



# Intex Access Panel Report: Sound Rated **RW31**

CERTIFICATION & REPORTS



# Report on Laboratory Measurements of Airborne Sound Insulation of Building Elements

## Information Supplied by Client

Client	Intex Group International Pty Ltd.
ABN/Local Business Number	95919466212
Head Office Address	115 McKellar Way, Epping, Melbourne Victoria, Australia , 3076
Sample Name	MDF Sound Rated Access Panel
Client Sample I.D.	MDFSR

## Laboratory Information

Lab Sample I.D.	AC130015
Date Received	27/04/2013
Date Test Started	28/04/2013
Date Test Completed	28/04/2013
Test Address	Acoustic Reverberation Chambers, Jin Ke Ecological Park, Nancun, Panyu, Guangzhou, PRC
Test Standards	BS EN ISO 140-3:1995 Incorporating Amendment No.1

# RW31

**1. Reference Instrument**

Name	Type	Serial Number
Hand-held analyser	B & K 2270	2664200
1/2" Free-field microphone	B & K 4189	02662994 02663055
Omnipower omnidirectional sound source	B & K 4292	024010
Power amplifier	B & K 2716	2667548
Sound level calibrator	B & K 4231	02671619
Temperature & humidity data logger	testo 174H	36616834 36615789

**2. Environment Condition**

	Source Reverberation Room	Receiving Reverberation Room
Temperature	24.4°C	24.5°C
Relative humidity	85.2%	88.8%

**3. Description of test specimen** (Information supplied by client)

- 3.1** The test specimen is MDF sound rated access panel of total thickness 28mm, which consists of 0.8mm thick finger print proof galvanized steel frame and 16mm thick MDF timber board of density 725 kg/m<sup>3</sup> with felt cover on back for panel.
- 3.2** Dimension used to calculate sound reduction index: 600mm x 600mm.
- 3.3** Rubber sealing strip is sealed around the gap between the frame and the panel.
- 3.4.1** In order to ensure that the flanking path transmitted sound as little as possible, 240mm thick brick with density of 1700 kg/m<sup>3</sup>, on both side which about 15mm thick plaster was plastered, was used as filler wall.
- 3.4.2** Then the panel was installed. In order to get better airproof, sealant was caulked around the gap between the frame and filler wall after the panel installed.
- 3.4.3** The felt cover surface which was more absorbent faced to the source room. The details of the tested unit are referring to the drawings and photos given in Appendix.

**RW31**

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## 4. Principle and Procedure

### 4.1 Principle

The test specimen is placed in an opening between two adjacent reverberation rooms. Random noise is introduced into the source room and part of the sound energy is transmitted through the test specimen into the receiving room. In each one-third octave band of centre frequency 100 to 5000 Hz, the resulting average sound pressure levels in the source room and receiving room are L1 and L2, respectively. The sound reduction index is evaluated from;

$$R = D + 10 \lg \frac{S}{A} = L^1 - L^2 + 10 \lg \frac{S}{A} \text{ dB}$$

where

- D** is the level difference, dB;  
**S** is the area of the test specimen, m<sup>2</sup>;  
**A** is the equivalent sound absorption area in the receiving room, m<sup>2</sup>;  
**A** =  $\frac{0.16V}{T}$  V is the receiving room volume, m<sup>3</sup>;  
**T** is the reverberation time in the receiving room, s.

The weighted sound reduction index R<sup>w</sup> is determined from the value R in the 1/3 octave band with centre frequency 100 to 3150Hz, following the procedure given in ISO 717-1 :1996/Amd.1 :2006.

### 4.2 Procedures

- 4.2.1** A calibration was checked on the frequency analyser with reference calibrator before the measurement.
- 4.2.2** A high power steady sound source, with a continuous spectrum in the frequency bands of interest, was generated in the source room and to ensure the transmitted sound level in the receiving room was at least 6 dB above the background noise level at all frequencies. Loudspeaker and microphone positions were chosen according to standard requirements. Measurements were taken for two loudspeaker positions. For each loudspeaker position, at least five microphone positions were chosen in the source and receiving room. The level difference D as per defined in the standard was then calculated.
- 4.2.3** Then the loudspeaker was moved to receiving room to measure the reverberation time in accordance with ISO 354:2003. Two loudspeaker positions, for each loudspeaker position, three microphone positions with five readings in each were used.
- 4.2.4** A calibration was checked on the frequency analyser with reference calibrator after the measurement. If the deviation of the calibration from before and after measurement was less than 0.5 dB, then the measured result was claimed valid.

# RW31

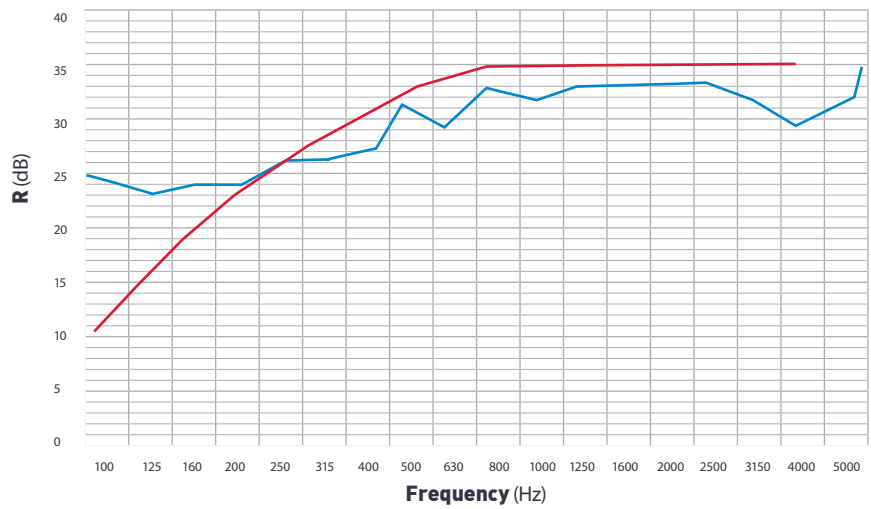
5. Results

Laboratory measurements of airborne sound insulation of building elements.

Area of test specimen: 0.36 m<sup>2</sup>  
 Source room volume: 272.5 m<sup>3</sup>  
 Receiving room volume: 151.3 m<sup>3</sup>

Key  
**R** Sound reduction index, in dB  
**f** frequency, in Hz  
 Sound reduction index R  
 Weighted sound reduction index, *R<sub>w</sub>* =36dB reference curve

Frequency f (Hz)	R (1/3 octave) (dB)
100	24.6
125	23.0
160	23.5
200	23.4
250	25.7
315	25.6
400	26.4
500	30.7
630	29.6
800	32.4
1000	32.2
1250	32.8
1600	33.1
2000	32.9
2500	31.7
3150	30.0
4000	31.4
5000	33.9

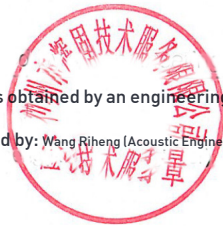


Rating according to ISO 717-1 :1996/Amd.1 :2006.

$R^w (C,C^+r) = 31 (0, -1)dB$

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

Checked by: Jin Date: 01/05/2013 Certified by: Wang Riheng (Acoustic Engineer) Amy Date: 01/05/2013

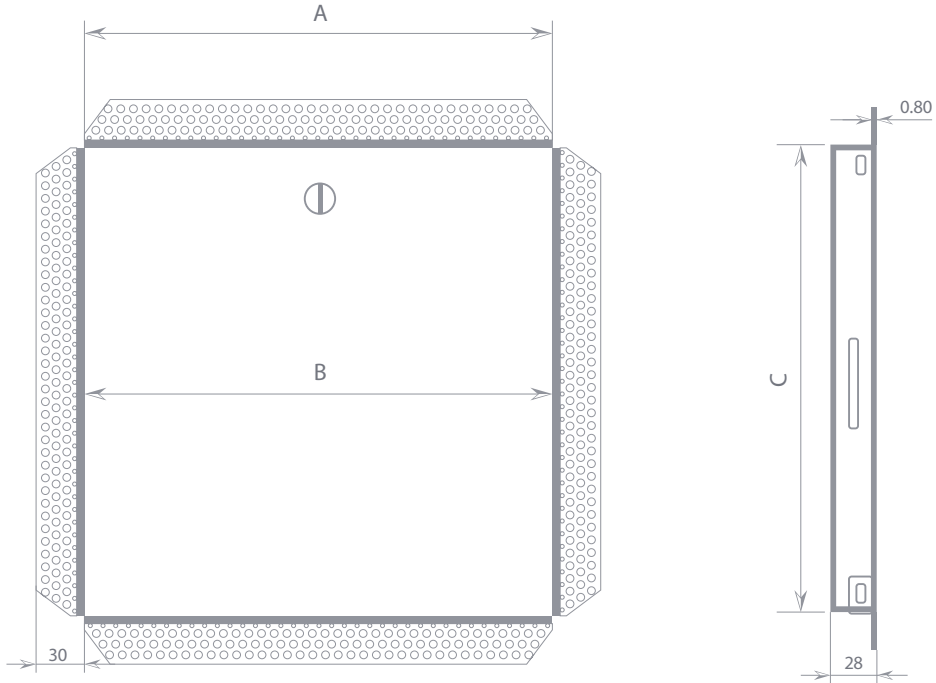


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**Appendix 1: Details of test specimen (Information supplied by client)**

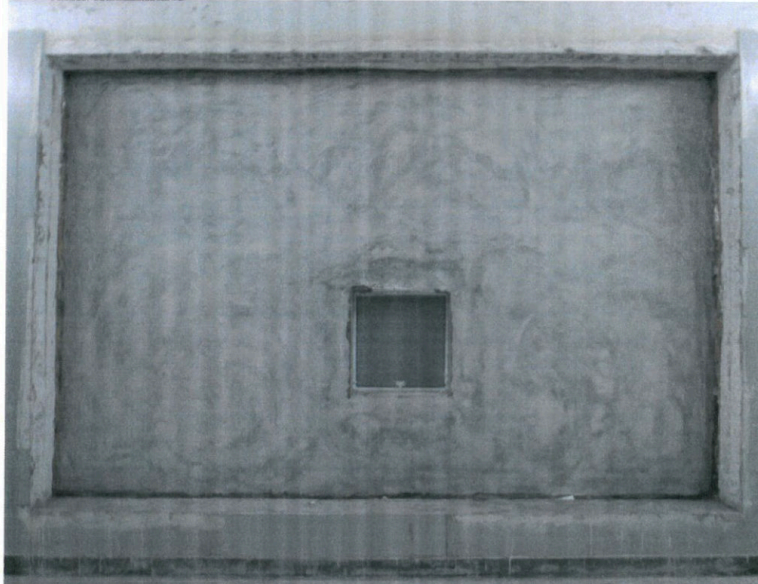


SA -AP250	300 x 300	300	295	302
SA -AP250	450 x 450	450	445	452
SA -AP250	600 x 600	600	595	602

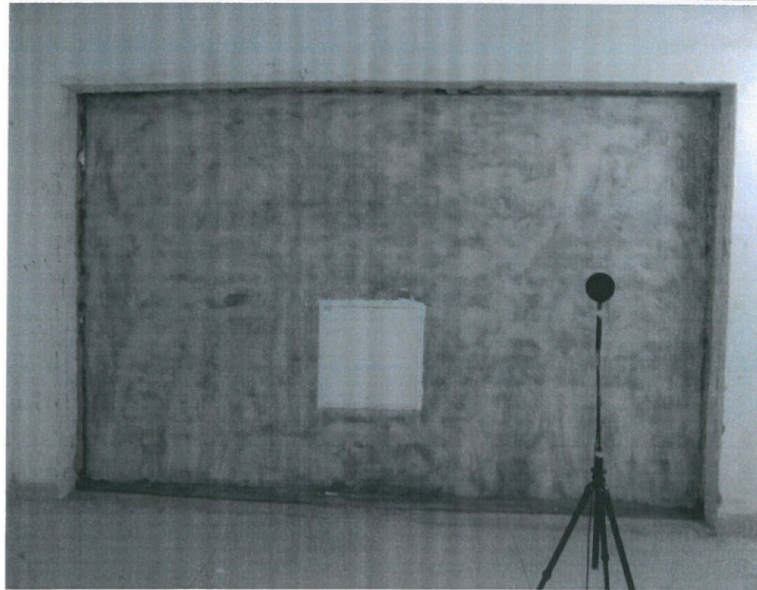
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**Appendix 2: Photographic records**

Source room side



Receiving room side



End of Report

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Test Address	Acoustic Reverberation Chambers, Jin Ke Ecological Park, Nancun, Panyu, Guangzhou, PRC
Test Standards	AS 1191 - 2002

# RW31



## 1. Reference Instrument

Name	Type	Serial Number
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Temperature & humidity data logger	testo 174H	36616834 36615789

## 2. Environment Condition

	Source Reverberation Room	Receiving Reverberation Room
Temperature	24.4°C	24.5°C
Relative humidity	85.2%	88.8%

## 3. Description of test specimen (Information supplied by client)

- 3.1** The test specimen is MDF sound rated access panel of total thickness 28mm, which consists of 0.8mm thick finger print proof galvanized steel frame and 16mm thick MDF timber board of density 725 kg/m<sup>3</sup> with felt cover on back for panel.
- 3.2** Dimension used to calculate sound reduction index: 600mm x 600mm.
- 3.3** Rubber sealing strip is sealed around the gap between the frame and the panel.
- 3.4.1** In order to ensure that the flanking path transmitted sound as little as possible, 240mm thick brick with density of 1700 kg/m<sup>3</sup>, on both side which about 15mm thick plaster was plastered, was used as filler wall.
- 3.4.2** Then the panel was installed. In order to get better airproof, sealant was caulked around the gap between the frame and filler wall after the panel installed.
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$$R = D + 10 \lg \frac{S}{A} = L_1 - L_2 + 10 \lg \frac{S}{A} \text{ dB}$$

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**S** is the area of the test specimen, m<sup>2</sup>;

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**A** =  $\frac{0.16V}{T}$  V is the receiving room volume, m<sup>3</sup>;

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The weighted sound reduction index  $R_w$  is determined from the value R in the 1/3 octave band with centre frequency 100 to 3150Hz, following the procedure given in ISO 717-1 :1996/Amd.1 :2006.

### 4.2 Procedures

**4.2.1** A calibration was checked on the frequency analyser with reference calibrator before the measurement.

**4.2.2** A high power steady sound source, with a continuous spectrum in the frequency bands

of interest, was generated in the source room and to ensure the transmitted sound level in the receiving room was at least 6 dB above the background noise level at all frequencies. Loudspeaker and microphone positions were chosen according to standard requirements.

Measurements were taken for two loudspeaker positions. For each loudspeaker position, at least five microphone positions were chosen in the source and receiving room. The level difference D as per defined in the standard was then calculated.

**4.2.3** Then the loudspeaker was moved to receiving room to measure the reverberation time in accordance with ISO 354:2003. Two loudspeaker positions, for each loudspeaker position, three microphone positions with five readings in each were used.

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# RW31

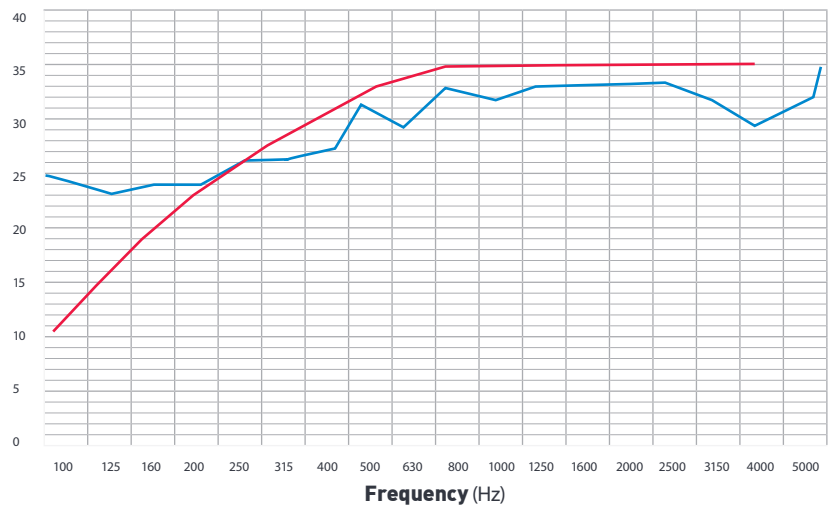
5. Results

Laboratory measurements of airborne sound insulation of building elements.

Area of test specimen: 0.36 m<sup>2</sup>  
 Source room volume: 272.5 m<sup>3</sup>  
 Receiving room volume: 151.3 m<sup>3</sup>

Key  
**R** Sound reduction index, in dB  
**f** frequency, in Hz  
 Sound reduction index R  
 Weighted sound reduction index, *R<sub>w</sub>* =36dB reference curve

Frequency f (Hz)	R (1/3 octave (dB))
100	24.5
125	23.0
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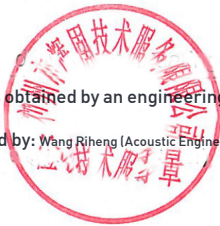


Rating according to ISO 717-1 :1996/Amd.1 :2006.

$R^w (C,C^+)$  = 31 (0, -1)dB

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

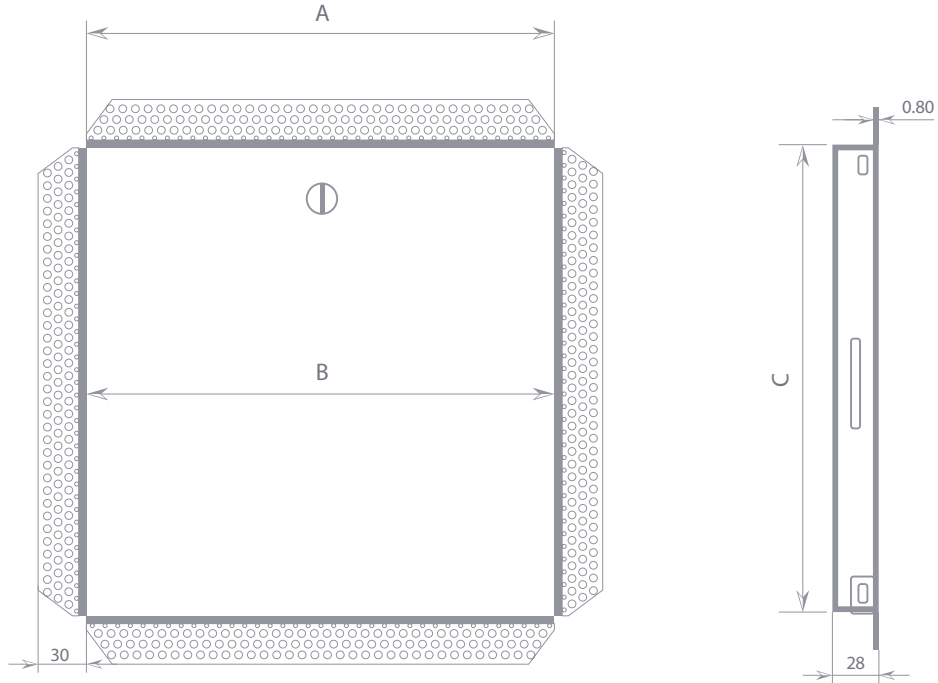
Checked by: Jin Date: 01/05/2013 Certified by: Wang Riheng (Acoustic Engineer) Amy Date: 01/05/2013



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**Appendix 1: Details of test specimen (Information supplied by client)**

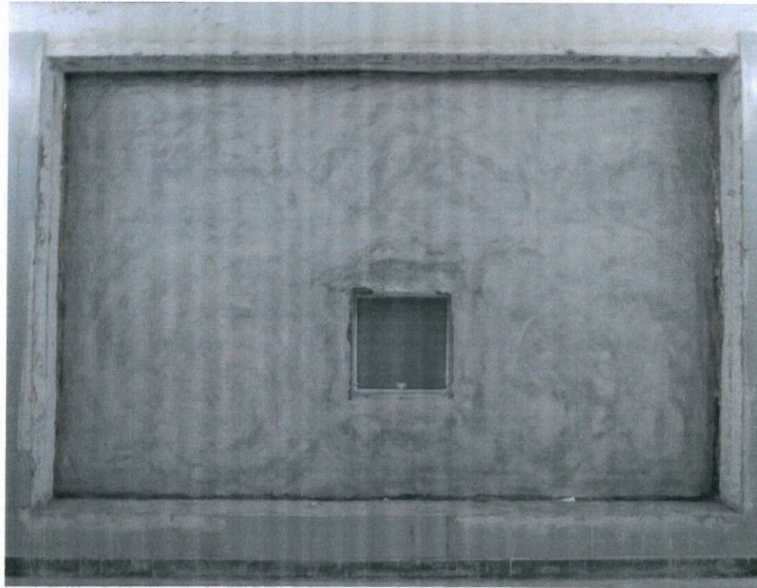


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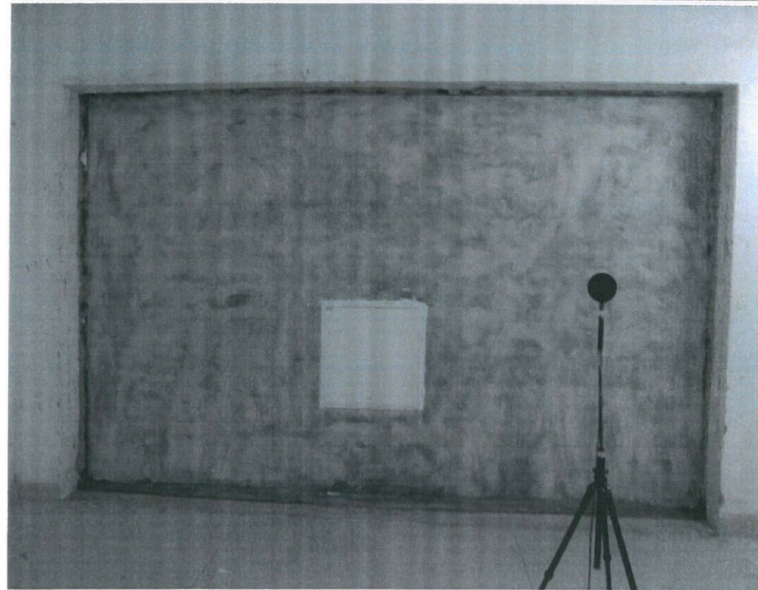
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**Appendix 2: Photographic records**

Source room side



Receiving room side



End of Report

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**Intex**

Intex Access Panel Report:  
Sound Rated **RW34**

CERTIFICATION & REPORTS



# Report on Laboratory Measurements of Airborne Sound Insulation of Building Elements

## Information Supplied by Client

Client	Intex Group International Pty Ltd.
ABN/Local Business Number	95919466212
Head Office Address	115 McKellar Way, Epping, Melbourne Victoria, Australia, 3076
Sample Name	Steel Sound Rated Access Panel
Client Sample I.D.	SR1

## Laboratory Information

Lab Sample I.D.	AC130013
Date Received	21/04/2013
Date Test Started	27/04/2013
Date Test Completed	27/04/2013
Test Address	Acoustic Reverberation Chambers, Jin Ke Ecological Park, Nancun, Panyu, Guangzhou, PRC
Test Standards	BS EN ISO 140-3:1995 Incorporating Amendment No.1

# RW34

## 1. Reference Instrument

Name	Type	Serial Number
Hand-held analyser	B & K 2270	2664200
1/2" Free-field microphone	B & K 4189	02662994 02663055
Omnipower omnidirectional sound source	B & K 4292	024010
Power amplifier	B & K 2716	2667548
Sound level calibrator	B & K 4231	02671619
Temperature & humidity data logger	testo 174H	36616834 36615789

## 2. Environment Condition

	Source Reverberation Room	Receiving Reverberation Room
Temperature	24.4°C	24.3°C
Relative humidity	72.4%	77.3%

## 3. Description of test specimen (Information supplied by client)

- 3.1** The test specimen is steel sound rated access panel of total thickness 30mm, which consists of 0.8mm thick galvanized steel frame and panel. The panel is made of 0.8mm thick galvanized steel face and 20mm thick sound insulation cotton infill.
- 3.2** Dimension used to calculate sound reduction index: 600mm x 600mm.
- 3.3** Sound insulated sealing strip is sealed around the gap between the frame and the panel. 3.4 Details of installation
- 3.4.1** In order to ensure that the flanking path transmitted sound as little as possible, 240mm thick brick with density of 1700 kg/m<sup>3</sup>, on both side which about 15mm thick plaster was plastered, was used as filler wall.
- 3.4.2** Then the panel was installed. In order to get better air-proof, sealant was caulked around the gap between the frame and filler wall after the panel installed. The details of the tested unit are referring to the drawings and photos given in Appendix.

# RW34



## 4. Principle and Procedure

### 4.1 Principle

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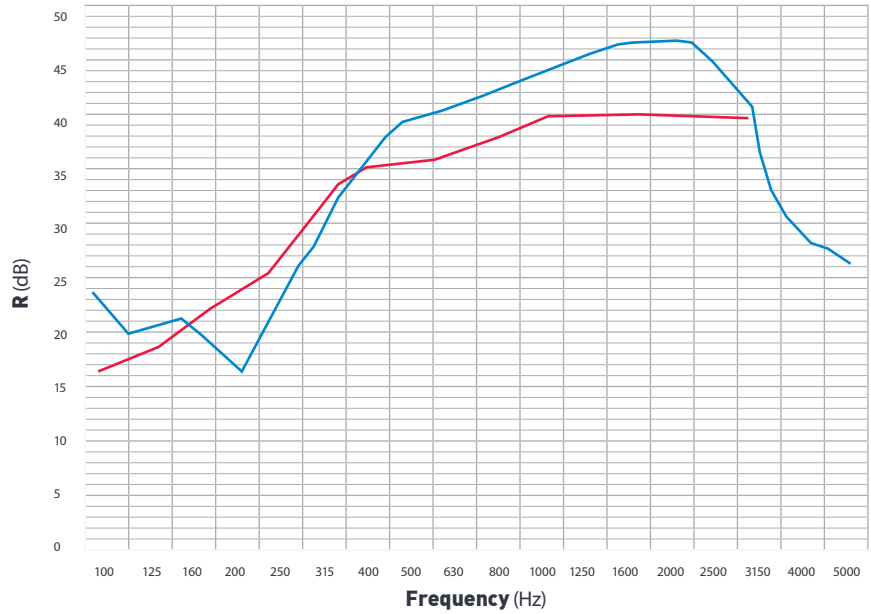
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3150	41.3
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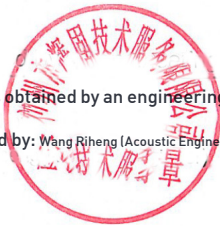


Rating according to ISO 717-1 :1996/Amd.1 :2006.

$R_w$  (C,C<sub>r</sub>) = 36 [-4, -8]dB

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

Checked by: Jin Date: 01/05/2013 Certified by: Wang Riheng (Acoustic Engineer) Amy Date: 01/05/2013



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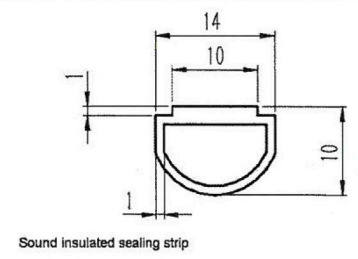
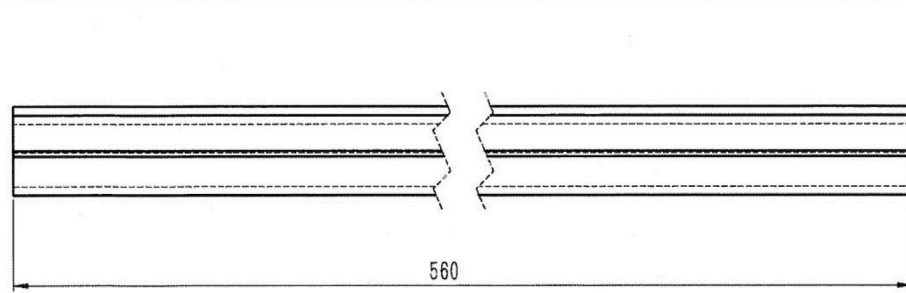
Appendix 1: Details of test specimen (Information supplied by client)

Figure D: 比例 1:6, 557.8

Figure C: 比例 1:6

Figure H: 1:1

9	SM9164-09-107	Countersunk head aluminum rivet	6	A1			
8	SM9164-03-105	Sound insulation cotton	1	隔音棉			
7	SM9164-09-104	Sound insulated sealing strip	2	泡棉胶			
6	SM9164-09-103	Sound insulated sealing strip	2	泡棉胶			
5	SM9164-09-02	Lock	2				
4	SM9164-09-100	Galvanized steel	1	Q235		同SM9164-01-02	
3	SM9164-09-101	Galvanized steel	1	Q235			
2	SM9164-09-01	Frame	1			同SM9164-01-01	
1	GB 12118-2013 井字型隔声屏障板(4*8)		2				
序号	代号	名称	数量	材料	单重	总重	备注
							Intex International Pty LTD
							600X500 隔音安全门
							SM9164-09

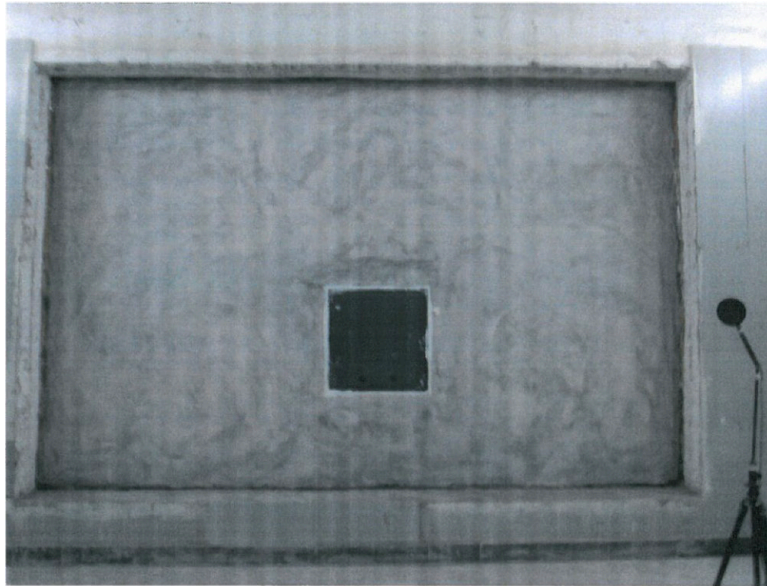


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**Appendix 2:** Photographic records

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End of Report

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- 3.3** Sound insulated sealing strip is sealed around the gap between the frame and the panel. 3.4 Details of installation
- 3.4.1** In order to ensure that the flanking path transmitted sound as little as possible, 240mm thick brick with density of 1700 kg/m<sup>3</sup>, on both side which about 15mm thick plaster was plastered, was used as filler wall.
- 3.4.2** Then the panel was installed. In order to get better air-proof, sealant was caulked around the gap between the frame and filler wall after the panel installed. The details of the tested unit are referring to the drawings and photos given in Appendix.

# RW34

## 4. Principle and Procedure

### 4.1 Principle

The test specimen is placed in an opening between two adjacent reverberation rooms. Random noise is introduced into the source room and part of the sound energy is transmitted through the test specimen into the receiving room. In each one-third octave band of centre frequency 100 to 5000 Hz, the resulting average sound pressure levels in the source room and receiving room are L1 and L2, respectively. The sound reduction index is evaluated from;

$$R = D + 10 \lg \frac{S}{A} = L^1 - L^2 + 10 \lg \frac{S}{A} \text{ dB}$$

where

**D** is the level difference, dB;

**S** is the area of the test specimen, m<sup>2</sup>;

**A** is the equivalent sound absorption area in the receiving room, m<sup>2</sup>;

**A** =  $\frac{0.16V}{T}$  V is the receiving room volume, m<sup>3</sup>;

T is the reverberation time in the receiving room, s.

The weighted sound reduction index R<sup>w</sup> is determined from the value R in the 1/3 octave band with centre frequency 100 to 3150Hz, following the procedure given in ISO 717-1 :1996/Amd.1 :2006.

### 4.2 Procedures

**4.2.1** A calibration was checked on the frequency analyser with reference calibrator before the measurement.

**4.2.2** A high power steady sound source, with a continuous spectrum in the frequency bands

of interest, was generated in the source room and to ensure the transmitted sound level in the receiving room was at least 6 dB above the background noise level at all frequencies. Loudspeaker and microphone positions were chosen according to standard requirements. Measurements were taken for two loudspeaker positions. For each loudspeaker position, at least five microphone positions were chosen in the source and receiving room. The level difference D as per defined in the standard was then calculated.

**4.2.3** Then the loudspeaker was moved to receiving room to measure the reverberation time in accordance with ISO 354:2003. Two loudspeaker positions, for each loudspeaker position, three microphone positions with five readings in each were used.

**4.2.4** A calibration was checked on the frequency analyser with reference calibrator after the measurement. If the deviation of the calibration from before and after measurement was less than 0.5 dB, then the measured result was claimed valid.

# RW34

## 5. Results

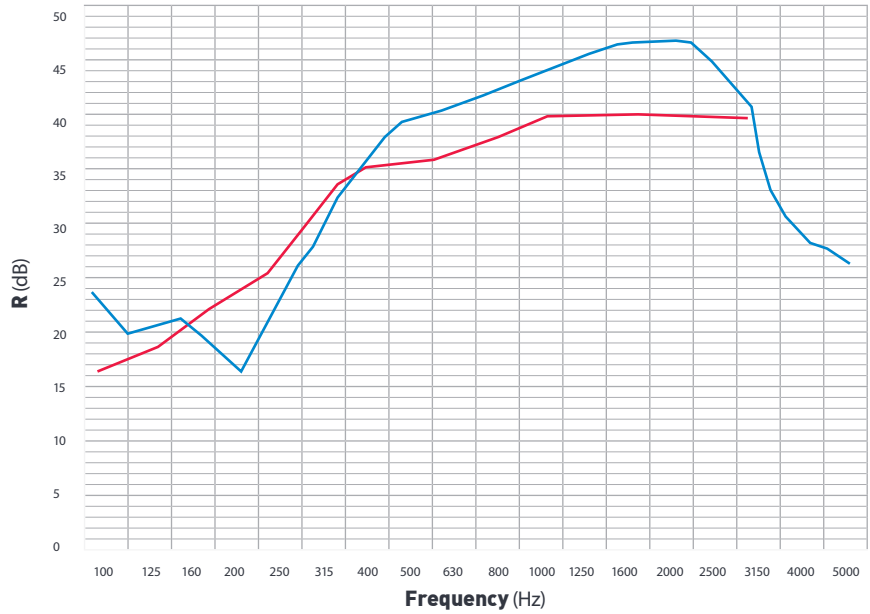
### Laboratory measurements of airborne sound insulation of building elements.

Area of test specimen: 0.36 m<sup>2</sup>  
 Source room volume: 272.5 m<sup>3</sup>  
 Receiving room volume: 151.3 m<sup>3</sup>

#### Key

**R** Sound reduction index, in dB  
**f** frequency, in Hz  
 — Sound reduction index R  
 — Weighted sound reduction index,  $R_w = 36\text{dB}$  reference curve

Frequency f (Hz)	R (1/3 octave (dB))
100	22.4
125	20.5
160	20.9
200	18.2
250	16.9
315	26.7
400	30.6
500	35.8
630	40.0
800	42.1
1000	42.4
1250	44.5
1600	45.9
2000	46.0
2500	44.7
3150	41.3
4000	34.0
5000	31.8

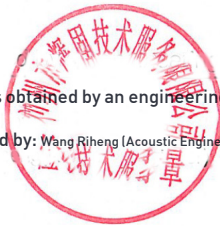


Rating according to ISO 717-1 :1996/Amd.1 :2006.

$R_w [C,C'] = 36 [-4, -8]\text{dB}$

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

Checked by: Jin Date: 09/05/2013 Certified by: Wang Riheng (Acoustic Engineer) Amy Date: 09/05/2013



# RW34



Appendix 1: Details of test specimen (Information supplied by client)

视图 D 比例 1:6  
657.8

视图 C 比例 1:6

9  
6  
8

A  
1:1

2  
1  
3  
2.4  
7  
8

1:1

9	SM9164-09-107	Corner/sunk head aluminum rivet	6	Al		
8	SM9164-09-105	Sound insulation cotton	1	隔音棉		
7	SM9164-09-104	Sound insulated sealing strip	2	泡棉胶		
6	SM9164-09-103	Sound insulated sealing strip	2	泡棉胶		
5	SM9164-09-02	Lock	2			
4	SM9164-09-102	Glaularized steel	1	Q235		同SM9164-01-02
3	SM9164-09-101	Glaularized steel	1	Q235		
2	SM9164-09-01	Frame	1			同SM9164-01-01
1	GB 12118-2011[非膨胀型无机纤维密封条]		2			

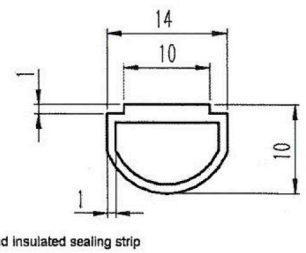
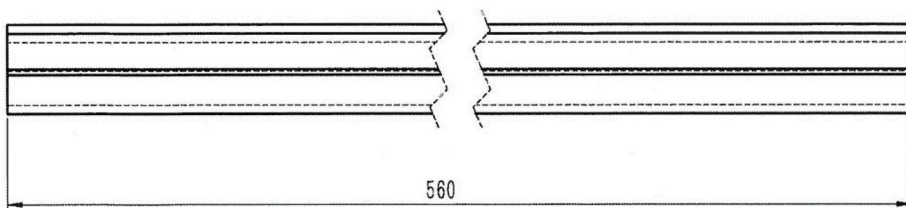
序号 代号 名称 数量 材料 单重 总重 备注

Intex International Pty Ltd

600X600 隔音安全门

SM9164-09

A total of 1 The first one

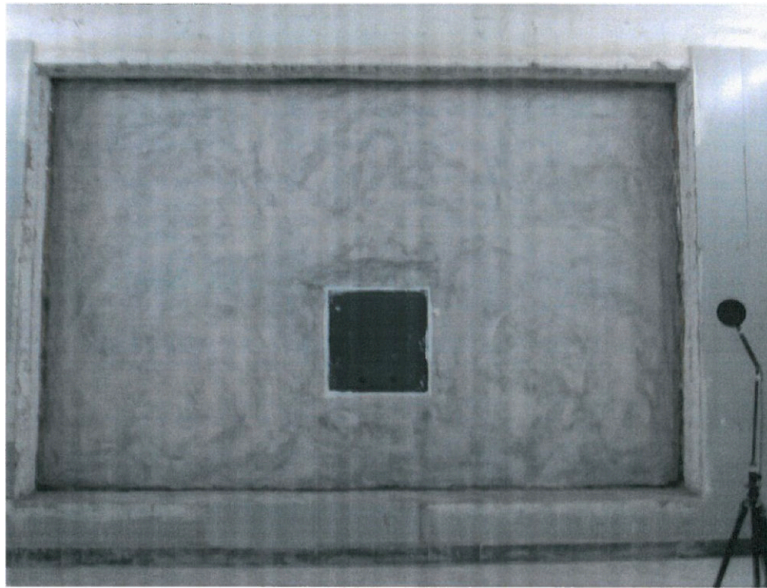


RW34



**Appendix 2:** Photographic records

Source room side



Receiving room side

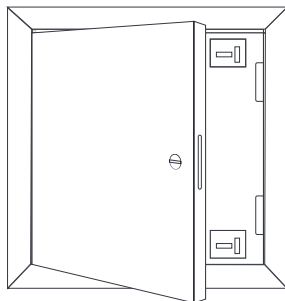


End of Report

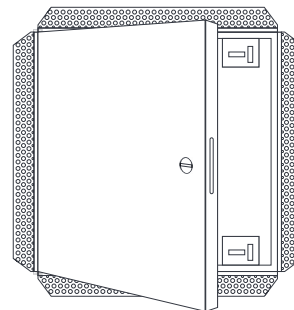
**RW34**



Code	Door	Edge	Lock	Rating	CTN Barcode	CTN QTY
<b>APFL30BW31</b>	Sound Rated MDF 300 x 300mm	Flange	Twist	RW31	9341229001050	1/5
<b>APSB30BW31</b>	Sound Rated MDF 300 x 300mm	Set Bead	Twist	RW31	9341229007519	1/5
<b>APSB30TW31</b>	Sound Rated MDF 300 x 300mm	Set Bead	Touch	RW31	9341229007625	1/5
<b>APFL30BM34</b>	Sound Rated Metal 300 x 300mm	Flange	Twist	<b>RW34</b>	9341229017006	1/5
<b>APSB30BM34</b>	Sound Rated Metal 300 x 300mm	Set Bead	Twist	<b>RW34</b>	9341229017013	1/5
<b>APFL45BW31</b>	Sound Rated MDF 450 x 450mm	Flange	Twist	RW31	9341229001036	1/5
<b>APSB45BW31</b>	Sound Rated MDF 450 x 450mm	Set Bead	Twist	RW31	9341229007632	1/5
<b>APSB45TW31</b>	Sound Rated MDF 450 x 450mm	Set Bead	Touch	RW31	9341229007649	1/5
<b>APFL45BM34</b>	Sound Rated Metal 450 x 450mm	Flange	Twist	<b>RW34</b>	9341229017365	1/5
<b>APSB45BM34</b>	Sound Rated Metal 450 x 450mm	Set Bead	Twist	<b>RW34</b>	9341229017372	1/5
<b>APFL56BW31</b>	Sound Rated MDF 560 x 560mm	Flange	Twist	RW31	9341229000077	1/5
<b>APSB56BW31</b>	Sound Rated MDF 560 x 560mm	Set Bead	Twist	RW31	9341229004266	1/5
<b>APFL60BW31</b>	Sound Rated MDF 600 x 600mm	Flange	Twist	RW31	9341229000053	1/5
<b>APSB60BW31</b>	Sound Rated MDF 600 x 600mm	Set Bead	Twist	RW31	9341229004280	1/5
<b>APFL60BM34</b>	Sound Rated Metal 600 x 600mm	Flange	Twist	<b>RW34</b>	9341229017389	1/5
<b>APSB60BM34</b>	Sound Rated Metal 600 x 600mm	Set Bead	Twist	<b>RW34</b>	9341229017396	1/5



Flange Edge



SetBead Edge

### Drywall Installation

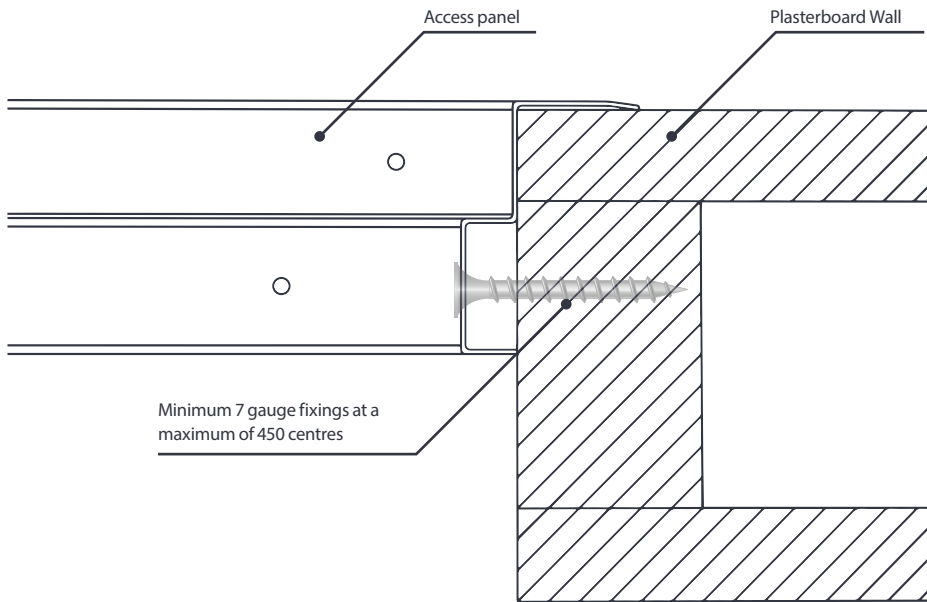


Figure 1

### Masonry Installation

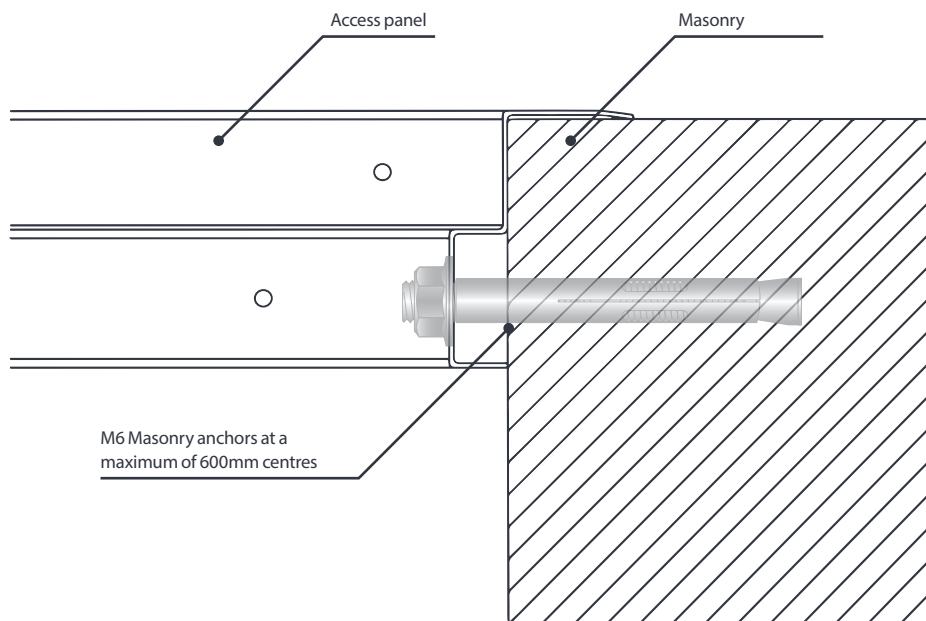


Figure 2