	54	55	56	56	54	58	60	67	69	54	-1:-4
COM-1	4,04	30	30	30	30	27	32	37	41	43	45	46	52	54	56	56	56	56	58	61	66	65	50	-3:-8
Total	4,56	27	29	30	30	27	33	37	41	43	45	47	52	54	55	56	56	56	58	61	66	66	50	-2:-7

Average sound reduction index Rw (C; Ctr) 50 (-2; -7)

- Conclusion of CORNER unit – requirement Rw+Ctr 36dB

The composite transmission loss is calculated as the weighted average of the transmission coefficients of the individual elements that make up the partition.
Influence of the unit system (joints) is expected as a loss -3 dB(*).

Average sound reduction index with unit system influence is calculated
Rw (C; Ctr) 47 (-2; -7); Rw+Ctr 40 dB ≥ req. 36 dB

Rw is calculated with the INSUL software, there is a margin of error within Rw +/- 3dB.
This prediction is not a substitute for test data and design should be considered by project acoustic consultant.

- * Airborne sound insulation - assessment of system influence

There were series of acoustic measuring and testing done for another project Wardian in London. For a comparison with the assessed façade there were balcony doors and fixed glazing units chosen.

Table of comparison of R_w (C;Ctr) of the glazing itself and tested R_w (C;Ctr) of the mock-ups:

Measured mock-up	test results R_w 45 (C;Ctr) (dB)	comparing to values of glazing itself by AGC calculation	difference R_w	difference Ctr
balcony door with glazing 6-16-64.4	40 (-2;-4)	39(-1;-4); (6-16-55.4)	1	0
balcony door with glazing 8-16-64.4	39 (-1;-2)	41(-2;-4); (8-16-55.4)	-2	2
balcony door with glazing 88.4 SC-15-66.4 SC	45 (0;-2)	51 (-1; -4); (88.2 SC-15-66.2 SC)	-6	2
fixed glazing 8-16-64.4	41 (-2;-5)	41(-2;-4); (8-16-55.4)	0	-1
fixed glazing 88.4 SC-15-66.4 SC	46 (-1;-5)	51 (-1; -4); (88.2 SC-15-66.2 SC)	-5	-1

Based on experience of testing doors and fixed glazing units the influence of system is supposed as approximate average to be – 3dB.
It needs to be considered as well that tested system is not the same as on Manchester project, the loss depends on many details and exact data can be proved by testing only.

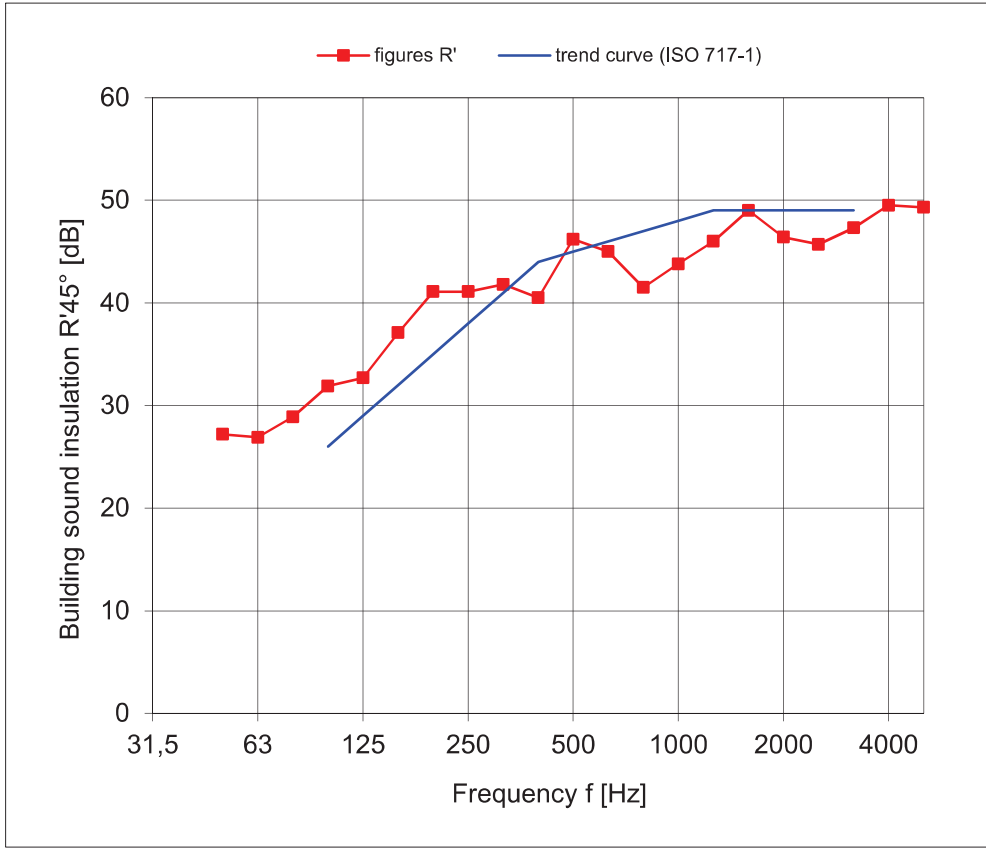
Appendix A: Test reports of airborne sound insulation (project Wardian, London)

Appendix B: Drawings of the mock-ups (project Wardian, London)

Appendix C: AGC glass producer technical data sheets

Building sound insulation under ISO 140-5																																																		
Field measurements of airborne sound insulation of facade elements and facades																																																		
Measured object:	Testing building of the Sipral a.s. (JSC) in Jirny																																																	
Description of assessable component:	The part of facade: balcony door, glass structure: 6-16-64.4																																																	
Client:	SIPRAL a.s. Třebohostická 3165/5a 100 00 Praha 10																																																	
Surface S of assessable component:	2,9 m ²																																																	
Volume V of audience room:	39,2 m ³																																																	
<table><tr><th>Frequency f [Hz]</th><th>R'45° (third octaves) [dB]</th></tr><tr><td>50</td><td>16,8</td></tr><tr><td>63</td><td>20,1</td></tr><tr><td>80</td><td>30,7</td></tr><tr><td>100</td><td>30,7</td></tr><tr><td>125</td><td>19,9</td></tr><tr><td>160</td><td>28,3</td></tr><tr><td>200</td><td>30,4</td></tr><tr><td>250</td><td>35,3</td></tr><tr><td>315</td><td>41,1</td></tr><tr><td>400</td><td>39,4</td></tr><tr><td>500</td><td>40,8</td></tr><tr><td>630</td><td>39,0</td></tr><tr><td>800</td><td>39,8</td></tr><tr><td>1000</td><td>37,7</td></tr><tr><td>1250</td><td>39,6</td></tr><tr><td>1600</td><td>43,1</td></tr><tr><td>2000</td><td>42,2</td></tr><tr><td>2500</td><td>38,2</td></tr><tr><td>3150</td><td>40,0</td></tr><tr><td>4000</td><td>45,2</td></tr><tr><td>5000</td><td>46,7</td></tr></table>	Frequency f [Hz]	R'45° (third octaves) [dB]	50	16,8	63	20,1	80	30,7	100	30,7	125	19,9	160	28,3	200	30,4	250	35,3	315	41,1	400	39,4	500	40,8	630	39,0	800	39,8	1000	37,7	1250	39,6	1600	43,1	2000	42,2	2500	38,2	3150	40,0	4000	45,2	5000	46,7	<table><tr><td>—■—</td><td>figures R'</td></tr><tr><td>—</td><td>trend curve (ISO 717-1)</td></tr></table>		—■—	figures R'	—	trend curve (ISO 717-1)
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Date of protocol compilation:	13.10.2017	tel.: 603 525620, 235315094-5, fax.: 235315096 e-mail: kail@akustickecentrum.cz																																																

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Date of protocol compilation:	18.10.2017	tel.: 603 525620, 235315094-5, fax.: 235315096 e-mail: kail@akustickecentrum.cz																																																																																								

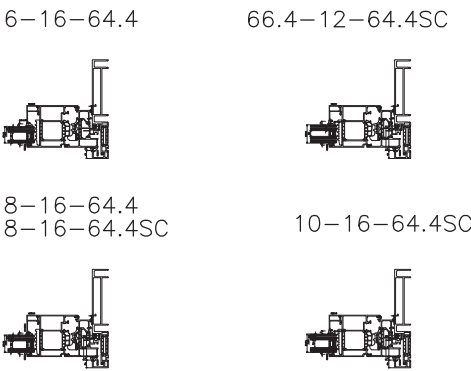
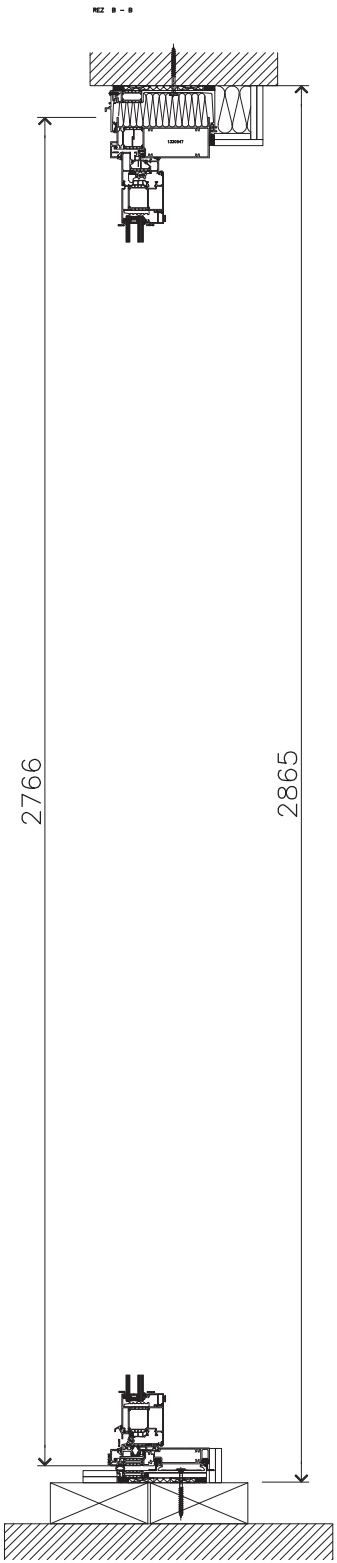
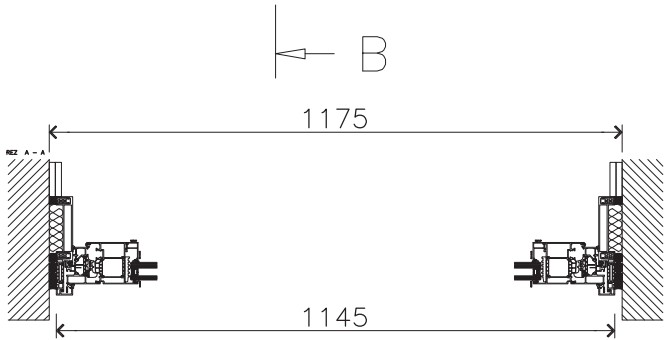
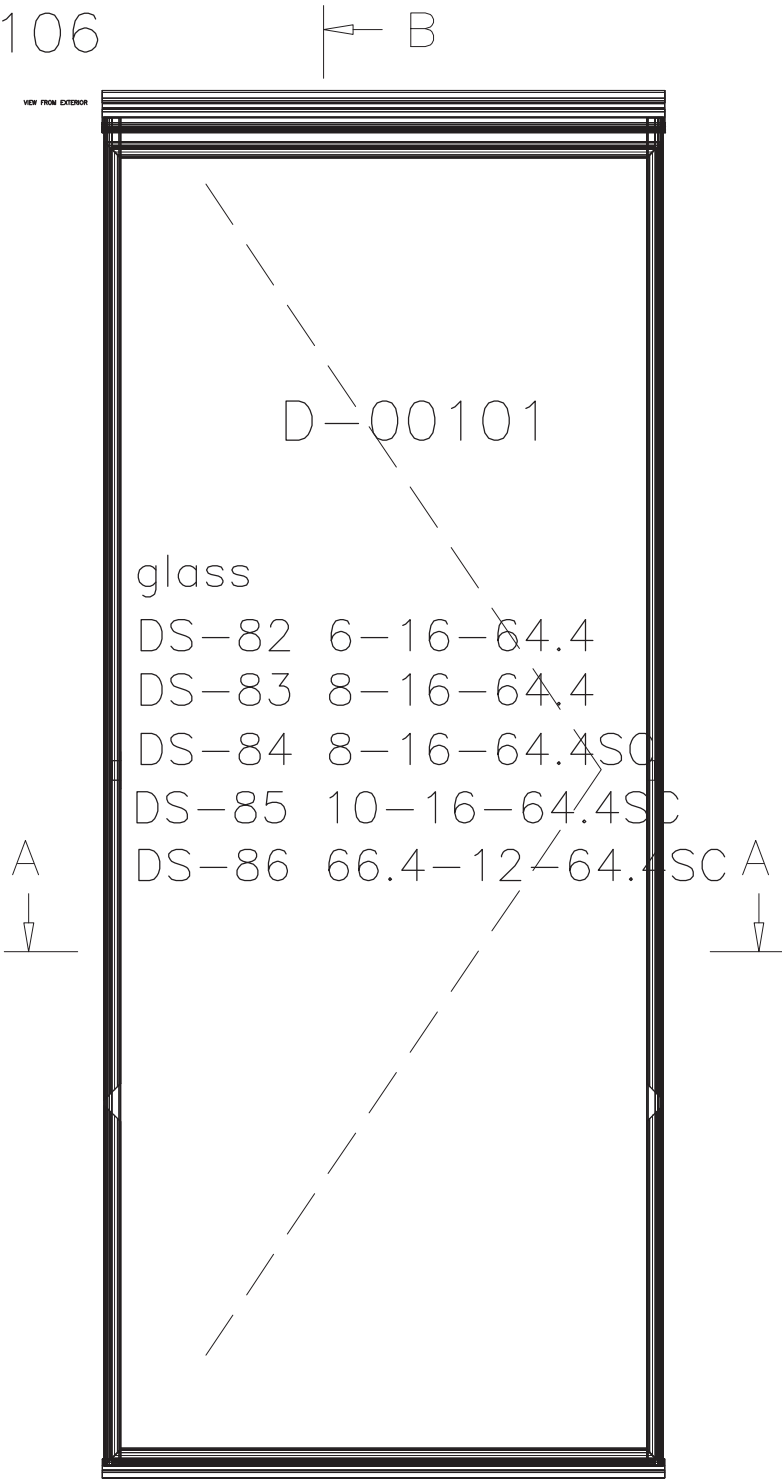
Building sound insulation under ISO 140-5																																																		
Field measurements of airborne sound insulation of facade elements and facades																																																		
Measured object:	Testing building of the Sipral a.s. (JSC) in Jirny																																																	
Description of assessable component:	The part of facade: fix frame, glass structure 88.4 SC-15-66.4 SC																																																	
Client:	SIPRAL a.s. Třebohostická 3165/5a 100 00 Praha 10																																																	
Surface S of assessable component:	2,9 m ²																																																	
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OPENING DOORS

Rw+Ctr 32dB and 35dB

1pcs

M-00106



ACOUSTICAL TEST

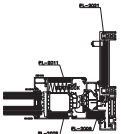
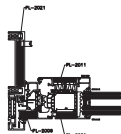
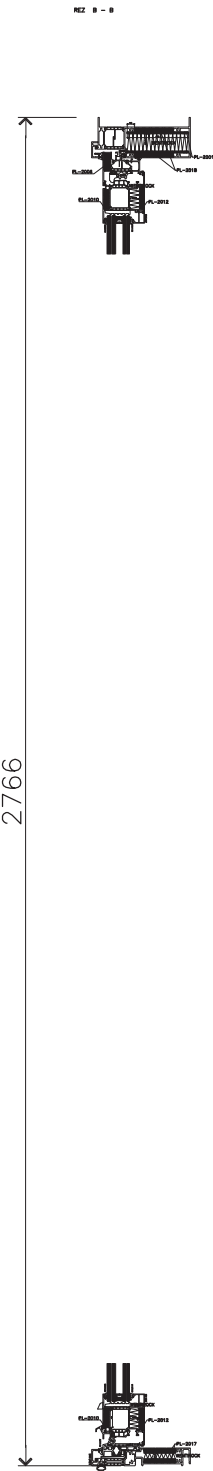
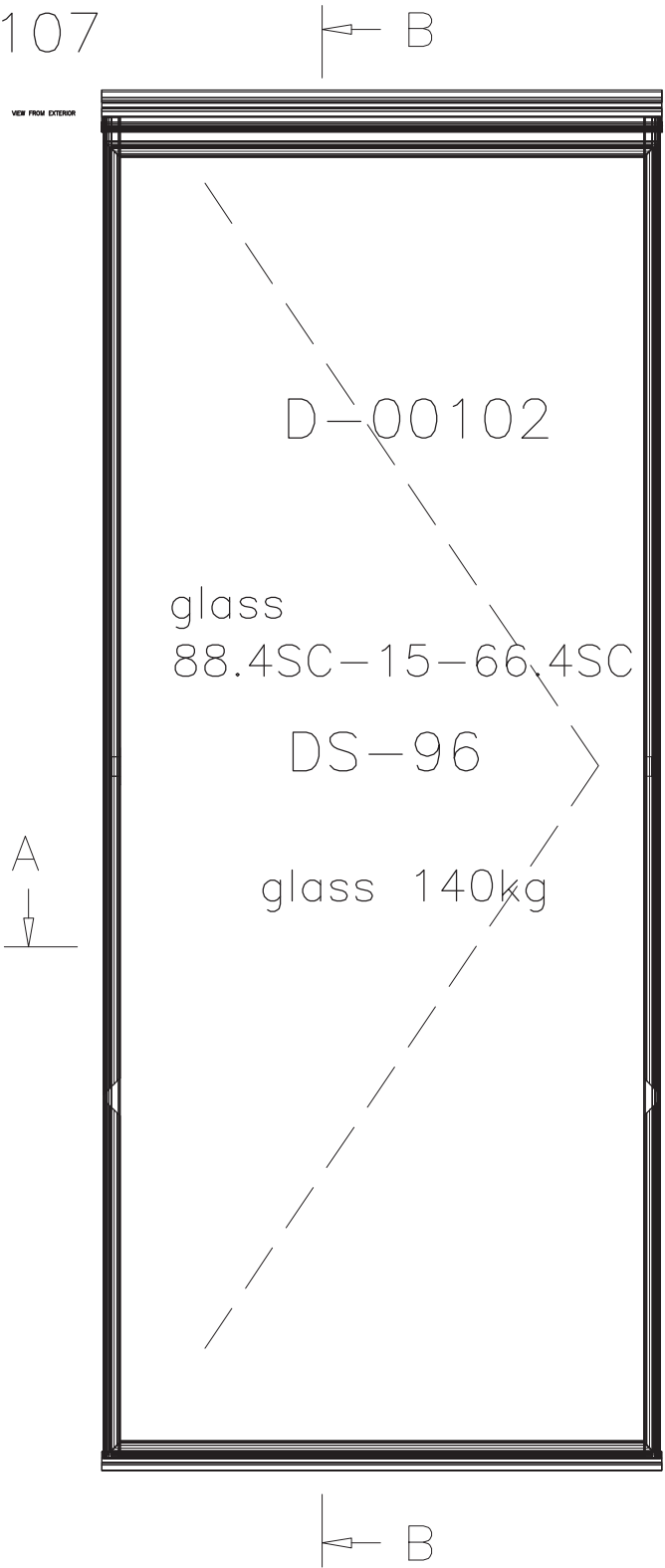
OPENING DOORS

1pcs

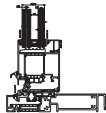
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Rw+Ctr 41dB

ACOUSTICAL TEST



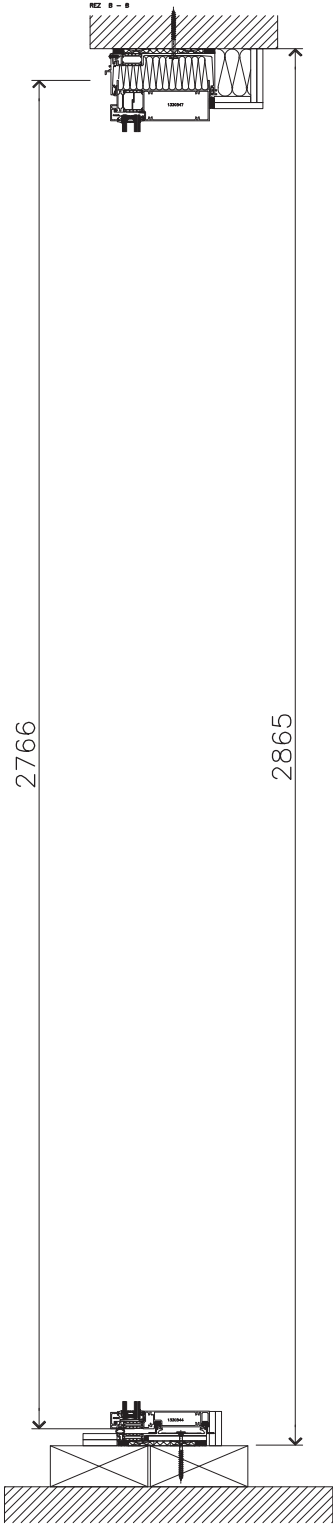
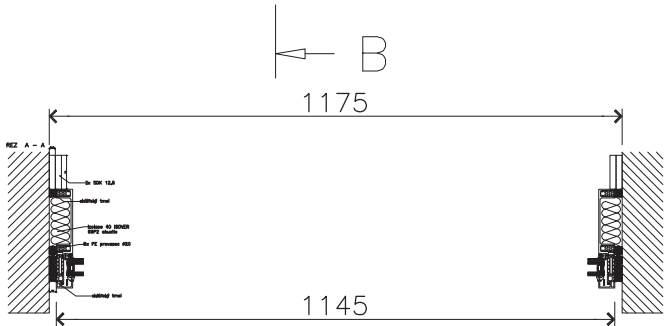
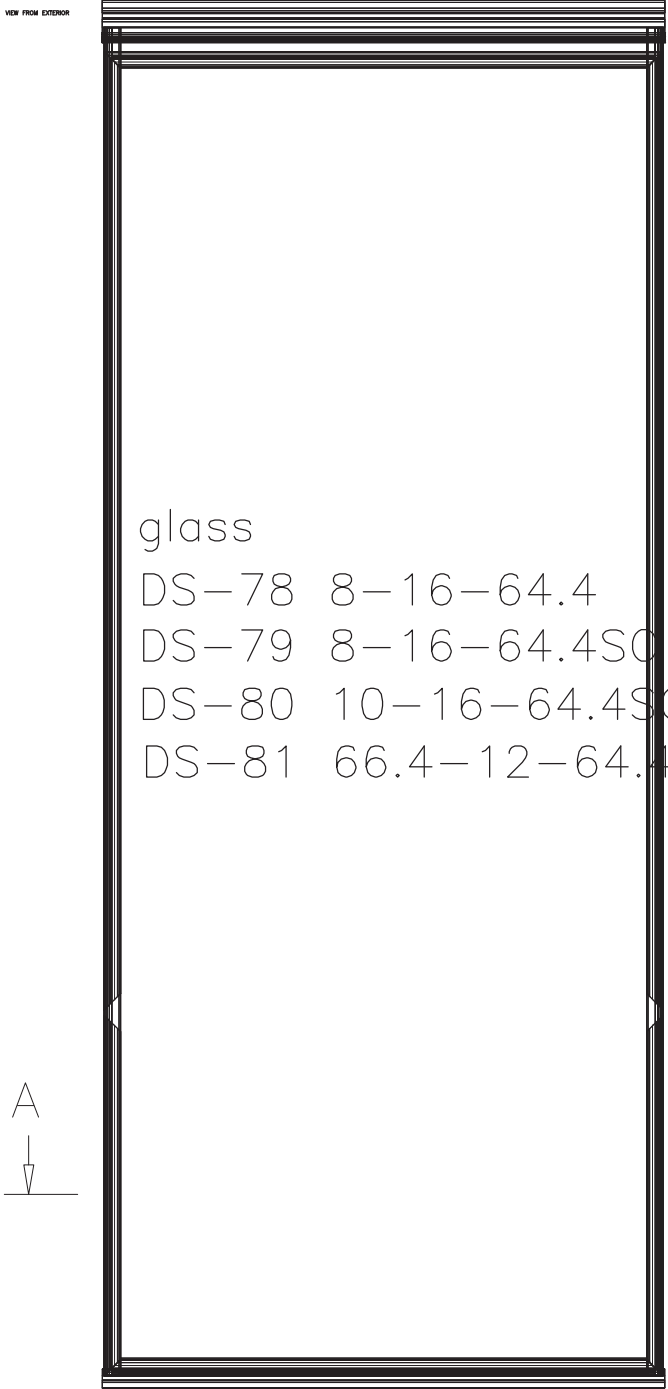
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FIX
1pcs
M-00108

Rw+Ctr 35dB

VIEW FROM EXTERIOR



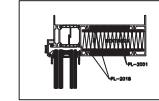
ACOUSTICAL TEST

FIX
1pcs
M-00109

Rw+Ctr 41dB

VIEW FROM EXTERIOR

← B

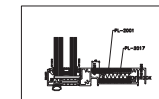


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88.4SC-15-66.4SC

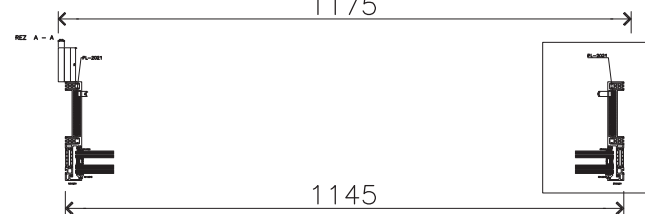
DS-95

A
↓

A
↓



← B



88.4SC-15-66.4SC



ACOUSTICAL TEST

Your composition:

6 mm Planibel Clearlite - 16 mm Argon 90% - 55.4 Stratobel 2x Planibel Clearlite

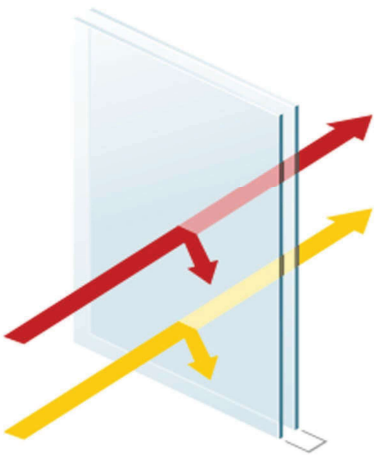
Personal notes:

LIGHT

Transmission	79
Reflection	14

ENERGY

Solar factor	74
Reflection	13



THERMAL PROPERTIES

EN 673

Ug [W/(m².K)] - Vertical	2.5
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LIGHT PROPERTIES

EN 410

Light transmittance - τ_v (%)	79
Light reflectance - ρ_v (%)	14
Internal light reflection - ρ_{vi} (%)	14
Colour Rendering - RD65 - Ra (%)	98

ENERGY PROPERTIES

EN 410

ISO 9050

Solar factor (g-value) - g (%)	74	74
Energy Reflection - ρ_e (%)	13	12
Direct Energy Transmission - τ_e (%)	62	61
Solar abs. Glass 1 - α_e (%)	8	9
Solar abs. Glass 2 - α_e (%)	17	18
Total Energy absorption - α_e (%)	25	27
Shading coefficient - SC	0.86	0.85
UV Transmission - UV (%)	0	
Selectivity	1.07	1.07

OTHER PROPERTIES

Resistance to fire - EN 13501-2	NPD
Reaction to fire - EN 13501-1	NPD
Bullet resistance - EN 1063	NPD
Burglar resistance - EN 356	P3A - P4A
Pendulum body impact resistance - EN 12600	NPD / 1B1

ACOUSTIC PROPERTIES

Direct airborne sound insulation (dB)(Rw (C;Ctr) - ESTIMATED) - dB	39 (-1; -4) ⁽²⁾
With acoustic PVB (Stratophone) (RW(C;Ctr)) - dB	41 (-2; -5) ⁽²⁾

THICKNESS AND WEIGHT

Nominal thickness (mm)	33.52
Weight (kg/m²)	42

The data are calculated using spectral measurements that are conform to standards EN 410, ISO 9050 (1990). The Ug-value (formerly k-value) is calculated according to standard EN 673. The emissivity measurement complies with standards EN 673 (Annex A) and EN 12898. This document is no evaluation of the risk of glass breakage due to thermal stress. For tempered glass: the risk of spontaneous breakage due to Nickel-Sulfide is not covered by AGC Glass Europe. The Heat Soak Test is available on request. Specifications, technical and other data are based on information available at the time of preparation of this document and are subject to change without notice. AGC Glass Europe can not be held responsible for any deviation between the data introduced and the conditions on site. This document is only informative, in no way it implies an acceptance of the order by AGC Glass Europe. While the AGC Glass Configurator allows for accurate measurement of the above performances, the AGC Glass Configurator does not create any supplementary liability on the part of AGC with regard to the AGC products delivered to customers. AGC's liability remains limited to the AGC products manufactured and delivered by AGC only. The user of the AGC Glass Configurator undertakes to provide clear and comprehensive information and to refrain from any misleading commercial practice which would be likely to deceive the customers as to the manufacturer of the products it purchases. The user of the AGC Glass Configurator undertakes to indemnify and hold harmless AGC from and against any and all claims, costs and damages arising out of, or relating to improper / misleading use of the AGC Glass Configurator. See also conditions of use. (1) These sound reduction indexes correspond to glazings which are 1,23 by 1,48m according to EN ISO 10140-3 and are tested in laboratory conditions. In-situ performances may vary according to the effective glazing dimensions, frame system, noise sources etc. The accuracy of the given indexes is not better than +/- 1dB. (2) These sound reduction indexes are estimated (no test). They correspond to glazings which are 1,23m. by 1,48 m. In-situ performances may vary according to the effective glazing dimensions, frame system, noise sources etc. The accuracy of the given indexes is +/- 2dB.

Your composition:

8 mm Planibel Clearlite - 16 mm Argon 90% - 55.4 Stratobel 2x Planibel Clearlite

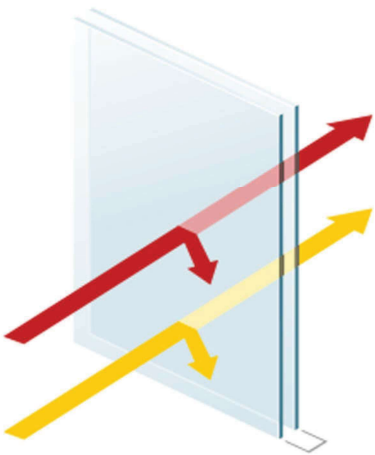
Personal notes:

LIGHT

Transmission	78
Reflection	14

ENERGY

Solar factor	73
Reflection	12



THERMAL PROPERTIES

EN 673

Ug [W/(m².K)] - Vertical	2.5
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LIGHT PROPERTIES

EN 410

Light transmittance - τv (%)	78
Light reflectance - ρv (%)	14
Internal light reflection - ρvi (%)	14
Colour Rendering - RD65 - Ra (%)	97

ENERGY PROPERTIES

EN 410 ISO 9050

Solar factor (g-value) - g (%)	73	72
Energy Reflection - ρe (%)	12	12
Direct Energy Transmission - τe (%)	61	59
Solar abs. Glass 1 - αe (%)	11	11
Solar abs. Glass 2 - αe (%)	16	18
Total Energy absorption - αe (%)	27	29
Shading coefficient - SC	0.84	0.83
UV Transmission - UV (%)	0	
Selectivity	1.07	1.08

OTHER PROPERTIES

Resistance to fire - EN 13501-2	NPD
Reaction to fire - EN 13501-1	NPD
Bullet resistance - EN 1063	NPD
Burglar resistance - EN 356	P3A - P4A
Pendulum body impact resistance - EN 12600	NPD / 1B1

ACOUSTIC PROPERTIES

Direct airborne sound insulation (dB)(Rw (C;Ctr) - ESTIMATED) - dB	41 (-2; -4) ⁽²⁾
With acoustic PVB (Stratophone) (RW(C;Ctr)) - dB	43 (-2; -5) ⁽²⁾

THICKNESS AND WEIGHT

Nominal thickness (mm)	35.52
Weight (kg/m²)	47

The data are calculated using spectral measurements that are conform to standards EN 410, ISO 9050 (1990). The Ug-value (formerly k-value) is calculated according to standard EN 673. The emissivity measurement complies with standards EN 673 (Annex A) and EN 12898. This document is no evaluation of the risk of glass breakage due to thermal stress. For tempered glass: the risk of spontaneous breakage due to Nickel-Sulfide is not covered by AGC Glass Europe. The Heat Soak Test is available on request. Specifications, technical and other data are based on information available at the time of preparation of this document and are subject to change without notice. AGC Glass Europe can not be held responsible for any deviation between the data introduced and the conditions on site. This document is only informative, in no way it implies an acceptance of the order by AGC Glass Europe. While the AGC Glass Configurator allows for accurate measurement of the above performances, the AGC Glass Configurator does not create any supplementary liability on the part of AGC with regard to the AGC products delivered to customers. AGC's liability remains limited to the AGC products manufactured and delivered by AGC only. The user of the AGC Glass Configurator undertakes to provide clear and comprehensive information and to refrain from any misleading commercial practice which would be likely to deceive the customers as to the manufacturer of the products it purchases. The user of the AGC Glass Configurator undertakes to indemnify and hold harmless AGC from and against any and all claims, costs and damages arising out of, or relating to improper / misleading use of the AGC Glass Configurator. See also conditions of use. (1) These sound reduction indexes correspond to glazings which are 1,23 by 1,48m according to EN ISO 10140-3 and are tested in laboratory conditions. In-situ performances may vary according to the effective glazing dimensions, frame system, noise sources etc. The accuracy of the given indexes is not better than +/- 1dB. (2) These sound reduction indexes are estimated (no test). They correspond to glazings which are 1,23m. by 1,48 m. In-situ performances may vary according to the effective glazing dimensions, frame system, noise sources etc. The accuracy of the given indexes is +/- 2dB.

Your composition:

88.2 Stratobel 2x Planibel Clearlite - 15 mm Argon 90% - 66.2 Stratobel 2x Planibel Clearlite

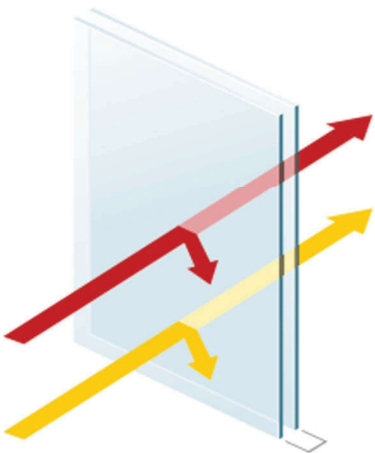
Personal notes:

LIGHT

Transmission	75
Reflection	13

ENERGY

Solar factor	64
Reflection	10



THERMAL PROPERTIES

EN 673

Ug [W/(m².K)] - Vertical	2.4
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LIGHT PROPERTIES

EN 410

Light transmittance - τv (%)	75
Light reflectance - ρv (%)	13
Internal light reflection - ρvi (%)	14
Colour Rendering - RD65 - Ra (%)	96

ENERGY PROPERTIES

EN 410 ISO 9050

Solar factor (g-value) - g (%)	64	62
Energy Reflection - ρe (%)	10	10
Direct Energy Transmission - τe (%)	54	53
Solar abs. Glass 1 - αe (%)	26	27
Solar abs. Glass 2 - αe (%)	10	10
Total Energy absorption - αe (%)	36	37
Shading coefficient - SC	0.73	0.71
UV Transmission - UV (%)	0	
Selectivity	1.17	1.21

OTHER PROPERTIES

Resistance to fire - EN 13501-2	NPD
Reaction to fire - EN 13501-1	NPD
Bullet resistance - EN 1063	NPD
Burglar resistance - EN 356	P1A - P2A
Pendulum body impact resistance - EN 12600	1B1 / 1B1

ACOUSTIC PROPERTIES

Direct airborne sound insulation (dB)(Rw (C;Ctr) - EN 12758) - dB	46 (-1; -5) ⁽¹⁾
With acoustic PVB (Stratophone) (RW(C;Ctr)) - dB	51 (-1; -4) ⁽¹⁾

THICKNESS AND WEIGHT

Nominal thickness (mm)	44.52
Weight (kg/m²)	72

The data are calculated using spectral measurements that are conform to standards EN 410, ISO 9050 (1990). The Ug-value (formerly k-value) is calculated according to standard EN 673. The emissivity measurement complies with standards EN 673 (Annex A) and EN 12898. This document is no evaluation of the risk of glass breakage due to thermal stress. For tempered glass: the risk of spontaneous breakage due to Nickel-Sulfide is not covered by AGC Glass Europe. The Heat Soak Test is available on request. Specifications, technical and other data are based on information available at the time of preparation of this document and are subject to change without notice. AGC Glass Europe can not be held responsible for any deviation between the data introduced and the conditions on site. This document is only informative, in no way it implies an acceptance of the order by AGC Glass Europe. While the AGC Glass Configurator allows for accurate measurement of the above performances, the AGC Glass Configurator does not create any supplementary liability on the part of AGC with regard to the AGC products delivered to customers. AGC's liability remains limited to the AGC products manufactured and delivered by AGC only. The user of the AGC Glass Configurator undertakes to provide clear and comprehensive information and to refrain from any misleading commercial practice which would be likely to deceive the customers as to the manufacturer of the products it purchases. The user of the AGC Glass Configurator undertakes to indemnify and hold harmless AGC from and against any and all claims, costs and damages arising out of, or relating to improper / misleading use of the AGC Glass Configurator. See also conditions of use. (1) These sound reduction indexes correspond to glazings which are 1,23 by 1,48m according to EN ISO 10140-3 and are tested in laboratory conditions. In-situ performances may vary according to the effective glazing dimensions, frame system, noise sources etc. The accuracy of the given indexes is not better than +/- 1dB. (2) These sound reduction indexes are estimated (no test). They correspond to glazings which are 1,23m. by 1,48 m. In-situ performances may vary according to the effective glazing dimensions, frame system, noise sources etc. The accuracy of the given indexes is +/- 2dB.

SOUND REDUCTION INDEX ACCORDING TO EN ISO 10140-2 **Laboratory measurements of airborne sound insulation of building elements**

Product: Panel opening SIPRAL V 00036 - thickness 67,5 mm

Description Dimensions of test sample 1420 mm x 1200 mm. Composition of solid panels:
of test specimen: - aluminum sheet 2 mm + plate CETRIS 10 mm
- mineral wool ISOVER UNI 40 mm
- aluminum sheet 2 mm + plate CETRIS 12 mm
Aluminum sheet glued over CETRIS plates.
The sample was mounted in wooden test frame and sealed with a sealant around the perimeter.

Manufacturer and client: SIPRAL a.s. - Praha 10 Date of mounting: 13. 2. 2019

Test rooms: K4-->K3 Date of test: 13. 2. 2019

Area of test specimen: 1.71 m2

Mass per unit area: -

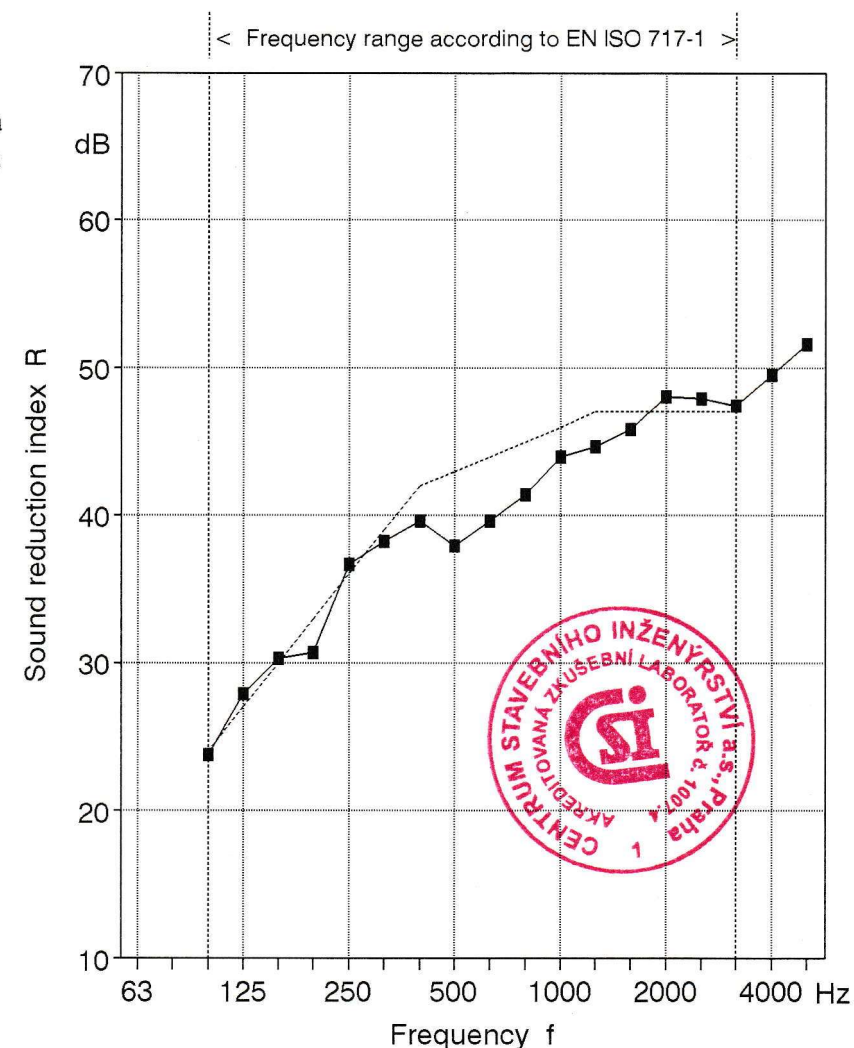
Temperature: 15.7 °C

Relative humidity: 38 %

Static pressure 1011 hPa

Receiving room volume: 80.25 m3

Freq. Hz	R dB
50	----
63	----
80	----
100	23.7
125	27.9
160	30.3
200	30.7
250	36.6
315	38.2
400	39.6
500	37.9
630	39.6
800	41.4
1000	44.0
1250	44.7
1600	45.9
2000	48.0
2500	47.9
3150	47.4
4000	49.5
5000	51.6



Rating according to EN ISO 717-1: Weighted sound reduction index and spectrum adaptation terms

Rw (C;Ctr) = 43 (-1;-5) dB C(100-5000) = -1 dB Ctr(100-5000) = -5 dB

Evaluation based on laboratory measurement results obtained by an engineering method.

No. of test: **OK-1003**

Ing. M. Meller, CSc. *[Signature]*
Technical laboratory chief

Centre of Building Construction Engineering - laboratory of Acoustics
Test laboratory of physical properties, structures and buildings
Accredited Test Laboratory No. 1007.4
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