

bre

**Laboratory sound  
insulation  
measurements to  
demonstrate the effect  
of filling empty slots  
with different Tremco  
illbruck Limited  
products**

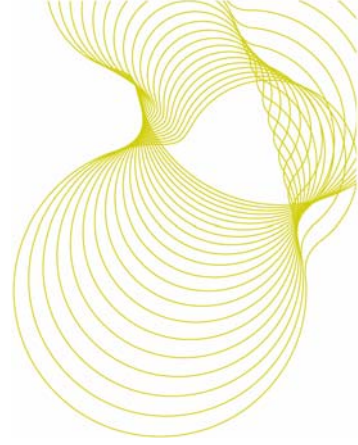
Prepared for: Tremco illbruck  
Limited

07 June 2006

Test report number 230267



0578



**Tested by**

---

Name Mr J Woodcock

Position Technician

Date 07 June 2006

Signature

**Prepared by**

---

Name Mr A Heath

Position Consultant

Date 07 June 2006

Signature

**Checked by**

---

Name Dr R Hall

Position Principal Consultant

Date 07 June 2006

Signature

**Approved on behalf of BRE**

---

Name Mr J Seller

Position Director of Acoustics

Date 07 June 2006

Signature

BRE  
Garston  
WD25 9XX  
T + 44 (0) 1923 664000  
F + 44 (0) 1923 664010  
E enquiries@bre.co.uk  
www.bre.co.uk

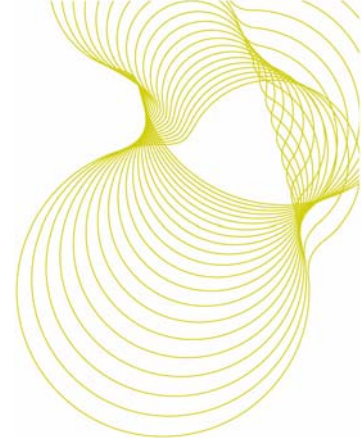
BRE is not UKAS accredited to make opinions and interpretation. Any opinions and interpretations included as part of this report are clearly marked as such.



0578

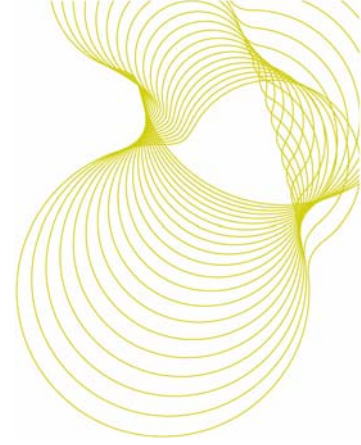
This report may only be distributed in its entirety and in accordance with the terms and conditions of the contract. Test results relate only to the items tested. BRE has no responsibility for the design, materials, workmanship or performance of the product or items tested. This report does not constitute an approval, certification or endorsement of the product tested.

This report is made on behalf of BRE. By receiving the report and action on it, the client – or any third party relying on it – accepts that no individual is personally liable in contract, tort or breach of statutory duty (including negligence).



## Contents

1	Introduction	4
2	Testing details	4
2.1	Test dates and personnel	4
2.2	Test method and applicable standards	4
2.3	Test element installation	4
2.4	Instrumentation	5
2.5	Test numbers	6
2.6	Construction details with test numbers	7
2.7	Sound insulation test results	10
2.8	Plans	11
2.9	Photographs	12
3	Appendices	14
3.1	UKAS test result sheets	14



## **1 Introduction**

BRE Acoustics was commissioned by Tremco illbruck Limited to carry out airborne sound insulation measurements in the BRE horizontal transmission suite (Building 9), BRE, Garston, Watford, Hertfordshire, WD25 9XX.

This report details the testing outlined in BRE proposal 5178 - 116985.

## **2 Testing details**

### **2.1 Test dates and personnel**

The measurements detailed in this report were made on 09 May 2006, 10 May 2006, 11 May 2006, 12 May 2006, 15 May 2006, 16 May 2006, 17 May 2006 and 18 May 2006 by Mr J Woodcock, Mr A Heath and Mr P Guy of BRE Acoustics.

### **2.2 Test method and applicable standards**

Measurement of airborne sound insulation was made in accordance with BS EN ISO 140-3:1995. Single number quantities were calculated in accordance with BS EN ISO 717-1:1997.

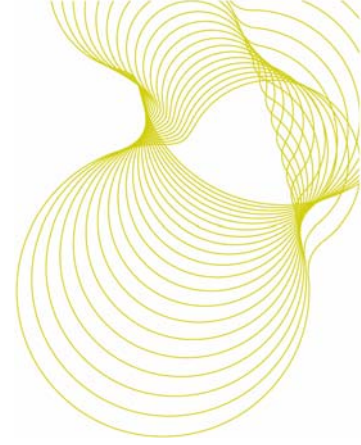
BRE Acoustics holds UKAS accreditation for the measurement of sound insulation in the field and the laboratory. The measurements were conducted using the procedures accredited by UKAS.

An approved Document E Type B internal wall was built with an aperture into which previously constructed cassettes were installed. The cassettes contained either empty slots or slots filled with Tremco illbruck Limited Sealants. The cassettes were constructed prior to the tests to allow curing to take place.

The effect of sealing the slots on the sound insulation of the wall can be derived by comparing results with empty and filled slots of the same width and length.

### **2.3 Test element installation**

The timber stud wall and the cassettes were installed by BRE. The cassettes were constructed by Tremco illbruck Limited.



## 2.4 Instrumentation

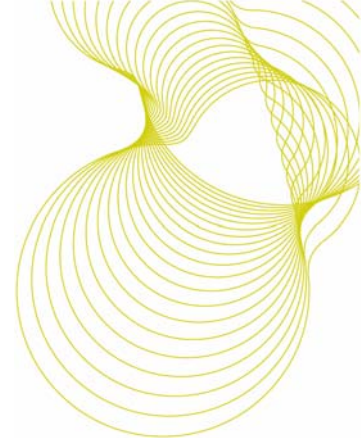
The equipment used to conduct the tests is identified in Table 1.

**Table 1** Equipment list

Equipment description	Manufacturer	Type	UKAS identification number
Microphone Calibrator	B & K	4231	01/002
Microphone	GRAS	40AE	02/307, 02/308
Microphone Preamplifier	GRAS	26CA	04/307, 04/308
Microphone Adapter	NOR	1449	06/105, 06/106
Graphic Equaliser	Phonic	PEQ3300	10/001
Loudspeaker	B & K	4224	11/006
Loudspeaker	NOR	270H	11/014, 11/016
Amplifier	NOR	260H	11/013
Real Time Analyser	NOR	840	13/003
Microphone Rotating Boom	B & K	3923	14/001, 14/002

The gain of the real time analyser was adjusted to give a reading of 94.0 dB at 1 kHz using the B&K type 4231 calibrator.

All equipment is calibrated in accordance with BRE procedures, using reference equipment calibrated by a UKAS accredited laboratory.

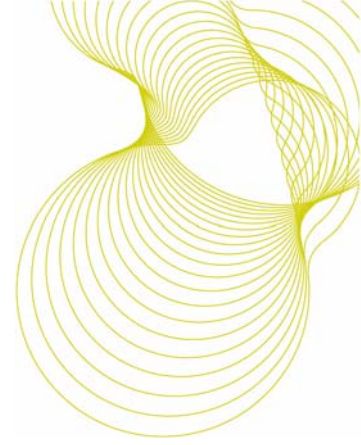


## 2.5 Test numbers

Table 2 lists each test element along with its corresponding test number. The construction details for each test element can be found from Table 3 by referring to the test number.

**Table 2** Test numbers

Test number	Test element	Source room volume (m <sup>3</sup> )	Receive room volume (m <sup>3</sup> )	Common area (m <sup>2</sup> )
L106-058	Timber stud wall	130	115	9.9
L106-059	Timber stud wall	130	115	9.9
L106-060	Timber stud wall	130	115	9.9
L106-061	Timber stud wall	130	115	9.9
L106-062	Timber stud wall	130	115	9.9
L106-063	Timber stud wall	130	115	9.9
L106-064	Timber stud wall	130	115	9.9
L106-065	Timber stud wall	130	115	9.9
L106-066	Timber stud wall	130	115	9.9
L106-067	Timber stud wall	130	115	9.9
L106-068	Timber stud wall	130	115	9.9
L106-069	Timber stud wall	130	115	9.9
L106-070	Timber stud wall	130	115	9.9
L106-071	Timber stud wall	130	115	9.9
L106-072	Timber stud wall	130	115	9.9
L106-073	Timber stud wall	130	115	9.9
L106-074	Timber stud wall	130	115	9.9
L106-075	Timber stud wall	130	115	9.9
L106-076	Timber stud wall	130	115	9.9



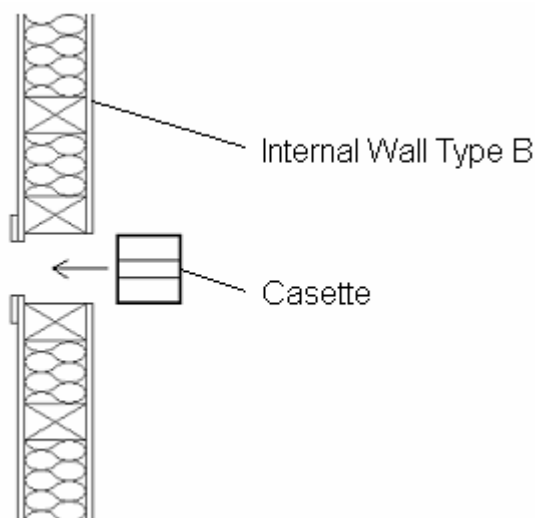
## 2.6 Construction details with test numbers

The wall used in all tests and into which all cassettes were fitted is illustrated in Figure 1. Each cassette was made from 100 mm x 50 mm timber studs and contained a 2000 mm slot of a specified width (see Figure 2). All cassettes were either empty or contained the appropriate sealant.

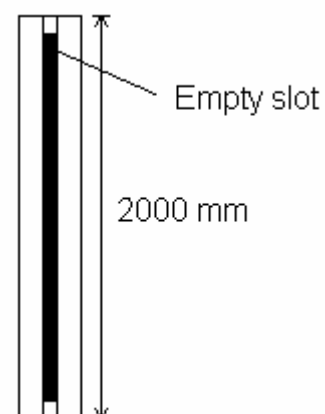
The Approved Document E type internal wall construction is as follows.

- 15 mm Knauf standard wallboard (10.2 kg/m<sup>2</sup>) screwed to
- Timber Studs 100 mm x 50 mm at 600 mm centres (3 kg/m)
- 100 mm Rockwool Flexi (34 kg/m<sup>3</sup>) between timber studs
- 15 mm Knauf standard wallboard (10.2 kg/m<sup>2</sup>)
- All joints well sealed

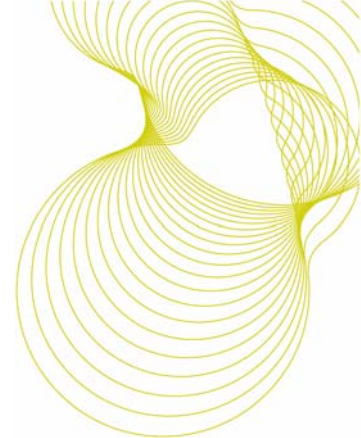
All the cassettes tested are described in Table 3. They were installed into the wall, packed with mineral wool around the samples edges and sealed with flexible acrylic sealant on both source and receive room sides.



**Figure 1** – Plan view of wall construction used to fit cassettes



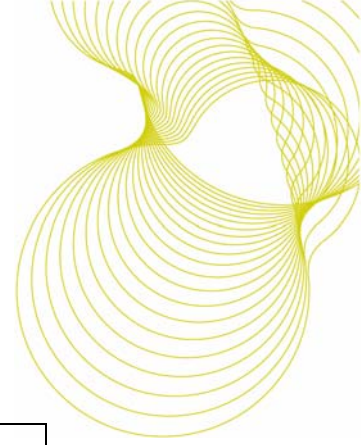
**Figure 2** - Side elevation of cassette



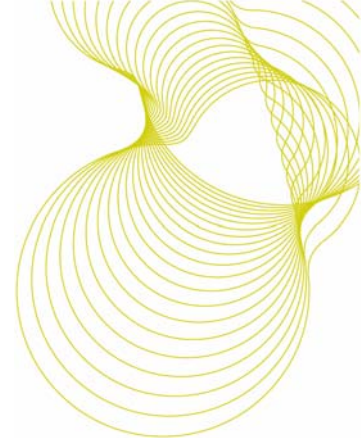
**Table 3** Construction details

Test element	Test number	Construction details
Timber stud wall	L106-058	Wall with sample 17: 25 mm wide x 100 mm deep open slot
Timber stud wall	L106-059	Wall with sample 11: 25 mm slot filled to a depth of 100 mm with Webbflex B3 gun grade (trimmed flush both faces)
Timber stud wall	L106-060	Wall with sample 12: 25 mm slot filled to a depth of 100 mm with Webbflex B1 gun grade (trimmed flush both faces)
Timber stud wall	L106-061	Wall with sample 13: 25 mm slot filled to a depth of 100 mm with Alfas Bond FR gun grade (trimmed flush both faces)
Timber stud wall	L106-062	Wall with sample 18: 15 mm wide x 100 mm deep open slot
Timber stud wall	L106-063	Wall with sample 2: 15 mm slot filled to a depth of 20 mm with Compriband 600 (20/8-15)
Timber stud wall	L106-064	Wall with sample 16: 10 mm wide x 100 mm deep open slot
Timber stud wall	L106-065	Wall with sample 4: 10 mm slot filled to a depth of 20 mm with Compriband 600 (20/8-15)
Timber stud wall	L106-066	Wall with sample 8: 10 mm slot filled to a depth of 10 mm with Webbseal Acoustic (Webbseal Acrylic) applied over a 15mm diameter PE backer rod.
Timber stud wall	L106-067	Wall with sample 9: 10 mm slot filled to a depth of 10 mm with Webbseal FR Acoustic Int. acrylic (Alfacryl FR, Webbseal FRA) applied over a 15mm diameter PE backer rod.
Timber stud wall	L106-068	Wall with sample 10: 10 mm slot filled to a depth of 10 mm with Webbseal FRS (Alfasil FR) applied over a 15mm diameter PE backer rod.
Timber stud wall	L106-069	Wall with sample 19: 10 mm slot filled to a depth of 20 mm with Compriband Super FR (20 mm Wide x 50 mm Thick)





Timber stud wall	L106-070	Wall with sample 15: 8 mm wide x 100 mm deep open slot
Timber stud wall	L106-071	Wall with sample 1: 8 mm slot filled to a depth of 20 mm with Compriband 600 (20/8-15)
Timber stud wall	L106-072	Wall with sample 5: 8 mm slot filled to a depth of 20 mm with Compriband 600 (20/8-15) + I3 PU canister foam + illbruck Internal Window Foil 'E' + Lapseal on foil ends
Timber stud wall	L106-073	Wall with sample 6: 8 mm slot filled to a depth of 20 mm with Compriband Super (20 mm Wide x 40 mm Thick)
Timber stud wall	L106-074	Wall with sample 3: 8 mm slot filled to a depth of 15 mm with Compriband 600 (15/8-15)
Timber stud wall	L106-075	Wall with sample 14: 5 mm wide by 100 mm deep open slot
Timber stud wall	L106-076	Wall with sample 7: 5 mm slot filled to a depth of 10 mm with Alfas Seal P115SR (10 mm Wide x 8 mm Thick)

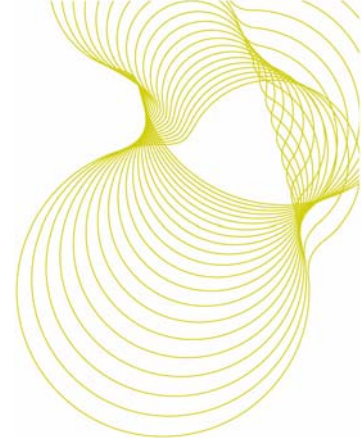


## 2.7 Sound insulation test results

The single number quantities for the sound insulation tests are shown in Table 4. The UKAS test result sheets are included in the appendices.

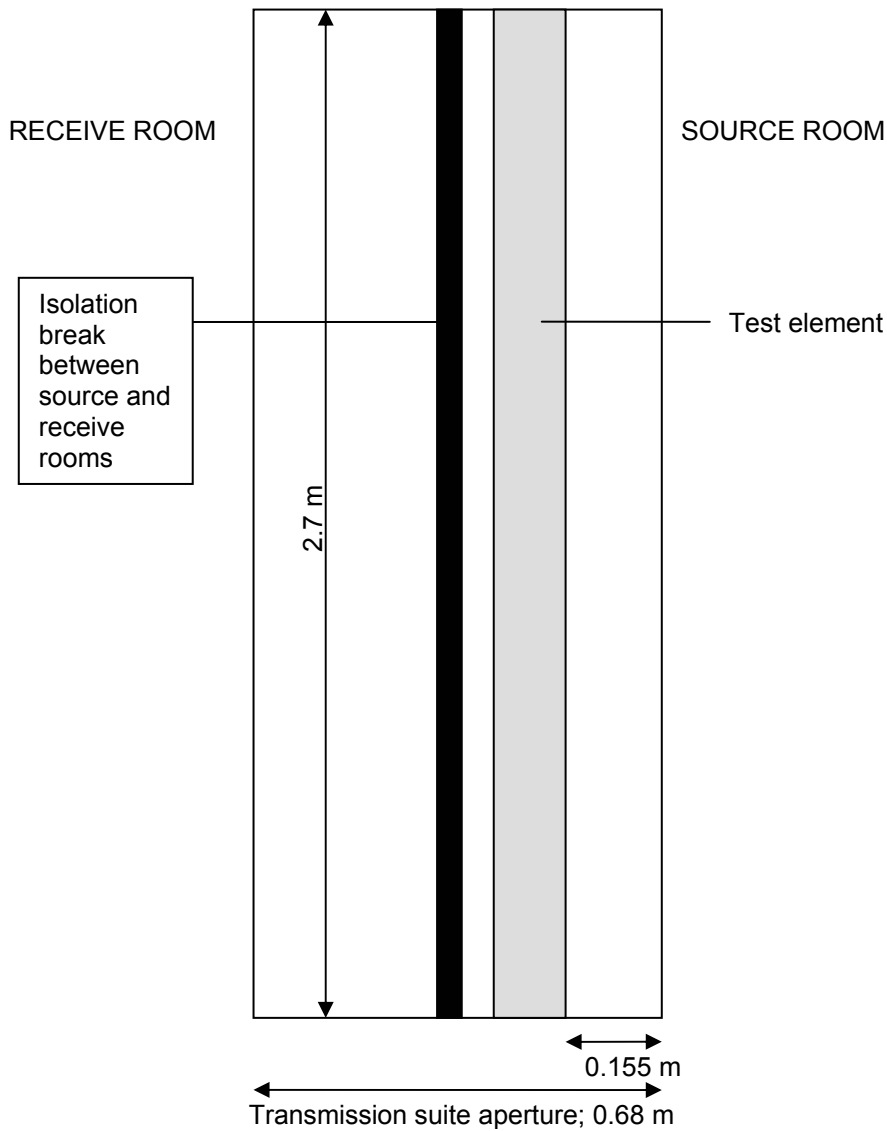
**Table 4** Test results

Test number	$R_w (C; C_{tr})$ (dB)
L106-058	20 (-1;-1)
L106-059	40 (-2;-7)
L106-060	40 (-2;-7)
L106-061	40 (-2;-7)
L106-062	22 (-1;0)
L106-063	28 (0;-1)
L106-064	23 (0;0)
L106-065	37 (-1;-5)
L106-066	41 (-2;-7)
L106-067	41 (-2;-8)
L106-068	41 (-2;-8)
L106-069	35 (0;-3)
L106-070	25 (-1;0)
L106-071	39 (-1;-7)
L106-072	41 (-3;-9)
L106-073	34 (-1;-4)
L106-074	39 (-1;-7)
L106-075	26 (-1;0)
L106-076	41 (-3;-9)

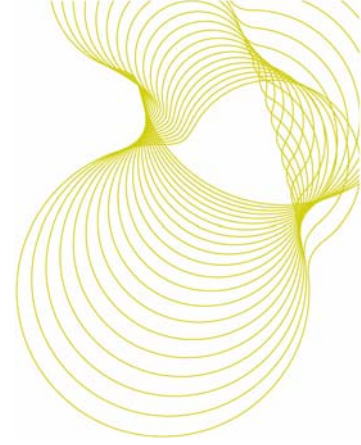


## 2.8 Plans

The position of the timber stud wall in the transmission suite aperture is indicated in Figure 3.



**Figure 3** Section through elevation showing the position of the timber stud wall in the transmission suite aperture



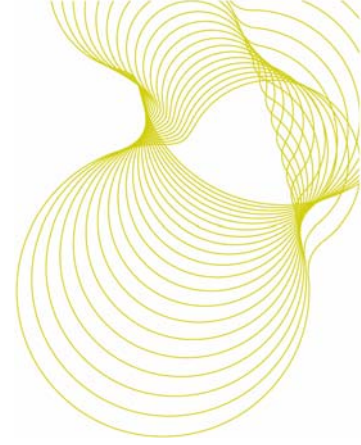
## 2.9 Photographs



**Figure 4** - Sample cassette with 25 mm wide x 100 mm deep open slot



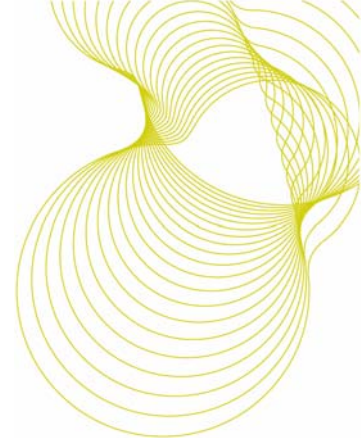
**Figure 5** Sealed slot, source room side



**Figure 6** Empty slot, receive room side



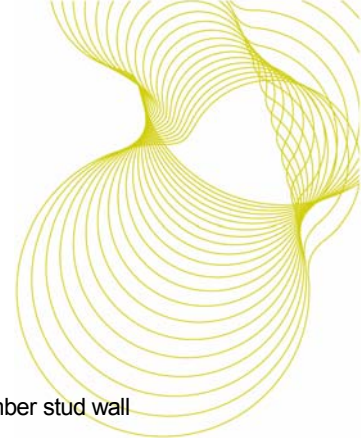
**Figure 7** Filled slot, receive room side



### **3 Appendices**

#### **3.1 UKAS test result sheets**

Page number	Test number
15	L106-058
17	L106-059
19	L106-060
21	L106-061
23	L106-062
25	L106-063
27	L106-064
29	L106-065
31	L106-066
33	L106-067
35	L106-068
37	L106-069
39	L106-070
41	L106-071
43	L106-072
45	L106-073
47	L106-074
49	L106-075
51	L106-076



**Laboratory measurement of airborne sound insulation of building elements**  
**Sound reduction index according to BS EN ISO 140-3:1995**  
**BRE horizontal transmission suite (B9 051-053)**

**Client:** Tremco illbruck Limited

**Test date:** 09/05/2006

**Test number:** L106-058

**Test element:** Timber stud wall

0578

**Test element area:** 9.9 m<sup>2</sup>

**Description:**

Wall with sample 17: 25 mm wide x 100 mm deep open slot

**Source room volume:** 130 m<sup>3</sup>

**Air temperature:** 16 °C

**Receive room volume:** 115 m<sup>3</sup>

**Air relative humidity:** 68 %

Frequency (Hz)	Reverberation time (s)	Background level (dB)	Source level (dB)	Receive level (dB)	R (dB)
50	2.14	28.5	86.4	69.7	17.3
63	2.21	25.6	92.1	76.8	16.1
80	1.87	20.7	91.3	79.7	11.6
100	1.17	16.1	94.2	78.2	14.0
125	1.51	12.4	96.1	70.9	24.3
160	1.52	8.2	97.1	71.9	24.3
200	1.52	11.8	100.8	75.9	24.0
250	1.47	4.6	100.8	76.0	23.8
315	1.49	4.3	99.9	75.2	23.7
400	1.45	9.2	100.6	75.4	24.1
500	1.59	5.9	101.6	77.2	23.7
630	1.63	2.3	103.1	80.1	22.4
800	1.55	2.9	102.8	81.5	20.5
1,000	1.52	13.1	102.7	84.0	17.9
1,250	1.50	4.5	101.4	82.9	17.6
1,600	1.53	2.4	101.5	83.2	17.5
2,000	1.56	2.9	100.6	81.2	18.6
2,500	1.49	3.6	99.9	78.4	20.5
3,150	1.46	5.3	96.9	74.9	20.9
4,000	1.35	7.3	94.1	70.9	21.8
5,000	1.23	5.7	88.9	64.7	22.4

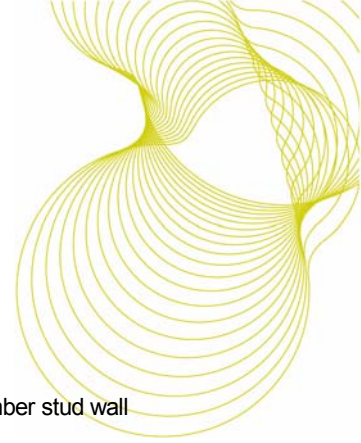
Rating according to BS EN ISO 717-1:1997

**$R_w (C; C_{tr}) = 20 (-1; -1)$  dB**     $C_{50-3150} = -1$  dB     $C_{50-5000} = 0$  dB     $C_{100-5000} = 0$  dB  
 $C_{tr,50-3150} = -1$  dB     $C_{tr,50-5000} = -1$  dB     $C_{tr,100-5000} = -1$  dB

Evaluation based on laboratory measurement results obtained by an engineering method

Based on the data provided in BS EN 20140-2:1993 it is estimated that the measurement uncertainty should not exceed  $\pm 1$  dB for the single-number quantity ( $R_w$ ) and should not exceed the values in Table A1 of BS EN 20140-2:1993 for the data in the individual third octaves (R)

This page may only be distributed with the test report in its entirety and in accordance with the terms and conditions of the contract



**Laboratory measurement of airborne sound insulation of building elements**  
**Sound reduction index according to BS EN ISO 140-3:1995**  
**BRE horizontal transmission suite (B9 051-053)**

**Client:** Tremco illbruck Limited  
**Test date:** 09/05/2006      **Test number:** L106-058      **Test element:** Timber stud wall

0578

**Test element area:** 9.9 m<sup>2</sup>

**Description:**

Wall with sample 17: 25 mm wide x 100 mm deep open slot

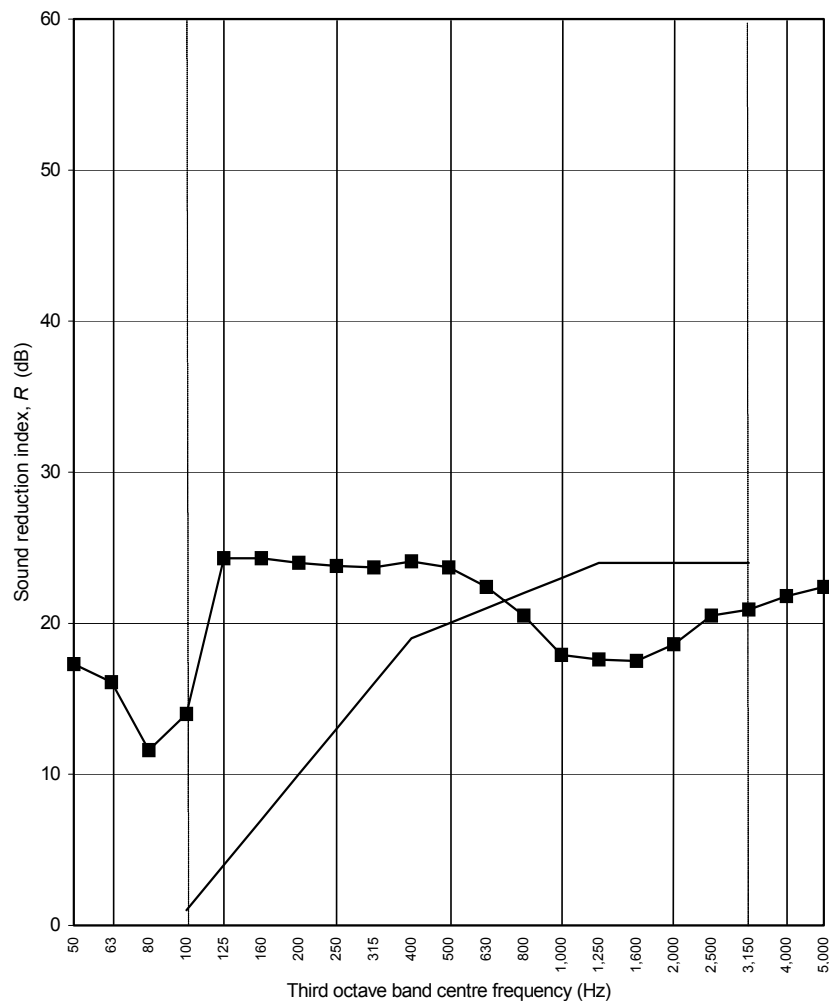
**Source room volume:** 130 m<sup>3</sup>

**Air temperature:** 16 °C

**Receive room volume:** 115 m<sup>3</sup>

**Air relative humidity:** 68 %

Frequency (Hz)	R One-third octave (dB)
50	17.3
63	16.1
80	11.6
100	14.0
125	24.3
160	24.3
200	24.0
250	23.8
315	23.7
400	24.1
500	23.7
630	22.4
800	20.5
1,000	17.9
1,250	17.6
1,600	17.5
2,000	18.6
2,500	20.5
3,150	20.9
4,000	21.8
5,000	22.4



Rating according to BS EN ISO 717-1:1997

**$R_w (C; C_{tr}) = 20 (-1; -1) \text{ dB}$**        $C_{50-3150} = -1 \text{ dB}$        $C_{50-5000} = 0 \text{ dB}$        $C_{100-5000} = 0 \text{ dB}$   
 $C_{tr,50-3150} = -1 \text{ dB}$        $C_{tr,50-5000} = -1 \text{ dB}$        $C_{tr,100-5000} = -1 \text{ dB}$

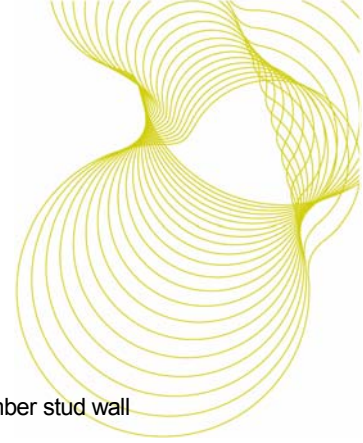
Evaluation based on laboratory measurement results obtained by an engineering method

Based on the data provided in BS EN 20140-2:1993 it is estimated that the measurement uncertainty should not exceed  $\pm 1 \text{ dB}$  for the single-number quantity ( $R_w$ ) and should not exceed the values in Table A1 of BS EN 20140-2:1993 for the data in the individual third octaves (R)

This page may only be distributed with the test report in its entirety and in accordance with the terms and conditions of the contract



Laboratory sound insulation measurements to demonstrate the effect of filling empty slots with different Tremco illbruck Limited products



**Laboratory measurement of airborne sound insulation of building elements**

**Sound reduction index according to BS EN ISO 140-3:1995**

**BRE horizontal transmission suite (B9 051-053)**

**Client:** Tremco illbruck Limited

**Test date:** 09/05/2006

**Test number:** L106-059

**Test element:** Timber stud wall

0578

**Test element area:** 9.9 m<sup>2</sup>

**Description:**

Wall with sample 11: 25 mm slot filled to a depth of 100 mm with Webbflex B3 gun grade (trimmed flush both faces)

**Source room volume:** 130 m<sup>3</sup>

**Air temperature:** 17 °C

**Receive room volume:** 115 m<sup>3</sup>

**Air relative humidity:** 67 %

Frequency (Hz)	Reverberation time (s)	Background level (dB)	Source level (dB)	Receive level (dB)	R (dB)
50	2.14	23.5	87.1	66.5	21.2
63	1.94	21.4	92.5	75.4	17.3
80	1.88	17.9	91.8	78.5	13.4
100	1.10	14.6	94.2	78.2	13.7
125	1.52	7.6	95.6	69.2	25.5
160	1.46	4.0	96.8	61.7	34.1
200	1.57	7.1	100.9	64.3	35.8
250	1.50	7.2	100.7	63.5	36.3
315	1.43	5.2	99.8	61.7	36.9
400	1.52	10.9	100.5	62.4	37.2
500	1.56	6.3	101.5	62.5	38.2
630	1.54	1.9	103.0	62.7	39.5
800	1.51	3.8	102.7	59.7	42.1
1,000	1.54	12.0	102.7	57.6	44.3
1,250	1.51	3.1	101.4	54.7	45.8
1,600	1.53	2.2	101.4	54.5	46.1
2,000	1.55	2.9	100.4	57.9	41.7
2,500	1.52	3.6	99.8	62.0	36.9
3,150	1.48	5.0	97.1	56.3	39.8
4,000	1.38	7.2	94.3	47.9	45.0
5,000	1.26	5.5	89.5	38.3	49.5

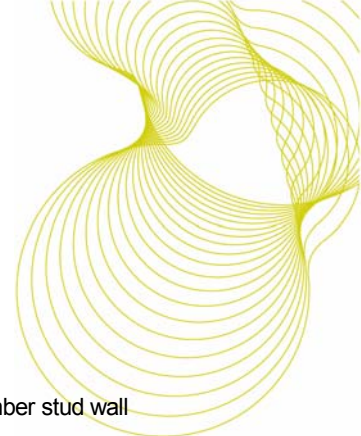
Rating according to BS EN ISO 717-1:1997

**$R_w (C; C_{tr}) = 40 (-2; -7) \text{ dB}$**   $C_{50-3150} = -3 \text{ dB}$   $C_{50-5000} = -2 \text{ dB}$   $C_{100-5000} = -1 \text{ dB}$   
 $C_{tr,50-3150} = -10 \text{ dB}$   $C_{tr,50-5000} = -10 \text{ dB}$   $C_{tr,100-5000} = -7 \text{ dB}$

Evaluation based on laboratory measurement results obtained by an engineering method

Based on the data provided in BS EN 20140-2:1993 it is estimated that the measurement uncertainty should not exceed  $\pm 1 \text{ dB}$  for the single-number quantity ( $R_w$ ) and should not exceed the values in Table A1 of BS EN 20140-2:1993 for the data in the individual third octaves (R)

This page may only be distributed with the test report in its entirety and in accordance with the terms and conditions of the contract



**Laboratory measurement of airborne sound insulation of building elements**  
**Sound reduction index according to BS EN ISO 140-3:1995**  
**BRE horizontal transmission suite (B9 051-053)**

**Client:** Tremco illbruck Limited

**Test date:** 09/05/2006

**Test number:** L106-059

**Test element:** Timber stud wall

0578

**Test element area:** 9.9 m<sup>2</sup>

**Description:**

Wall with sample 11: 25 mm slot filled to a depth of 100 mm with Webbflex B3 gun grade (trimmed flush both faces)

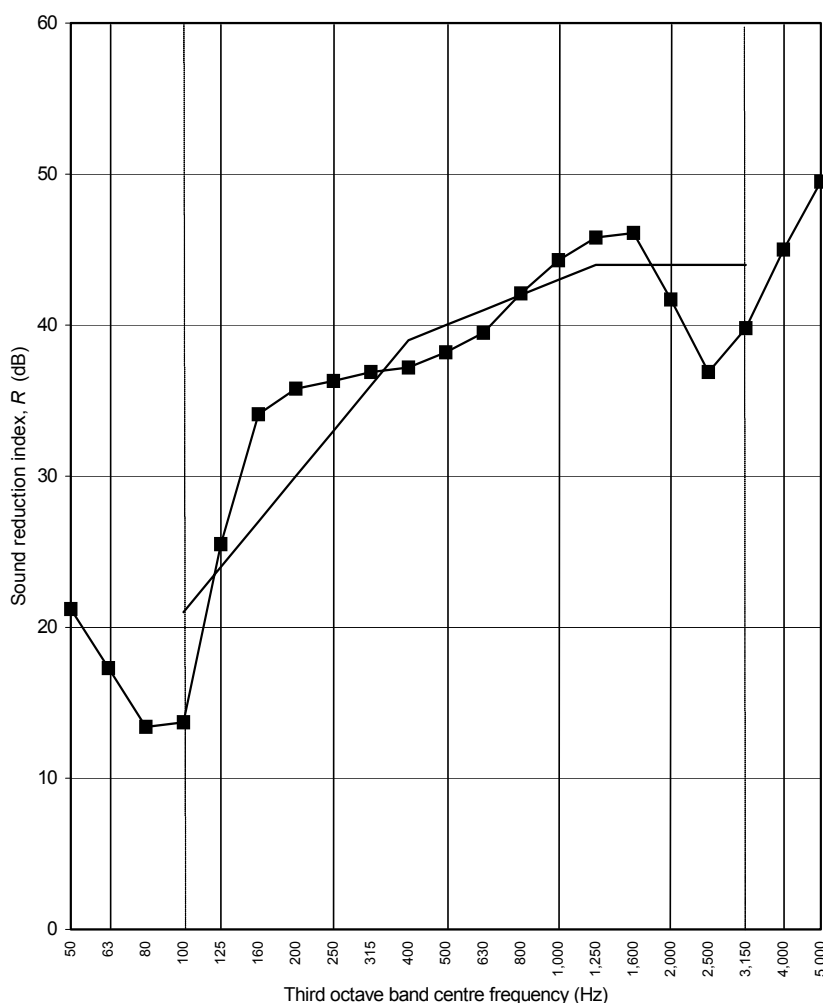
**Source room volume:** 130 m<sup>3</sup>

**Air temperature:** 17 °C

**Receive room volume:** 115 m<sup>3</sup>

**Air relative humidity:** 67 %

Frequency (Hz)	R One-third octave (dB)
50	21.2
63	17.3
80	13.4
100	13.7
125	25.5
160	34.1
200	35.8
250	36.3
315	36.9
400	37.2
500	38.2
630	39.5
800	42.1
1,000	44.3
1,250	45.8
1,600	46.1
2,000	41.7
2,500	36.9
3,150	39.8
4,000	45.0
5,000	49.5



Rating according to BS EN ISO 717-1:1997

**$R_w (C; C_{tr}) = 40 (-2; -7) \text{ dB}$**       $C_{50-3150} = -3 \text{ dB}$       $C_{50-5000} = -2 \text{ dB}$       $C_{100-5000} = -1 \text{ dB}$   
 $C_{tr,50-3150} = -10 \text{ dB}$       $C_{tr,50-5000} = -10 \text{ dB}$       $C_{tr,100-5000} = -7 \text{ dB}$

Evaluation based on laboratory measurement results obtained by an engineering method

Based on the data provided in BS EN 20140-2:1993 it is estimated that the measurement uncertainty should not exceed  $\pm 1 \text{ dB}$  for the single-number quantity ( $R_w$ ) and should not exceed the values in Table A1 of BS EN 20140-2:1993 for the data in the individual third octaves (R)

This page may only be distributed with the test report in its entirety and in accordance with the terms and conditions of the contract



**Laboratory measurement of airborne sound insulation of building elements**

**Sound reduction index according to BS EN ISO 140-3:1995**

**BRE horizontal transmission suite (B9 051-053)**

**Client:** Tremco illbruck Limited

**Test date:** 10/05/2006

**Test number:** L106-060

**Test element:** Timber stud wall

0578

**Test element area:** 9.9 m<sup>2</sup>

**Description:**

Wall with sample 12: 25 mm slot filled to a depth of 100 mm with Webbflex B1 gun grade (trimmed flush both faces)

**Source room volume:** 130 m<sup>3</sup>

**Air temperature:** 16 °C

**Receive room volume:** 115 m<sup>3</sup>

**Air relative humidity:** 66 %

Frequency (Hz)	Reverberation time (s)	Background level (dB)	Source level (dB)	Receive level (dB)	R (dB)
50	2.12	28.4	86.5	66.4	20.7
63	2.08	28.2	92.6	75.7	17.4
80	1.95	19.6	92.3	78.3	14.2
100	1.18	16.8	94.3	77.8	14.5
125	1.49	14.6	95.9	69.6	25.3
160	1.59	9.6	96.7	62.0	34.1
200	1.54	9.9	100.3	64.5	35.0
250	1.48	8.1	100.5	63.5	36.0
315	1.49	6.8	99.6	62.2	36.5
400	1.51	8.5	100.5	62.5	37.1
500	1.58	6.2	101.4	62.8	37.9
630	1.54	3.9	103.1	62.8	39.5
800	1.50	4.3	102.8	60.0	41.9
1,000	1.55	13.5	102.9	57.8	44.3
1,250	1.51	4.6	101.5	54.9	45.7
1,600	1.57	2.7	101.6	54.8	46.1
2,000	1.53	3.3	100.7	58.0	41.9
2,500	1.53	3.8	100.0	62.1	37.1
3,150	1.43	4.9	97.0	56.1	39.8
4,000	1.37	6.9	94.2	47.9	45.0
5,000	1.24	5.7	89.3	39.4	48.2

Rating according to BS EN ISO 717-1:1997

**R<sub>w</sub> (C; C<sub>tr</sub>) = 40 (-2; -7) dB**    C<sub>50-3150</sub> = -2 dB    C<sub>50-5000</sub> = -1 dB    C<sub>100-5000</sub> = -1 dB  
 C<sub>tr,50-3150</sub> = -10 dB    C<sub>tr,50-5000</sub> = -10 dB    C<sub>tr,100-5000</sub> = -7 dB

Evaluation based on laboratory measurement results obtained by an engineering method

Based on the data provided in BS EN 20140-2:1993 it is estimated that the measurement uncertainty should not exceed ±1 dB for the single-number quantity (R<sub>w</sub>) and should not exceed the values in Table A1 of BS EN 20140-2:1993 for the data in the individual third octaves (R)



**Laboratory measurement of airborne sound insulation of building elements**  
**Sound reduction index according to BS EN ISO 140-3:1995**  
**BRE horizontal transmission suite (B9 051-053)**

**Client:** Tremco illbruck Limited

**Test date:** 10/05/2006

**Test number:** L106-060

**Test element:** Timber stud wall

0578

**Test element area:** 9.9 m<sup>2</sup>

**Description:**

Wall with sample 12: 25 mm slot filled to a depth of 100 mm with Webbflex B1 gun grade (trimmed flush both faces)

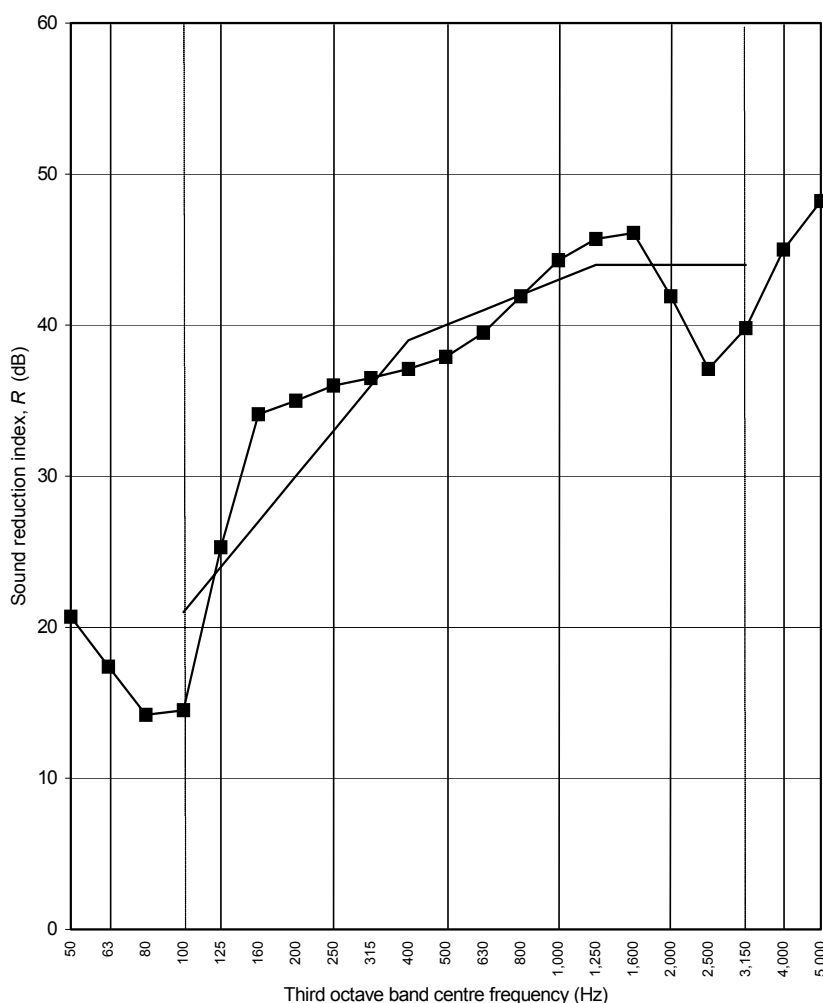
**Source room volume:** 130 m<sup>3</sup>

**Air temperature:** 16 °C

**Receive room volume:** 115 m<sup>3</sup>

**Air relative humidity:** 66 %

Frequency (Hz)	R One-third octave (dB)
50	20.7
63	17.4
80	14.2
100	14.5
125	25.3
160	34.1
200	35.0
250	36.0
315	36.5
400	37.1
500	37.9
630	39.5
800	41.9
1,000	44.3
1,250	45.7
1,600	46.1
2,000	41.9
2,500	37.1
3,150	39.8
4,000	45.0
5,000	48.2



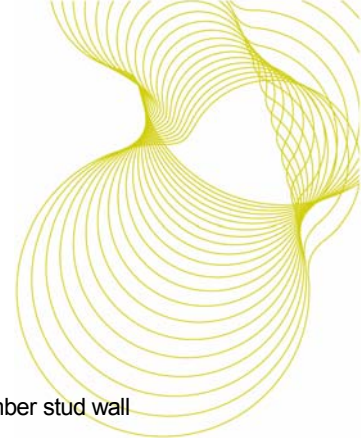
Rating according to BS EN ISO 717-1:1997

**$R_w (C; C_{tr}) = 40 (-2; -7) \text{ dB}$**       $C_{50-3150} = -2 \text{ dB}$       $C_{50-5000} = -1 \text{ dB}$       $C_{100-5000} = -1 \text{ dB}$   
 $C_{tr,50-3150} = -10 \text{ dB}$       $C_{tr,50-5000} = -10 \text{ dB}$       $C_{tr,100-5000} = -7 \text{ dB}$

Evaluation based on laboratory measurement results obtained by an engineering method

Based on the data provided in BS EN 20140-2:1993 it is estimated that the measurement uncertainty should not exceed  $\pm 1 \text{ dB}$  for the single-number quantity ( $R_w$ ) and should not exceed the values in Table A1 of BS EN 20140-2:1993 for the data in the individual third octaves ( $R$ )

This page may only be distributed with the test report in its entirety and in accordance with the terms and conditions of the contract



**Laboratory measurement of airborne sound insulation of building elements**

**Sound reduction index according to BS EN ISO 140-3:1995**

**BRE horizontal transmission suite (B9 051-053)**

**Client:** Tremco illbruck Limited

**Test date:** 10/05/2006

**Test number:** L106-061

**Test element:** Timber stud wall

0578

**Test element area:** 9.9 m<sup>2</sup>

**Description:**

Wall with sample 13: 25 mm slot filled to a depth of 100 mm with Alfas Bond FR gun grade (trimmed flush both faces)

**Source room volume:** 130 m<sup>3</sup>

**Air temperature:** 16 °C

**Receive room volume:** 115 m<sup>3</sup>

**Air relative humidity:** 68 %

Frequency (Hz)	Reverberation time (s)	Background level (dB)	Source level (dB)	Receive level (dB)	R (dB)
50	2.31	21.6	86.8	65.5	22.2
63	2.09	20.3	92.9	75.4	17.9
80	1.99	16.6	92.5	78.6	14.2
100	1.10	13.4	94.4	78.2	13.9
125	1.47	9.4	95.5	70.0	24.5
160	1.54	7.2	96.9	61.9	34.2
200	1.45	10.0	100.9	64.3	35.5
250	1.49	10.8	100.9	63.8	36.1
315	1.49	10.6	99.5	62.2	36.4
400	1.47	11.5	100.4	62.5	36.9
500	1.62	9.2	101.5	62.7	38.2
630	1.55	13.1	103.0	62.8	39.4
800	1.54	9.3	102.7	59.9	42.0
1,000	1.54	12.9	102.7	57.8	44.1
1,250	1.49	7.9	101.5	54.8	45.7
1,600	1.57	5.3	101.5	54.5	46.2
2,000	1.56	4.4	100.5	57.7	42.0
2,500	1.55	4.7	99.9	61.9	37.2
3,150	1.49	5.2	97.1	56.1	40.1
4,000	1.40	6.8	95.2	48.4	45.6
5,000	1.26	5.9	89.8	40.0	48.1

Rating according to BS EN ISO 717-1:1997

**$R_w(C; C_{tr}) = 40 (-2; -7) \text{ dB}$**       $C_{50-3150} = -2 \text{ dB}$       $C_{50-5000} = -2 \text{ dB}$       $C_{100-5000} = -1 \text{ dB}$   
 $C_{tr,50-3150} = -10 \text{ dB}$       $C_{tr,50-5000} = -10 \text{ dB}$       $C_{tr,100-5000} = -7 \text{ dB}$

Evaluation based on laboratory measurement results obtained by an engineering method

*Based on the data provided in BS EN 20140-2:1993 it is estimated that the measurement uncertainty should not exceed ±1 dB for the single-number quantity ( $R_w$ ) and should not exceed the values in Table A1 of BS EN 20140-2:1993 for the data in the individual third octaves ( $R$ )*

This page may only be distributed with the test report in its entirety and in accordance with the terms and conditions of the contract



**Laboratory measurement of airborne sound insulation of building elements**  
**Sound reduction index according to BS EN ISO 140-3:1995**  
**BRE horizontal transmission suite (B9 051-053)**

**Client:** Tremco illbruck Limited

**Test date:** 10/05/2006

**Test number:** L106-061

**Test element:** Timber stud wall

0578

**Test element area:** 9.9 m<sup>2</sup>

**Description:**

Wall with sample 13: 25 mm slot filled to a depth of 100 mm with Alfas Bond FR gun grade (trimmed flush both faces)

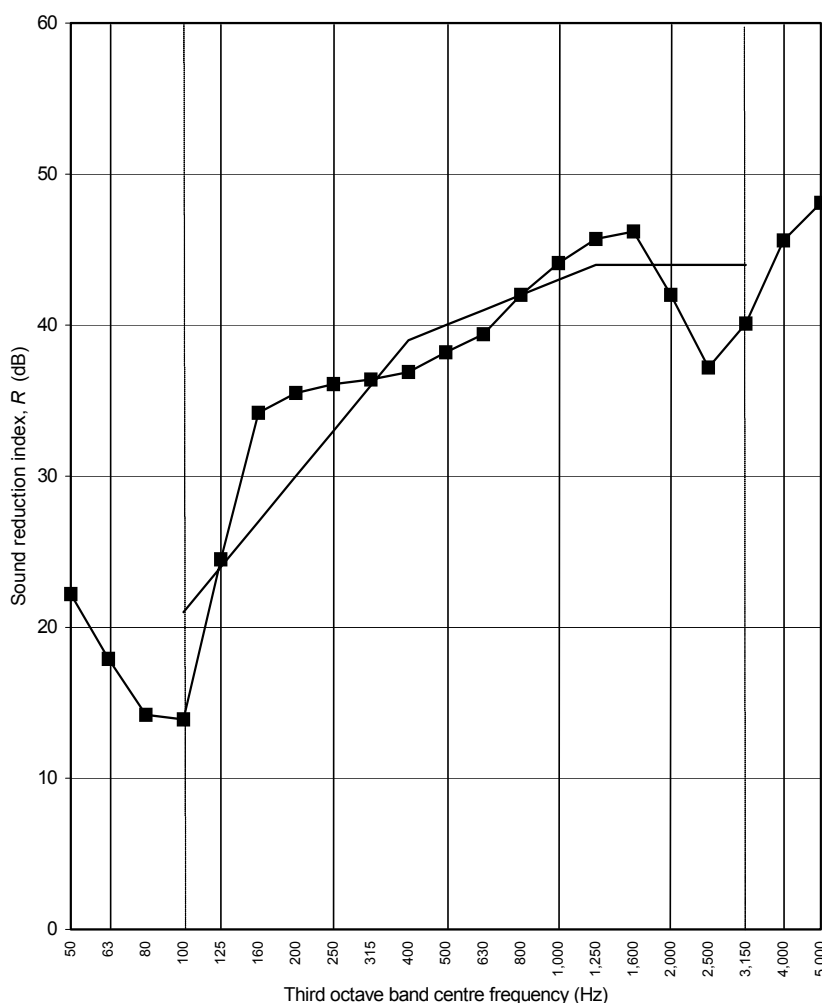
**Source room volume:** 130 m<sup>3</sup>

**Air temperature:** 16 °C

**Receive room volume:** 115 m<sup>3</sup>

**Air relative humidity:** 68 %

Frequency (Hz)	R One-third octave (dB)
50	22.2
63	17.9
80	14.2
100	13.9
125	24.5
160	34.2
200	35.5
250	36.1
315	36.4
400	36.9
500	38.2
630	39.4
800	42.0
1,000	44.1
1,250	45.7
1,600	46.2
2,000	42.0
2,500	37.2
3,150	40.1
4,000	45.6
5,000	48.1



Rating according to BS EN ISO 717-1:1997

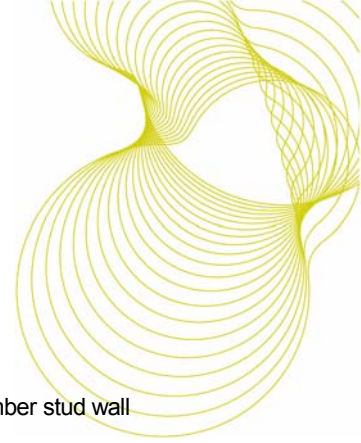
**$R_w (C; C_{tr}) = 40 (-2; -7) \text{ dB}$**       $C_{50-3150} = -2 \text{ dB}$       $C_{50-5000} = -2 \text{ dB}$       $C_{100-5000} = -1 \text{ dB}$   
 $C_{tr,50-3150} = -10 \text{ dB}$       $C_{tr,50-5000} = -10 \text{ dB}$       $C_{tr,100-5000} = -7 \text{ dB}$

Evaluation based on laboratory measurement results obtained by an engineering method

Based on the data provided in BS EN 20140-2:1993 it is estimated that the measurement uncertainty should not exceed  $\pm 1 \text{ dB}$  for the single-number quantity ( $R_w$ ) and should not exceed the values in Table A1 of BS EN 20140-2:1993 for the data in the individual third octaves (R)

This page may only be distributed with the test report in its entirety and in accordance with the terms and conditions of the contract

Laboratory sound insulation measurements to demonstrate the effect of filling empty slots with different Tremco illbruck Limited products



**Laboratory measurement of airborne sound insulation of building elements**  
**Sound reduction index according to BS EN ISO 140-3:1995**  
**BRE horizontal transmission suite (B9 051-053)**

**Client:** Tremco illbruck Limited

**Test date:** 10/05/2006

**Test number:** L106-062

**Test element:** Timber stud wall

0578

**Test element area:** 9.9 m<sup>2</sup>

**Description:**

Wall with sample 18: 15 mm wide x 100 mm deep open slot

**Source room volume:** 130 m<sup>3</sup>

**Air temperature:** 16 °C

**Receive room volume:** 115 m<sup>3</sup>

**Air relative humidity:** 70 %

Frequency (Hz)	Reverberation time (s)	Background level (dB)	Source level (dB)	Receive level (dB)	R (dB)
50	2.57	22.6	87.8	68.5	20.7
63	2.24	22.3	93.1	76.3	17.6
80	2.01	18.3	92.6	79.0	13.9
100	1.10	20.0	94.6	79.1	13.2
125	1.46	20.6	95.9	70.3	24.6
160	1.58	12.7	97.0	69.5	26.8
200	1.51	10.0	101.0	73.0	27.1
250	1.55	8.8	101.0	73.1	27.1
315	1.54	7.0	99.4	71.7	26.9
400	1.52	10.2	100.3	72.3	27.1
500	1.54	6.9	101.4	73.6	27.0
630	1.57	7.3	102.8	76.1	26.0
800	1.52	5.4	102.7	77.4	24.5
1,000	1.53	13.8	102.8	80.1	21.9
1,250	1.51	4.9	101.3	80.8	19.6
1,600	1.49	2.8	101.4	82.4	18.0
2,000	1.59	3.0	100.4	79.7	20.0
2,500	1.54	3.7	99.7	75.9	23.0
3,150	1.47	4.8	96.8	73.5	22.2
4,000	1.40	6.8	95.2	70.3	23.6
5,000	1.27	5.6	89.6	63.6	24.3

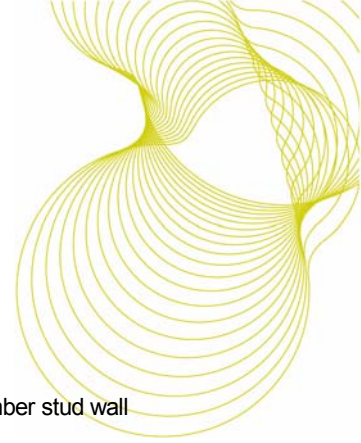
Rating according to BS EN ISO 717-1:1997

**R<sub>w</sub> (C; C<sub>tr</sub>) = 22 (-1;0) dB**    C<sub>50-3150</sub> = -1 dB    C<sub>50-5000</sub> = 0 dB    C<sub>100-5000</sub> = 0 dB  
 C<sub>tr,50-3150</sub> = -1 dB    C<sub>tr,50-5000</sub> = -1 dB    C<sub>tr,100-5000</sub> = 0 dB

Evaluation based on laboratory measurement results obtained by an engineering method

Based on the data provided in BS EN 20140-2:1993 it is estimated that the measurement uncertainty should not exceed ±1 dB for the single-number quantity (R<sub>w</sub>) and should not exceed the values in Table A1 of BS EN 20140-2:1993 for the data in the individual third octaves (R)

This page may only be distributed with the test report in its entirety and in accordance with the terms and conditions of the contract



**Laboratory measurement of airborne sound insulation of building elements**  
**Sound reduction index according to BS EN ISO 140-3:1995**  
**BRE horizontal transmission suite (B9 051-053)**

**Client:** Tremco illbruck Limited  
**Test date:** 10/05/2006      **Test number:** L106-062      **Test element:** Timber stud wall

0578

**Test element area:** 9.9 m<sup>2</sup>

**Description:**

Wall with sample 18: 15 mm wide x 100 mm deep open slot

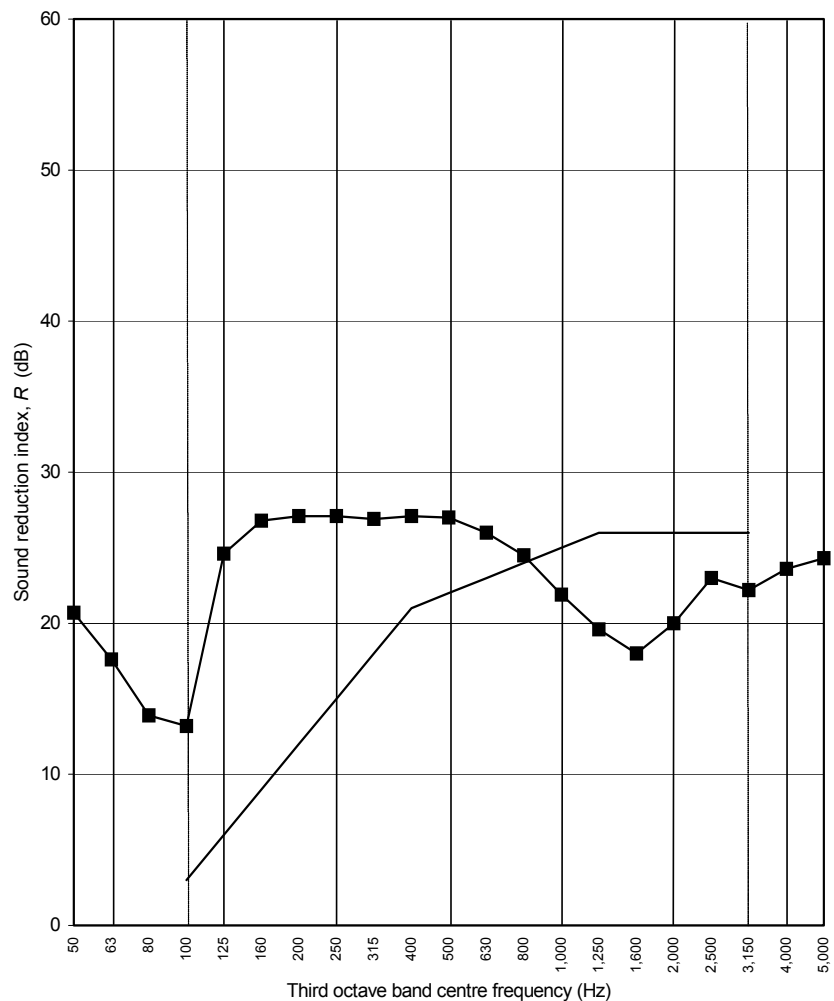
**Source room volume:** 130 m<sup>3</sup>

**Air temperature:** 16 °C

**Receive room volume:** 115 m<sup>3</sup>

**Air relative humidity:** 70 %

Frequency (Hz)	R One-third octave (dB)
50	20.7
63	17.6
80	13.9
100	13.2
125	24.6
160	26.8
200	27.1
250	27.1
315	26.9
400	27.1
500	27.0
630	26.0
800	24.5
1,000	21.9
1,250	19.6
1,600	18.0
2,000	20.0
2,500	23.0
3,150	22.2
4,000	23.6
5,000	24.3



Rating according to BS EN ISO 717-1:1997

**$R_w (C; C_{tr}) = 22 (-1; 0) \text{ dB}$**        $C_{50-3150} = -1 \text{ dB}$        $C_{50-5000} = 0 \text{ dB}$        $C_{100-5000} = 0 \text{ dB}$   
 $C_{tr,50-3150} = -1 \text{ dB}$        $C_{tr,50-5000} = -1 \text{ dB}$        $C_{tr,100-5000} = 0 \text{ dB}$

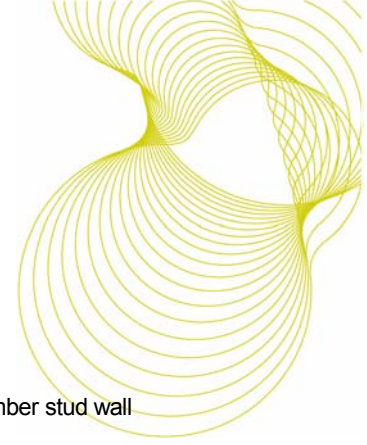
Evaluation based on laboratory measurement results obtained by an engineering method

Based on the data provided in BS EN 20140-2:1993 it is estimated that the measurement uncertainty should not exceed  $\pm 1 \text{ dB}$  for the single-number quantity ( $R_w$ ) and should not exceed the values in Table A1 of BS EN 20140-2:1993 for the data in the individual third octaves ( $R$ )

This page may only be distributed with the test report in its entirety and in accordance with the terms and conditions of the contract



Laboratory sound insulation measurements to demonstrate the effect of filling empty slots with different Tremco illbruck Limited products



**Laboratory measurement of airborne sound insulation of building elements**  
**Sound reduction index according to BS EN ISO 140-3:1995**  
**BRE horizontal transmission suite (B9 051-053)**

**Client:** Tremco illbruck Limited  
**Test date:** 11/05/2006      **Test number:** L106-063      **Test element:** Timber stud wall

0578

**Test element area:** 9.9 m<sup>2</sup>

**Description:**

Wall with sample 2: 15 mm slot filled to a depth of 20 mm with Compriband 600 (20/8-15)

**Source room volume:** 130 m<sup>3</sup>

**Air temperature:** 17 °C

**Receive room volume:** 115 m<sup>3</sup>

**Air relative humidity:** 67 %

Frequency (Hz)	Reverberation time (s)	Background level (dB)	Source level (dB)	Receive level (dB)	<i>R</i> (dB)
50	2.41	27.1	87.9	66.8	22.2
63	2.10	23.2	93.2	76.5	17.2
80	1.94	15.4	93.9	80.1	14.0
100	1.21	8.6	94.3	78.8	13.7
125	1.51	7.7	96.0	68.5	26.5
160	1.59	0.8	96.9	62.2	34.0
200	1.47	-0.3	101.0	66.4	33.6
250	1.44	-2.3	101.5	66.3	34.1
315	1.46	-1.4	100.0	65.6	33.3
400	1.48	-2.1	100.4	67.8	31.6
500	1.54	-1.9	101.8	69.8	31.2
630	1.55	-1.3	103.5	72.5	30.3
800	1.53	-0.5	102.8	74.0	27.9
1,000	1.54	0.0	102.9	76.1	26.1
1,250	1.50	0.7	101.5	74.9	25.7
1,600	1.55	1.5	101.4	74.4	26.2
2,000	1.57	2.1	100.1	71.2	28.1
2,500	1.55	2.9	99.5	69.3	29.5
3,150	1.47	3.5	97.1	67.6	28.5
4,000	1.39	4.0	95.7	64.9	29.6
5,000	1.27	4.6	90.6	57.6	31.4

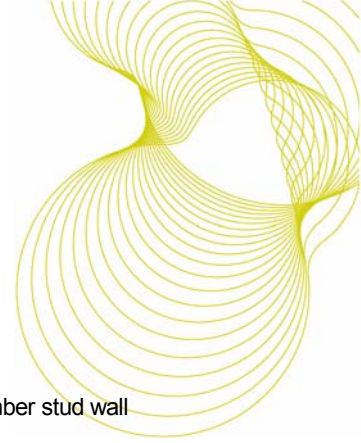
Rating according to BS EN ISO 717-1:1997

<b><math>R_w (C; C_{tr}) = 28 (0; -1) \text{ dB}</math></b>	$C_{50-3150} = 0 \text{ dB}$	$C_{50-5000} = 0 \text{ dB}$	$C_{100-5000} = 0 \text{ dB}$
	$C_{tr,50-3150} = -2 \text{ dB}$	$C_{tr,50-5000} = -2 \text{ dB}$	$C_{tr,100-5000} = -1 \text{ dB}$

Evaluation based on laboratory measurement results obtained by an engineering method

Based on the data provided in BS EN 20140-2:1993 it is estimated that the measurement uncertainty should not exceed  $\pm 1$  dB for the single-number quantity ( $R_w$ ) and should not exceed the values in Table A1 of BS EN 20140-2:1993 for the data in the individual third octaves (*R*)

This page may only be distributed with the test report in its entirety and in accordance with the terms and conditions of the contract



**Laboratory measurement of airborne sound insulation of building elements**  
**Sound reduction index according to BS EN ISO 140-3:1995**  
**BRE horizontal transmission suite (B9 051-053)**

**Client:** Tremco illbruck Limited  
**Test date:** 11/05/2006      **Test number:** L106-063      **Test element:** Timber stud wall

0578

**Test element area:** 9.9 m<sup>2</sup>

**Description:**

Wall with sample 2: 15 mm slot filled to a depth of 20 mm with Compriband 600 (20/8-15)

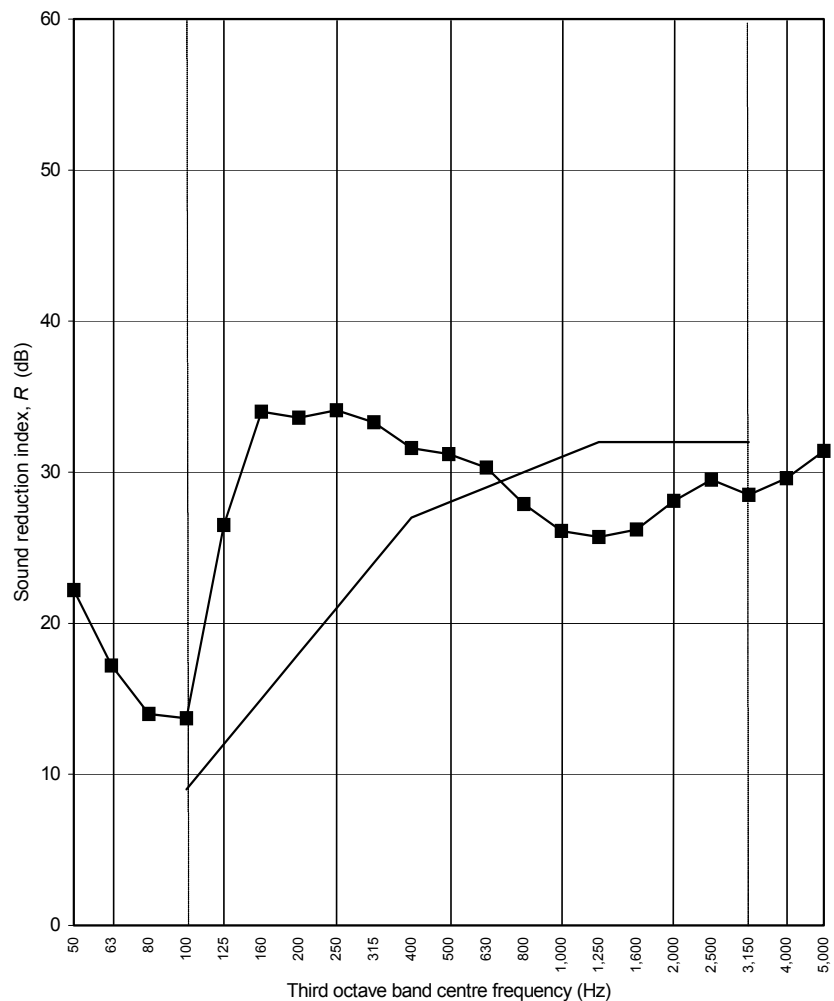
**Source room volume:** 130 m<sup>3</sup>

**Air temperature:** 17 °C

**Receive room volume:** 115 m<sup>3</sup>

**Air relative humidity:** 67 %

Frequency (Hz)	R One-third octave (dB)
50	22.2
63	17.2
80	14.0
100	13.7
125	26.5
160	34.0
200	33.6
250	34.1
315	33.3
400	31.6
500	31.2
630	30.3
800	27.9
1,000	26.1
1,250	25.7
1,600	26.2
2,000	28.1
2,500	29.5
3,150	28.5
4,000	29.6
5,000	31.4



Rating according to BS EN ISO 717-1:1997

**$R_w (C; C_{tr}) = 28 (0; -1) \text{ dB}$**        $C_{50-3150} = 0 \text{ dB}$        $C_{50-5000} = 0 \text{ dB}$        $C_{100-5000} = 0 \text{ dB}$   
 $C_{tr,50-3150} = -2 \text{ dB}$        $C_{tr,50-5000} = -2 \text{ dB}$        $C_{tr,100-5000} = -1 \text{ dB}$

Evaluation based on laboratory measurement results obtained by an engineering method

Based on the data provided in BS EN 20140-2:1993 it is estimated that the measurement uncertainty should not exceed  $\pm 1 \text{ dB}$  for the single-number quantity ( $R_w$ ) and should not exceed the values in Table A1 of BS EN 20140-2:1993 for the data in the individual third octaves (R)

This page may only be distributed with the test report in its entirety and in accordance with the terms and conditions of the contract



0578

**Laboratory measurement of airborne sound insulation of building elements**

**Sound reduction index according to BS EN ISO 140-3:1995**

**BRE horizontal transmission suite (B9 051-053)**

**Client:** Tremco illbruck Limited

**Test date:** 11/05/2006

**Test number:** L106-064

**Test element:** Timber stud wall

**Test element area:** 9.9 m<sup>2</sup>

**Description:**

Wall with sample 16: 10 mm wide x 100 mm deep open slot

**Source room volume:** 130 m<sup>3</sup>

**Air temperature:** 16 °C

**Receive room volume:** 115 m<sup>3</sup>

**Air relative humidity:** 65 %

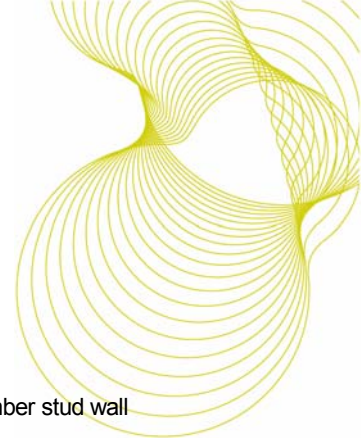
Frequency (Hz)	Reverberation time (s)	Background level (dB)	Source level (dB)	Receive level (dB)	R (dB)
50	2.38	25.5	88.0	68.2	20.8
63	2.33	25.1	92.9	76.2	17.7
80	2.04	16.8	93.0	79.4	13.9
100	1.09	14.7	94.2	78.0	13.8
125	1.52	10.6	95.5	69.6	25.0
160	1.51	7.7	97.1	68.0	28.1
200	1.54	11.6	100.9	71.5	28.6
250	1.53	6.8	100.8	72.0	27.9
315	1.51	6.3	99.4	70.6	27.9
400	1.53	10.7	100.5	70.7	29.0
500	1.57	8.1	101.7	72.1	28.8
630	1.55	6.7	103.1	74.1	28.1
800	1.50	5.3	102.8	75.0	26.9
1,000	1.54	14.7	102.8	77.5	24.4
1,250	1.52	4.3	101.4	78.4	22.1
1,600	1.52	2.7	101.4	80.9	19.6
2,000	1.52	3.3	100.3	79.1	20.4
2,500	1.52	3.9	99.6	75.4	23.3
3,150	1.49	5.1	96.9	73.2	22.7
4,000	1.39	7.0	95.2	70.3	23.6
5,000	1.24	5.7	89.6	63.9	23.9

Rating according to BS EN ISO 717-1:1997

**$R_w (C; C_{tr}) = 23 (0; 0)$  dB**     $C_{50-3150} = 0$  dB     $C_{50-5000} = 0$  dB     $C_{100-5000} = 0$  dB  
 $C_{tr,50-3150} = 0$  dB     $C_{tr,50-5000} = 0$  dB     $C_{tr,100-5000} = 0$  dB

Evaluation based on laboratory measurement results obtained by an engineering method

Based on the data provided in BS EN 20140-2:1993 it is estimated that the measurement uncertainty should not exceed ±1 dB for the single-number quantity ( $R_w$ ) and should not exceed the values in Table A1 of BS EN 20140-2:1993 for the data in the individual third octaves (R)



**Laboratory measurement of airborne sound insulation of building elements**

**Sound reduction index according to BS EN ISO 140-3:1995**

**BRE horizontal transmission suite (B9 051-053)**

**Client:** Tremco illbruck Limited

**Test date:** 11/05/2006

**Test number:** L106-064

**Test element:** Timber stud wall

0578

**Test element area:** 9.9 m<sup>2</sup>

**Description:**

Wall with sample 16: 10 mm wide x 100 mm deep open slot

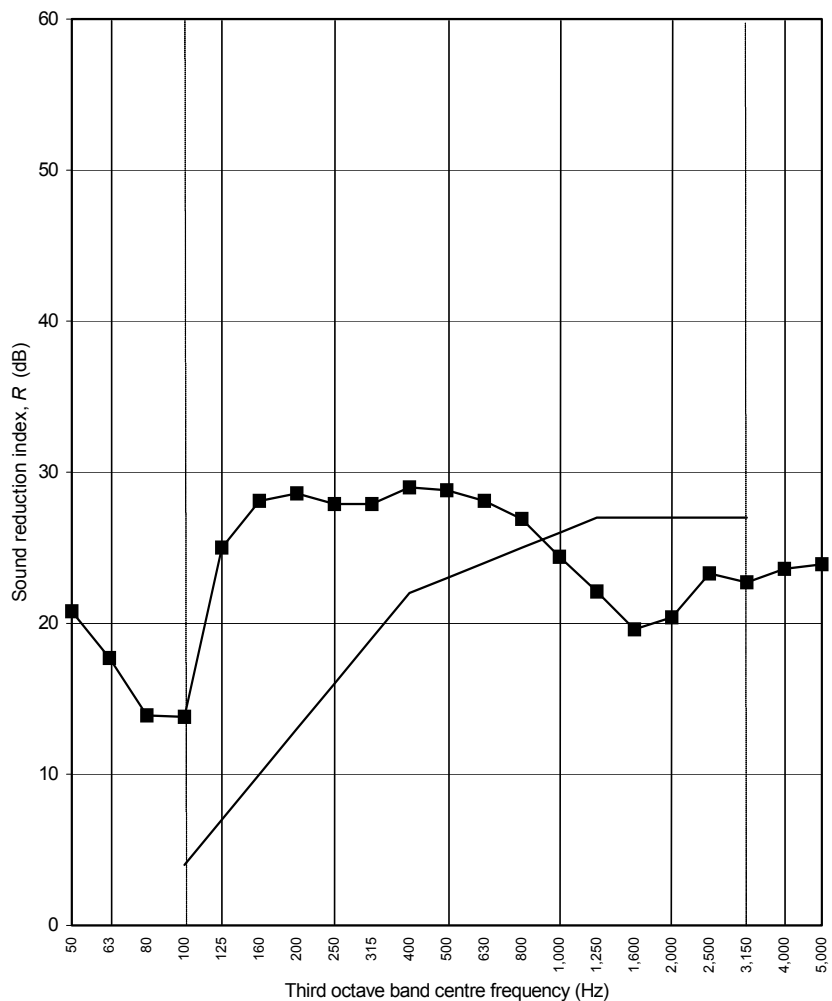
**Source room volume:** 130 m<sup>3</sup>

**Air temperature:** 16 °C

**Receive room volume:** 115 m<sup>3</sup>

**Air relative humidity:** 65 %

Frequency (Hz)	R One-third octave (dB)
50	20.8
63	17.7
80	13.9
100	13.8
125	25.0
160	28.1
200	28.6
250	27.9
315	27.9
400	29.0
500	28.8
630	28.1
800	26.9
1,000	24.4
1,250	22.1
1,600	19.6
2,000	20.4
2,500	23.3
3,150	22.7
4,000	23.6
5,000	23.9



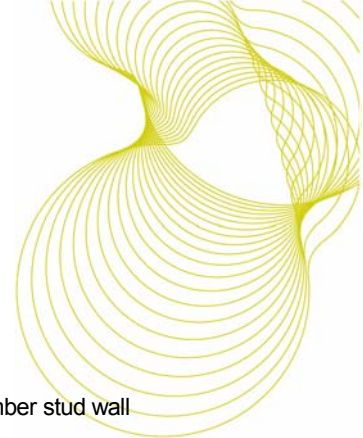
Rating according to BS EN ISO 717-1:1997

**$R_w (C; C_{tr}) = 23 (0; 0) \text{ dB}$**       $C_{50-3150} = 0 \text{ dB}$       $C_{50-5000} = 0 \text{ dB}$       $C_{100-5000} = 0 \text{ dB}$   
 $C_{tr,50-3150} = 0 \text{ dB}$       $C_{tr,50-5000} = 0 \text{ dB}$       $C_{tr,100-5000} = 0 \text{ dB}$

Evaluation based on laboratory measurement results obtained by an engineering method

Based on the data provided in BS EN 20140-2:1993 it is estimated that the measurement uncertainty should not exceed  $\pm 1 \text{ dB}$  for the single-number quantity ( $R_w$ ) and should not exceed the values in Table A1 of BS EN 20140-2:1993 for the data in the individual third octaves (R)

Laboratory sound insulation measurements to demonstrate the effect of filling empty slots with different Tremco illbruck Limited products



0578

**Laboratory measurement of airborne sound insulation of building elements**

**Sound reduction index according to BS EN ISO 140-3:1995**

**BRE horizontal transmission suite (B9 051-053)**

**Client:** Tremco illbruck Limited

**Test date:** 11/05/2006

**Test number:** L106-065

**Test element:** Timber stud wall

**Test element area:** 9.9 m<sup>2</sup>

**Description:**

Wall with sample 4: 10 mm slot filled to a depth of 20 mm with Comriband 600 (20/8-15)

**Source room volume:** 130 m<sup>3</sup>

**Air temperature:** 16 °C

**Receive room volume:** 115 m<sup>3</sup>

**Air relative humidity:** 64 %

Frequency (Hz)	Reverberation time (s)	Background level (dB)	Source level (dB)	Receive level (dB)	R (dB)
50	2.68	30.6	87.1	67.8	20.9
63	2.15	26.5	92.0	76.1	16.5
80	1.92	19.7	93.5	78.7	15.0
100	1.19	12.4	93.9	78.0	13.9
125	1.52	5.7	95.4	69.4	25.2
160	1.58	2.1	96.1	62.8	32.6
200	1.55	3.5	100.0	63.8	35.4
250	1.45	1.5	101.2	64.1	36.1
315	1.47	4.8	100.0	62.1	36.9
400	1.55	2.4	100.2	62.5	36.9
500	1.58	5.0	101.3	63.2	37.4
630	1.54	4.0	103.1	64.2	38.0
800	1.51	1.0	102.8	64.2	37.7
1,000	1.48	0.2	102.5	66.3	35.2
1,250	1.48	0.8	101.3	64.3	36.0
1,600	1.55	1.4	101.2	63.8	36.6
2,000	1.57	2.0	99.9	61.0	38.2
2,500	1.50	2.8	99.5	62.1	36.4
3,150	1.47	3.6	97.3	58.6	37.7
4,000	1.37	4.1	95.8	54.5	40.0
5,000	1.24	4.6	90.6	45.7	43.1

Rating according to BS EN ISO 717-1:1997

**$R_w (C; C_{tr}) = 37 (-1; -5) \text{ dB}$**   $C_{50-3150} = -2 \text{ dB}$   $C_{50-5000} = -1 \text{ dB}$   $C_{100-5000} = -1 \text{ dB}$   
 $C_{tr,50-3150} = -7 \text{ dB}$   $C_{tr,50-5000} = -7 \text{ dB}$   $C_{tr,100-5000} = -5 \text{ dB}$

Evaluation based on laboratory measurement results obtained by an engineering method

*Based on the data provided in BS EN 20140-2:1993 it is estimated that the measurement uncertainty should not exceed  $\pm 1 \text{ dB}$  for the single-number quantity ( $R_w$ ) and should not exceed the values in Table A1 of BS EN 20140-2:1993 for the data in the individual third octaves (R)*

This page may only be distributed with the test report in its entirety and in accordance with the terms and conditions of the contract



**Laboratory measurement of airborne sound insulation of building elements**  
**Sound reduction index according to BS EN ISO 140-3:1995**  
**BRE horizontal transmission suite (B9 051-053)**

**Client:** Tremco illbruck Limited

**Test date:** 11/05/2006

**Test number:** L106-065

**Test element:** Timber stud wall

0578

**Test element area:** 9.9 m<sup>2</sup>

**Description:**

Wall with sample 4: 10 mm slot filled to a depth of 20 mm with Compriband 600 (20/8-15)

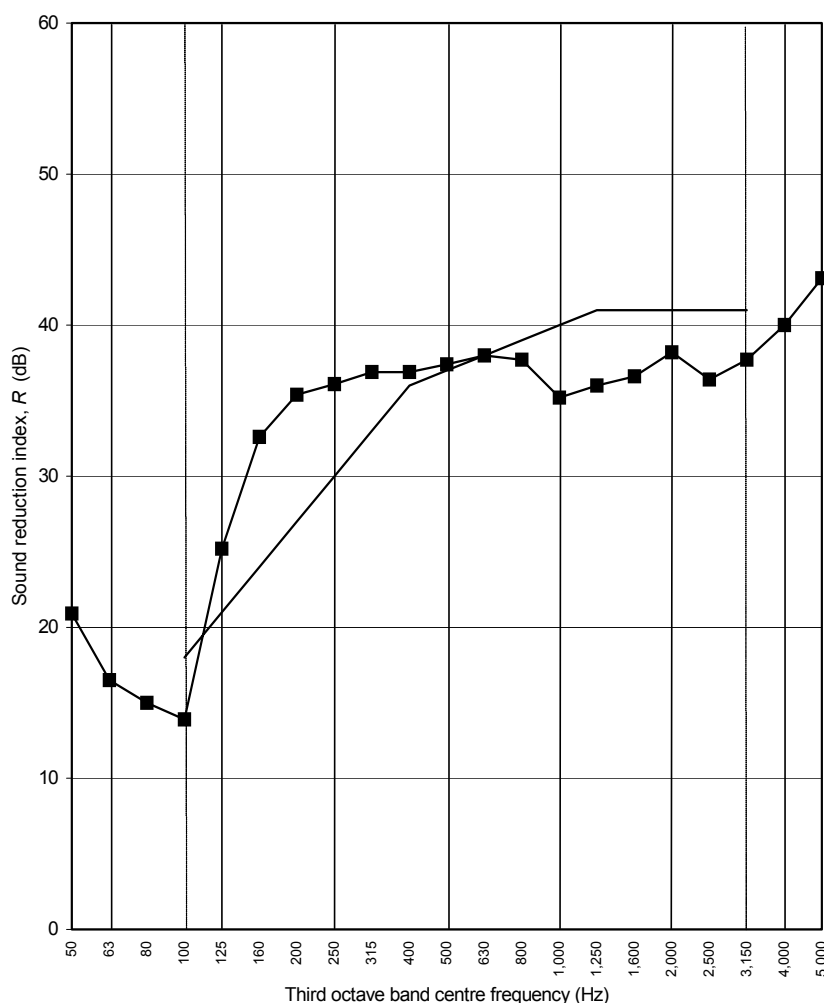
**Source room volume:** 130 m<sup>3</sup>

**Air temperature:** 16 °C

**Receive room volume:** 115 m<sup>3</sup>

**Air relative humidity:** 64 %

Frequency (Hz)	R One-third octave (dB)
50	20.9
63	16.5
80	15.0
100	13.9
125	25.2
160	32.6
200	35.4
250	36.1
315	36.9
400	36.9
500	37.4
630	38.0
800	37.7
1,000	35.2
1,250	36.0
1,600	36.6
2,000	38.2
2,500	36.4
3,150	37.7
4,000	40.0
5,000	43.1



Rating according to BS EN ISO 717-1:1997

**$R_w (C; C_{tr}) = 37 (-1; -5) \text{ dB}$**       $C_{50-3150} = -2 \text{ dB}$       $C_{50-5000} = -1 \text{ dB}$       $C_{100-5000} = -1 \text{ dB}$   
 $C_{tr,50-3150} = -7 \text{ dB}$       $C_{tr,50-5000} = -7 \text{ dB}$       $C_{tr,100-5000} = -5 \text{ dB}$

Evaluation based on laboratory measurement results obtained by an engineering method

Based on the data provided in BS EN 20140-2:1993 it is estimated that the measurement uncertainty should not exceed  $\pm 1 \text{ dB}$  for the single-number quantity ( $R_w$ ) and should not exceed the values in Table A1 of BS EN 20140-2:1993 for the data in the individual third octaves (R)

This page may only be distributed with the test report in its entirety and in accordance with the terms and conditions of the contract

Laboratory sound insulation measurements to demonstrate the effect of filling empty slots with different Tremco illbruck Limited products



**Laboratory measurement of airborne sound insulation of building elements**

**Sound reduction index according to BS EN ISO 140-3:1995**

**BRE horizontal transmission suite (B9 051-053)**

**Client:** Tremco illbruck Limited

**Test date:** 12/05/2006

**Test number:** L106-066

**Test element:** Timber stud wall

0578

**Test element area:** 9.9 m<sup>2</sup>

**Description:**

Wall with sample 8: 10 mm slot filled to a depth of 10 mm with Webbseal Acoustic (Webbseal Acrylic) applied over a 15mm diameter PE backer rod

**Source room volume:** 130 m<sup>3</sup>

**Air temperature:** 17 °C

**Receive room volume:** 115 m<sup>3</sup>

**Air relative humidity:** 69 %

Frequency (Hz)	Reverberation time (s)	Background level (dB)	Source level (dB)	Receive level (dB)	R (dB)
50	2.54	21.6	91.0	70.8	21.5
63	2.36	23.8	97.0	80.6	17.4
80	1.80	26.0	94.6	81.2	13.3
100	1.10	11.0	100.6	83.3	15.1
125	1.54	8.5	101.0	72.1	28.1
160	1.54	3.5	100.5	64.5	35.2
200	1.53	-0.2	101.5	65.4	35.3
250	1.51	-2.4	101.7	64.5	36.3
315	1.47	-1.7	99.5	61.7	36.8
400	1.47	-2.7	99.8	61.8	37.0
500	1.58	-2.0	100.6	61.6	38.3
630	1.62	-1.5	101.9	61.2	40.1
800	1.57	-0.9	101.1	57.8	42.6
1,000	1.53	-0.2	100.7	55.4	44.4
1,250	1.53	0.5	98.6	51.6	46.2
1,600	1.56	1.2	98.4	51.0	46.7
2,000	1.56	2.0	98.2	54.3	43.1
2,500	1.50	2.7	98.3	59.6	37.8
3,150	1.52	3.5	96.1	54.4	40.7
4,000	1.40	4.1	94.8	47.1	46.5
5,000	1.27	4.5	89.4	36.9	50.8

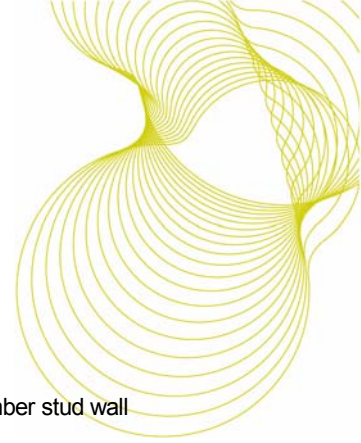
Rating according to BS EN ISO 717-1:1997

**R<sub>w</sub> (C; C<sub>tr</sub>) = 41 (-2;-7) dB** C<sub>50-3150</sub> = -3 dB C<sub>50-5000</sub> = -2 dB C<sub>100-5000</sub> = -1 dB  
 C<sub>tr,50-3150</sub> = -11 dB C<sub>tr,50-5000</sub> = -11 dB C<sub>tr,100-5000</sub> = -7 dB

Evaluation based on laboratory measurement results obtained by an engineering method

Based on the data provided in BS EN 20140-2:1993 it is estimated that the measurement uncertainty should not exceed  $\pm 1$  dB for the single-number quantity (R<sub>w</sub>) and should not exceed the values in Table A1 of BS EN 20140-2:1993 for the data in the individual third octaves (R)

This page may only be distributed with the test report in its entirety and in accordance with the terms and conditions of the contract



**Laboratory measurement of airborne sound insulation of building elements**  
**Sound reduction index according to BS EN ISO 140-3:1995**  
**BRE horizontal transmission suite (B9 051-053)**

**Client:** Tremco illbruck Limited  
**Test date:** 12/05/2006      **Test number:** L106-066      **Test element:** Timber stud wall

0578

**Test element area:** 9.9 m<sup>2</sup>

**Description:**

Wall with sample 8: 10 mm slot filled to a depth of 10 mm with Webbseal Acoustic (Webbseal Acrylic) applied over a 15mm diameter PE backer rod

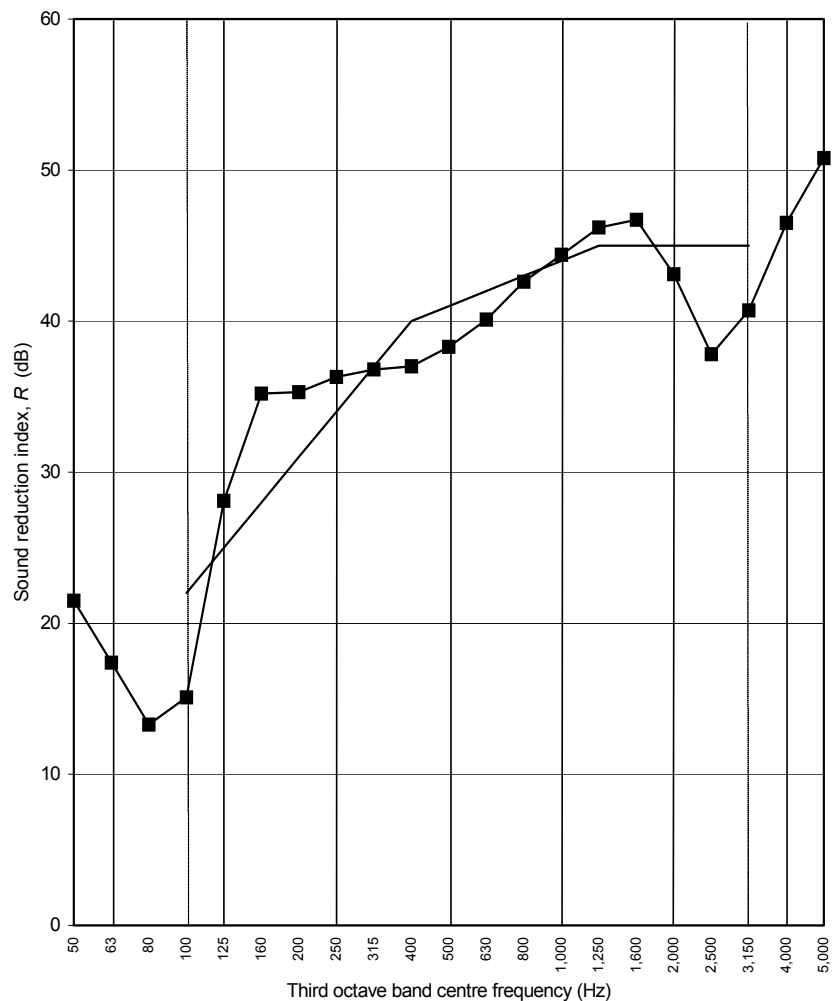
**Source room volume:** 130 m<sup>3</sup>

**Air temperature:** 17 °C

**Receive room volume:** 115 m<sup>3</sup>

**Air relative humidity:** 69 %

Frequency (Hz)	R One-third octave (dB)
50	21.5
63	17.4
80	13.3
100	15.1
125	28.1
160	35.2
200	35.3
250	36.3
315	36.8
400	37.0
500	38.3
630	40.1
800	42.6
1,000	44.4
1,250	46.2
1,600	46.7
2,000	43.1
2,500	37.8
3,150	40.7
4,000	46.5
5,000	50.8



Rating according to BS EN ISO 717-1:1997

**$R_w (C; C_{tr}) = 41 (-2; -7) \text{ dB}$**        $C_{50-3150} = -3 \text{ dB}$        $C_{50-5000} = -2 \text{ dB}$        $C_{100-5000} = -1 \text{ dB}$   
 $C_{tr,50-3150} = -11 \text{ dB}$        $C_{tr,50-5000} = -11 \text{ dB}$        $C_{tr,100-5000} = -7 \text{ dB}$

Evaluation based on laboratory measurement results obtained by an engineering method

Based on the data provided in BS EN 20140-2:1993 it is estimated that the measurement uncertainty should not exceed  $\pm 1 \text{ dB}$  for the single-number quantity ( $R_w$ ) and should not exceed the values in Table A1 of BS EN 20140-2:1993 for the data in the individual third octaves (R)

This page may only be distributed with the test report in its entirety and in accordance with the terms and conditions of the contract





0578

**Laboratory measurement of airborne sound insulation of building elements**  
**Sound reduction index according to BS EN ISO 140-3:1995**  
**BRE horizontal transmission suite (B9 051-053)**

**Client:** Tremco illbruck Limited

**Test date:** 12/05/2006

**Test number:** L106-067

**Test element:** Timber stud wall

**Test element area:** 9.9 m<sup>2</sup>

**Description:**

Wall with sample 9: 10 mm slot filled to a depth of 10 mm with Webbseal FR Acoustic Int. acrylic (Alfacryl FR, Webbseal FRA) applied over a 15mm diameter PE backer rod

**Source room volume:** 130 m<sup>3</sup>

**Air temperature:** 17 °C

**Receive room volume:** 115 m<sup>3</sup>

**Air relative humidity:** 66 %

Frequency (Hz)	Reverberation time (s)	Background level (dB)	Source level (dB)	Receive level (dB)	R (dB)
50	2.29	21.4	90.1	69.4	21.6
63	2.25	22.2	96.3	79.7	17.4
80	1.90	17.2	92.9	79.7	13.3
100	1.15	12.6	98.1	81.7	14.3
125	1.42	8.7	99.4	73.6	24.7
160	1.53	9.2	99.1	63.7	34.5
200	1.48	11.1	101.3	64.9	35.4
250	1.52	8.6	101.3	64.3	36.1
315	1.51	7.9	99.1	61.7	36.4
400	1.50	9.3	99.3	61.2	37.1
500	1.58	6.8	100.1	61.4	38.0
630	1.60	2.5	101.3	61.0	39.7
800	1.54	4.9	100.9	57.9	42.2
1,000	1.57	14.6	100.7	55.6	44.4
1,250	1.49	3.5	98.6	52.0	45.7
1,600	1.53	3.1	98.7	51.5	46.3
2,000	1.58	4.1	98.6	54.9	43.0
2,500	1.54	4.4	98.5	59.7	38.0
3,150	1.46	5.6	95.8	54.2	40.5
4,000	1.39	6.7	93.9	46.5	46.1
5,000	1.25	5.8	88.2	35.7	50.7

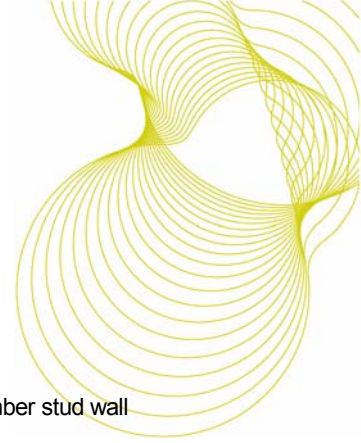
Rating according to BS EN ISO 717-1:1997

**$R_w (C; C_{tr}) = 41 (-2; -8) \text{ dB}$**   $C_{50-3150} = -3 \text{ dB}$   $C_{50-5000} = -2 \text{ dB}$   $C_{100-5000} = -2 \text{ dB}$   
 $C_{tr,50-3150} = -11 \text{ dB}$   $C_{tr,50-5000} = -11 \text{ dB}$   $C_{tr,100-5000} = -8 \text{ dB}$

Evaluation based on laboratory measurement results obtained by an engineering method

Based on the data provided in BS EN 20140-2:1993 it is estimated that the measurement uncertainty should not exceed ±1 dB for the single-number quantity ( $R_w$ ) and should not exceed the values in Table A1 of BS EN 20140-2:1993 for the data in the individual third octaves (R)

This page may only be distributed with the test report in its entirety and in accordance with the terms and conditions of the contract



**Laboratory measurement of airborne sound insulation of building elements**  
**Sound reduction index according to BS EN ISO 140-3:1995**  
**BRE horizontal transmission suite (B9 051-053)**

**Client:** Tremco illbruck Limited

**Test date:** 12/05/2006

**Test number:** L106-067

**Test element:** Timber stud wall

0578

**Test element area:** 9.9 m<sup>2</sup>

**Description:**

Wall with sample 9: 10 mm slot filled to a depth of 10 mm with

Webbseal FR Acoustic Int. acrylic (Alfacryl FR, Webbseal FRA) applied over a 15mm diameter PE backer rod

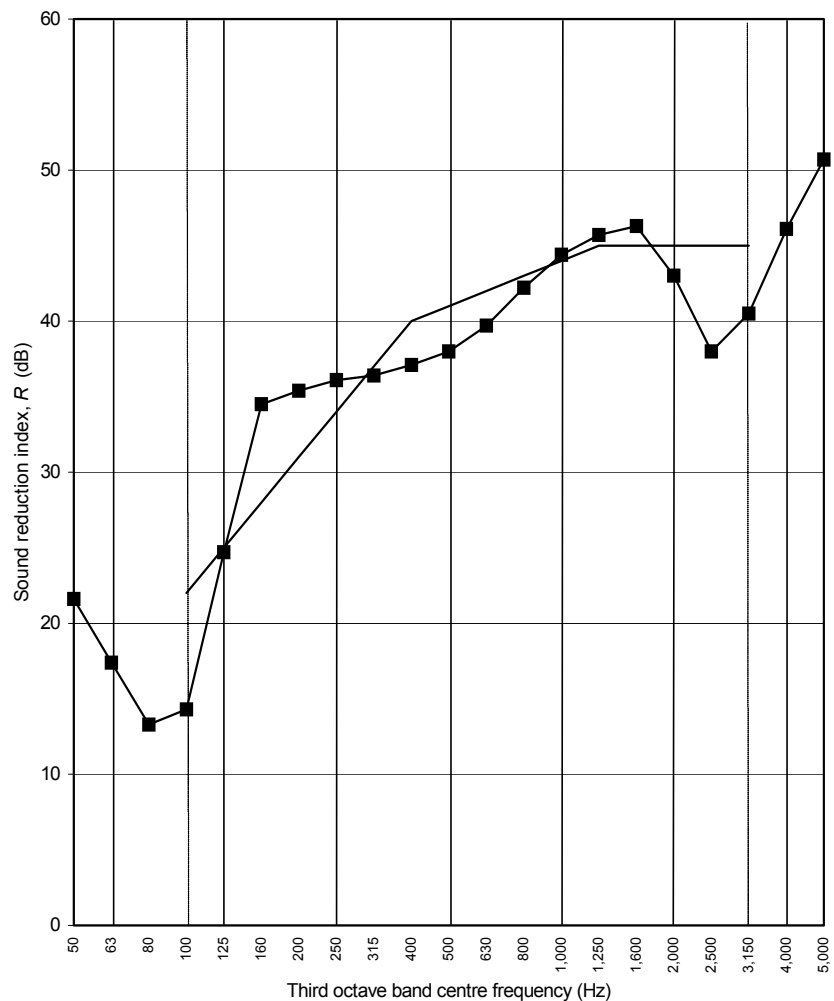
**Source room volume:** 130 m<sup>3</sup>

**Air temperature:** 17 °C

**Receive room volume:** 115 m<sup>3</sup>

**Air relative humidity:** 66 %

Frequency (Hz)	R One-third octave (dB)
50	21.6
63	17.4
80	13.3
100	14.3
125	24.7
160	34.5
200	35.4
250	36.1
315	36.4
400	37.1
500	38.0
630	39.7
800	42.2
1,000	44.4
1,250	45.7
1,600	46.3
2,000	43.0
2,500	38.0
3,150	40.5
4,000	46.1
5,000	50.7



Rating according to BS EN ISO 717-1:1997

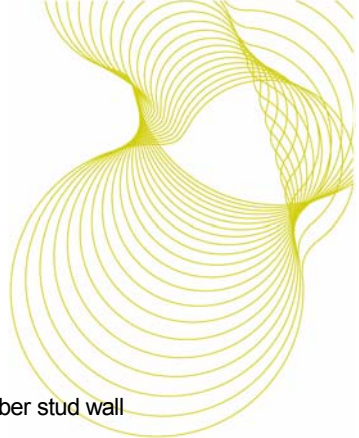
**$R_w (C; C_{tr}) = 41 (-2; -8) \text{ dB}$**       $C_{50-3150} = -3 \text{ dB}$       $C_{50-5000} = -2 \text{ dB}$       $C_{100-5000} = -2 \text{ dB}$   
 $C_{tr,50-3150} = -11 \text{ dB}$       $C_{tr,50-5000} = -11 \text{ dB}$       $C_{tr,100-5000} = -8 \text{ dB}$

Evaluation based on laboratory measurement results obtained by an engineering method

Based on the data provided in BS EN 20140-2:1993 it is estimated that the measurement uncertainty should not exceed  $\pm 1 \text{ dB}$  for the single-number quantity ( $R_w$ ) and should not exceed the values in Table A1 of BS EN 20140-2:1993 for the data in the individual third octaves ( $R$ )

This page may only be distributed with the test report in its entirety and in accordance with the terms and conditions of the contract

Laboratory sound insulation measurements to demonstrate the effect of filling empty slots with different Tremco illbruck Limited products



**Laboratory measurement of airborne sound insulation of building elements**  
**Sound reduction index according to BS EN ISO 140-3:1995**  
**BRE horizontal transmission suite (B9 051-053)**

**Client:** Tremco illbruck Limited  
**Test date:** 15/05/2006      **Test number:** L106-068      **Test element:** Timber stud wall

0578

**Test element area:** 9.9 m<sup>2</sup>

**Description:**

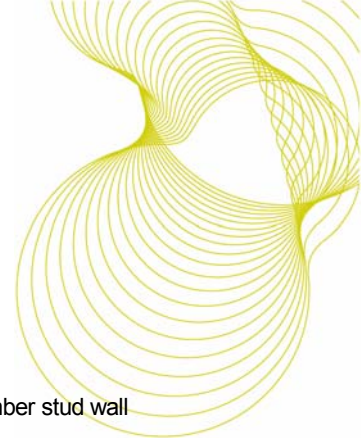
Wall with sample 10: 10 mm slot filled to a depth of 10 mm with Webbseal FRS (Alfasil FR) applied over a 15mm diameter PE backer rod

**Source room volume:** 130 m<sup>3</sup>      **Air temperature:** 17 °C  
**Receive room volume:** 115 m<sup>3</sup>      **Air relative humidity:** 71 %

Frequency (Hz)	Reverberation time (s)	Background level (dB)	Source level (dB)	Receive level (dB)	R (dB)
50	2.38	24.0	88.6	69.4	20.3
63	1.98	24.8	95.9	79.0	17.1
80	1.89	19.4	91.8	78.9	12.9
100	1.12	18.9	97.6	81.1	14.3
125	1.58	11.2	99.3	71.8	26.8
160	1.58	6.7	98.5	63.5	34.2
200	1.58	12.9	100.1	63.5	35.9
250	1.50	6.1	100.0	62.5	36.6
315	1.46	5.9	97.9	60.7	36.2
400	1.46	8.4	98.5	60.3	37.1
500	1.58	7.0	99.4	60.8	37.9
630	1.61	5.7	100.8	60.1	40.0
800	1.54	4.2	100.1	57.1	42.2
1,000	1.55	14.4	100.0	54.9	44.3
1,250	1.55	7.8	97.9	51.4	45.7
1,600	1.52	2.8	97.7	49.9	46.9
2,000	1.58	2.9	97.4	53.1	43.7
2,500	1.54	3.6	97.2	57.9	38.5
3,150	1.50	4.5	94.4	52.4	41.1
4,000	1.42	6.4	92.8	44.8	46.9
5,000	1.28	6.5	86.8	34.2	51.0

Rating according to BS EN ISO 717-1:1997						
<b>R<sub>w</sub> (C; C<sub>tr</sub>) = 41 (-2; -8) dB</b>	C <sub>50-3150</sub>	= -3 dB	C <sub>50-5000</sub>	= -2 dB	C <sub>100-5000</sub>	= -1 dB
	C <sub>tr,50-3150</sub>	= -11 dB	C <sub>tr,50-5000</sub>	= -11 dB	C <sub>tr,100-5000</sub>	= -8 dB
Evaluation based on laboratory measurement results obtained by an engineering method						
Based on the data provided in BS EN 20140-2:1993 it is estimated that the measurement uncertainty should not exceed ±1 dB for the single-number quantity (R <sub>w</sub> ) and should not exceed the values in Table A1 of BS EN 20140-2:1993 for the data in the individual third octaves (R)						

This page may only be distributed with the test report in its entirety and in accordance with the terms and conditions of the contract



**Laboratory measurement of airborne sound insulation of building elements**  
**Sound reduction index according to BS EN ISO 140-3:1995**  
**BRE horizontal transmission suite (B9 051-053)**

**Client:** Tremco illbruck Limited  
**Test date:** 15/05/2006      **Test number:** L106-068      **Test element:** Timber stud wall

0578

**Test element area:** 9.9 m<sup>2</sup>

**Description:**

Wall with sample 10: 10 mm slot filled to a depth of 10 mm with Webbseal FRS (Alfasil FR) applied over a 15mm diameter PE backer rod

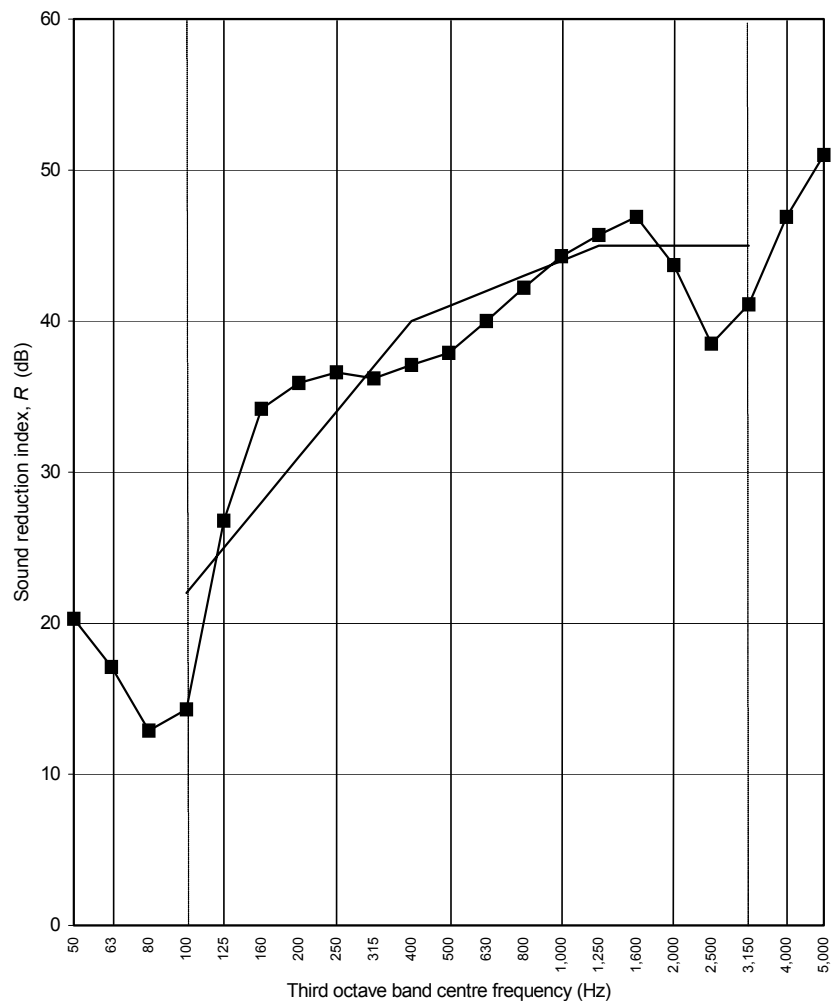
**Source room volume:** 130 m<sup>3</sup>

**Air temperature:** 17 °C

**Receive room volume:** 115 m<sup>3</sup>

**Air relative humidity:** 71 %

Frequency (Hz)	R One-third octave (dB)
50	20.3
63	17.1
80	12.9
100	14.3
125	26.8
160	34.2
200	35.9
250	36.6
315	36.2
400	37.1
500	37.9
630	40.0
800	42.2
1,000	44.3
1,250	45.7
1,600	46.9
2,000	43.7
2,500	38.5
3,150	41.1
4,000	46.9
5,000	51.0



Rating according to BS EN ISO 717-1:1997

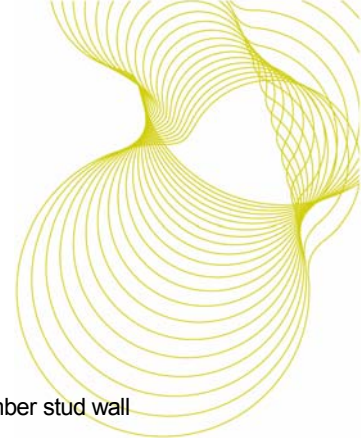
**$R_w (C; C_{tr}) = 41 (-2; -8) \text{ dB}$**        $C_{50-3150} = -3 \text{ dB}$        $C_{50-5000} = -2 \text{ dB}$        $C_{100-5000} = -1 \text{ dB}$   
 $C_{tr,50-3150} = -11 \text{ dB}$        $C_{tr,50-5000} = -11 \text{ dB}$        $C_{tr,100-5000} = -8 \text{ dB}$

Evaluation based on laboratory measurement results obtained by an engineering method

Based on the data provided in BS EN 20140-2:1993 it is estimated that the measurement uncertainty should not exceed  $\pm 1 \text{ dB}$  for the single-number quantity ( $R_w$ ) and should not exceed the values in Table A1 of BS EN 20140-2:1993 for the data in the individual third octaves ( $R$ )

This page may only be distributed with the test report in its entirety and in accordance with the terms and conditions of the contract

Laboratory sound insulation measurements to demonstrate the effect of filling empty slots with different Tremco illbruck Limited products



**Laboratory measurement of airborne sound insulation of building elements**  
**Sound reduction index according to BS EN ISO 140-3:1995**  
**BRE horizontal transmission suite (B9 051-053)**

**Client:** Tremco illbruck Limited

**Test date:** 16/05/2006

**Test number:** L106-069

**Test element:** Timber stud wall

0578

**Test element area:** 9.9 m<sup>2</sup>

**Description:**

Wall with sample 19: 10 mm slot filled to a depth of 20 mm with Compriband Super FR (20 mm Wide x 50 mm Thick)

**Source room volume:** 130 m<sup>3</sup>

**Air temperature:** 17 °C

**Receive room volume:** 115 m<sup>3</sup>

**Air relative humidity:** 68 %

Frequency (Hz)	Reverberation time (s)	Background level (dB)	Source level (dB)	Receive level (dB)	R (dB)
50	2.13	27.6	90.1	69.2	21.5
63	2.31	26.8	101.4	83.7	18.6
80	2.04	13.2	94.2	81.3	13.3
100	1.19	11.0	94.3	78.0	14.3
125	1.58	6.4	95.8	68.7	26.4
160	1.46	2.0	95.7	59.9	34.7
200	1.53	-1.1	100.1	62.6	36.7
250	1.55	-1.4	99.5	61.9	36.9
315	1.47	-2.1	96.4	58.2	37.2
400	1.53	-2.3	94.4	56.8	36.7
500	1.60	-2.1	95.8	57.3	37.8
630	1.53	-1.7	98.0	60.3	36.9
800	1.50	-0.9	96.1	60.1	35.1
1,000	1.52	-0.2	97.3	63.6	32.9
1,250	1.50	0.4	95.3	60.7	33.6
1,600	1.53	1.2	95.6	59.8	35.0
2,000	1.59	1.8	96.0	58.7	36.6
2,500	1.52	2.7	96.7	60.0	35.8
3,150	1.48	3.4	94.5	57.6	35.9
4,000	1.38	4.0	93.5	54.1	38.1
5,000	1.26	4.5	88.1	46.2	40.2

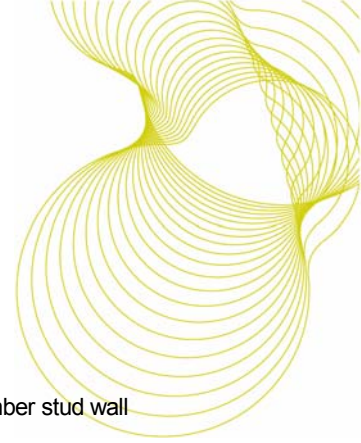
Rating according to BS EN ISO 717-1:1997

**R<sub>w</sub> (C; C<sub>tr</sub>) = 35 (0; -3) dB**  
C<sub>50-3150</sub> = -1 dB      C<sub>50-5000</sub> = 0 dB      C<sub>100-5000</sub> = 0 dB  
C<sub>tr,50-3150</sub> = -6 dB      C<sub>tr,50-5000</sub> = -6 dB      C<sub>tr,100-5000</sub> = -3 dB

Evaluation based on laboratory measurement results obtained by an engineering method

*Based on the data provided in BS EN 20140-2:1993 it is estimated that the measurement uncertainty should not exceed ±1 dB for the single-number quantity (R<sub>w</sub>) and should not exceed the values in Table A1 of BS EN 20140-2:1993 for the data in the individual third octaves (R)*

This page may only be distributed with the test report in its entirety and in accordance with the terms and conditions of the contract



**Laboratory measurement of airborne sound insulation of building elements**  
**Sound reduction index according to BS EN ISO 140-3:1995**  
**BRE horizontal transmission suite (B9 051-053)**

**Client:** Tremco illbruck Limited

**Test date:** 16/05/2006

**Test number:** L106-069

**Test element:** Timber stud wall

0578

**Test element area:** 9.9 m<sup>2</sup>

**Description:**

Wall with sample 19: 10 mm slot filled to a depth of 20 mm with Compriband Super FR (20 mm Wide x 50 mm Thick)

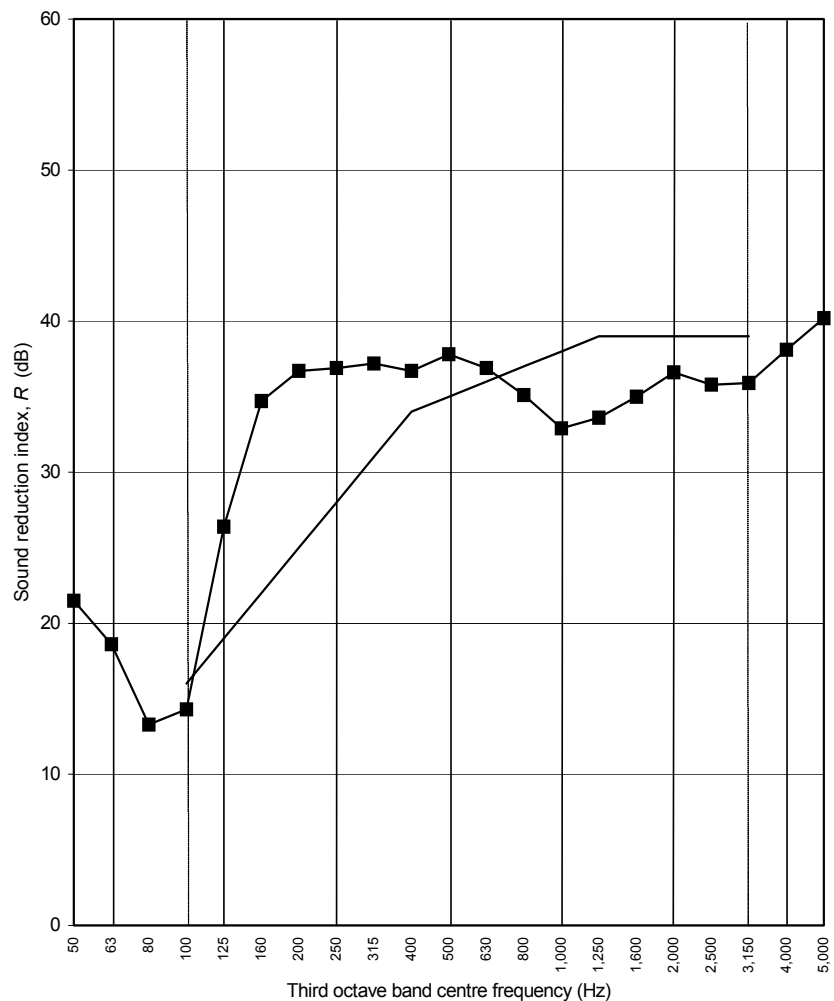
**Source room volume:** 130 m<sup>3</sup>

**Air temperature:** 17 °C

**Receive room volume:** 115 m<sup>3</sup>

**Air relative humidity:** 68 %

Frequency (Hz)	R One-third octave (dB)
50	21.5
63	18.6
80	13.3
100	14.3
125	26.4
160	34.7
200	36.7
250	36.9
315	37.2
400	36.7
500	37.8
630	36.9
800	35.1
1,000	32.9
1,250	33.6
1,600	35.0
2,000	36.6
2,500	35.8
3,150	35.9
4,000	38.1
5,000	40.2



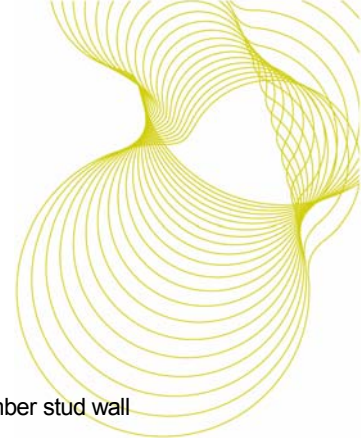
Rating according to BS EN ISO 717-1:1997

**$R_w (C; C_{tr}) = 35 (0; -3) \text{ dB}$**       $C_{50-3150} = -1 \text{ dB}$       $C_{50-5000} = 0 \text{ dB}$       $C_{100-5000} = 0 \text{ dB}$   
 $C_{tr,50-3150} = -6 \text{ dB}$       $C_{tr,50-5000} = -6 \text{ dB}$       $C_{tr,100-5000} = -3 \text{ dB}$

Evaluation based on laboratory measurement results obtained by an engineering method

Based on the data provided in BS EN 20140-2:1993 it is estimated that the measurement uncertainty should not exceed  $\pm 1 \text{ dB}$  for the single-number quantity ( $R_w$ ) and should not exceed the values in Table A1 of BS EN 20140-2:1993 for the data in the individual third octaves (R)

This page may only be distributed with the test report in its entirety and in accordance with the terms and conditions of the contract



0578

**Laboratory measurement of airborne sound insulation of building elements**

**Sound reduction index according to BS EN ISO 140-3:1995**

**BRE horizontal transmission suite (B9 051-053)**

**Client:** Tremco illbruck Limited

**Test date:** 15/05/2006

**Test number:** L106-070

**Test element:** Timber stud wall

**Test element area:** 9.9 m<sup>2</sup>

**Description:**

Wall with sample 15: 8 mm wide x 100 mm deep open slot

**Source room volume:** 130 m<sup>3</sup>

**Air temperature:** 17 °C

**Receive room volume:** 115 m<sup>3</sup>

**Air relative humidity:** 70 %

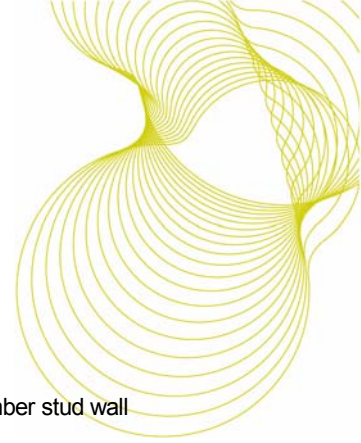
Frequency (Hz)	Reverberation time (s)	Background level (dB)	Source level (dB)	Receive level (dB)	R (dB)
50	2.20	25.9	89.6	71.0	19.3
63	2.30	21.8	96.5	80.5	16.9
80	1.84	9.4	93.1	81.3	11.8
100	1.15	13.6	98.0	82.9	13.1
125	1.38	8.6	99.4	72.7	25.4
160	1.50	5.5	98.9	69.3	28.7
200	1.53	3.5	100.3	69.6	29.8
250	1.56	5.6	100.2	69.3	30.2
315	1.50	4.8	98.9	67.6	30.3
400	1.53	1.5	98.7	66.7	31.1
500	1.57	4.1	99.7	68.3	30.7
630	1.58	5.0	100.9	70.0	30.2
800	1.54	6.2	100.5	70.1	29.6
1,000	1.53	3.7	100.1	71.9	27.3
1,250	1.55	2.9	97.7	72.4	24.5
1,600	1.54	2.3	97.6	76.1	20.6
2,000	1.57	2.7	97.0	74.8	21.4
2,500	1.52	3.4	96.9	71.1	25.0
3,150	1.49	3.9	94.9	69.3	24.6
4,000	1.40	4.5	93.6	67.0	25.4
5,000	1.25	4.8	88.2	61.0	25.5

Rating according to BS EN ISO 717-1:1997

**$R_w (C; C_{tr}) = 25 (-1; 0) \text{ dB}$**      $C_{50-3150} = -1 \text{ dB}$      $C_{50-5000} = -1 \text{ dB}$      $C_{100-5000} = -1 \text{ dB}$   
 $C_{tr,50-3150} = -1 \text{ dB}$      $C_{tr,50-5000} = -1 \text{ dB}$      $C_{tr,100-5000} = 0 \text{ dB}$

Evaluation based on laboratory measurement results obtained by an engineering method

Based on the data provided in BS EN 20140-2:1993 it is estimated that the measurement uncertainty should not exceed  $\pm 1 \text{ dB}$  for the single-number quantity ( $R_w$ ) and should not exceed the values in Table A1 of BS EN 20140-2:1993 for the data in the individual third octaves (R)



**Laboratory measurement of airborne sound insulation of building elements**  
**Sound reduction index according to BS EN ISO 140-3:1995**  
**BRE horizontal transmission suite (B9 051-053)**

**Client:** Tremco illbruck Limited

**Test date:** 15/05/2006

**Test number:** L106-070

**Test element:** Timber stud wall

0578

**Test element area:** 9.9 m<sup>2</sup>

**Description:**

Wall with sample 15: 8 mm wide x 100 mm deep open slot

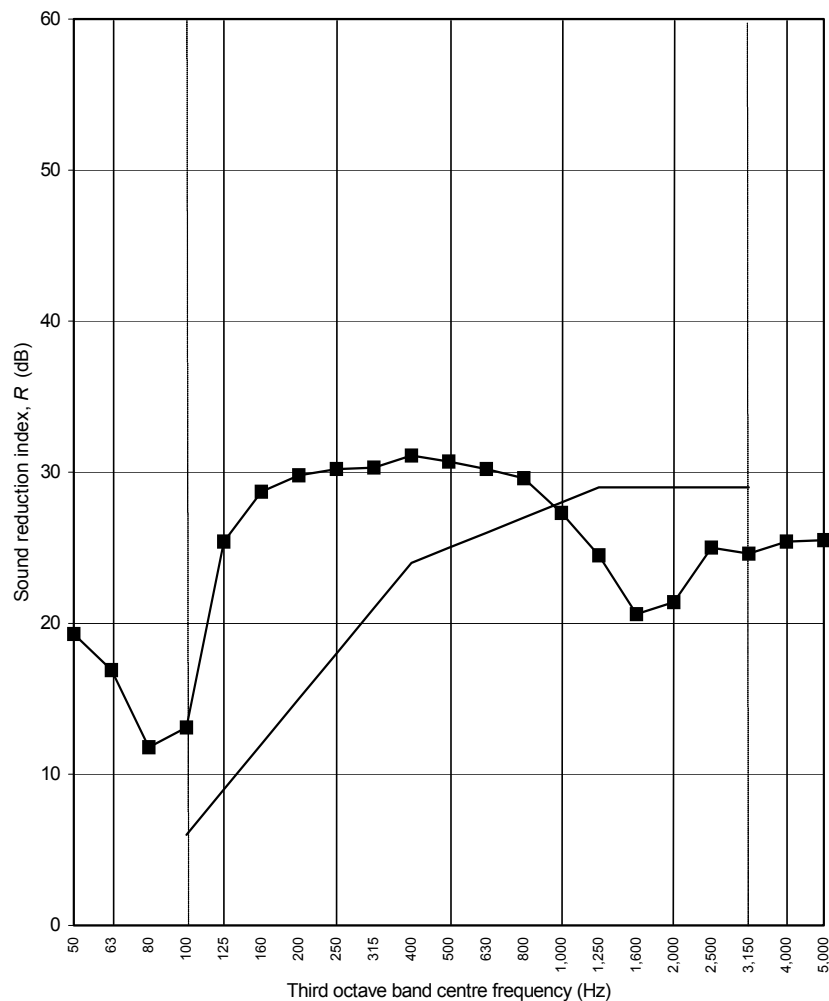
**Source room volume:** 130 m<sup>3</sup>

**Air temperature:** 17 °C

**Receive room volume:** 115 m<sup>3</sup>

**Air relative humidity:** 70 %

Frequency (Hz)	R One-third octave (dB)
50	19.3
63	16.9
80	11.8
100	13.1
125	25.4
160	28.7
200	29.8
250	30.2
315	30.3
400	31.1
500	30.7
630	30.2
800	29.6
1,000	27.3
1,250	24.5
1,600	20.6
2,000	21.4
2,500	25.0
3,150	24.6
4,000	25.4
5,000	25.5



Rating according to BS EN ISO 717-1:1997

**$R_w (C; C_{tr}) = 25 (-1; 0) \text{ dB}$**       $C_{50-3150} = -1 \text{ dB}$       $C_{50-5000} = -1 \text{ dB}$       $C_{100-5000} = -1 \text{ dB}$   
 $C_{tr,50-3150} = -1 \text{ dB}$       $C_{tr,50-5000} = -1 \text{ dB}$       $C_{tr,100-5000} = 0 \text{ dB}$

Evaluation based on laboratory measurement results obtained by an engineering method

Based on the data provided in BS EN 20140-2:1993 it is estimated that the measurement uncertainty should not exceed  $\pm 1 \text{ dB}$  for the single-number quantity ( $R_w$ ) and should not exceed the values in Table A1 of BS EN 20140-2:1993 for the data in the individual third octaves ( $R$ )

This page may only be distributed with the test report in its entirety and in accordance with the terms and conditions of the contract





0578

**Laboratory measurement of airborne sound insulation of building elements**

**Sound reduction index according to BS EN ISO 140-3:1995**

**BRE horizontal transmission suite (B9 051-053)**

**Client:** Tremco illbruck Limited

**Test date:** 16/05/2006

**Test number:** L106-071

**Test element:** Timber stud wall

**Test element area:** 9.9 m<sup>2</sup>

**Description:**

Wall with sample 1: 8 mm slot filled to a depth of 20 mm with Compriband 600 (20/8-15)

**Source room volume:** 130 m<sup>3</sup>

**Air temperature:** 17 °C

**Receive room volume:** 115 m<sup>3</sup>

**Air relative humidity:** 70 %

Frequency (Hz)	Reverberation time (s)	Background level (dB)	Source level (dB)	Receive level (dB)	R (dB)
50	2.28	27.7	89.3	69.8	20.4
63	2.15	19.6	99.5	84.3	15.9
80	2.10	14.1	96.2	81.1	15.6
100	1.17	9.4	95.8	80.0	13.8
125	1.56	4.6	96.6	69.0	26.8
160	1.54	0.0	101.7	67.3	33.6
200	1.57	-1.6	101.7	65.5	35.4
250	1.46	-1.6	99.7	62.1	36.5
315	1.54	-2.0	96.7	58.1	37.8
400	1.47	-2.0	93.8	55.5	37.3
500	1.58	-1.7	93.1	54.0	38.4
630	1.56	-1.3	93.7	53.9	39.0
800	1.57	-0.7	92.6	51.7	40.2
1,000	1.57	0.0	92.7	52.9	39.1
1,250	1.49	0.5	92.5	52.0	39.5
1,600	1.54	1.2	93.5	52.1	40.6
2,000	1.57	2.0	93.7	51.8	41.2
2,500	1.52	2.8	95.2	56.5	37.9
3,150	1.47	3.4	94.6	53.4	40.2
4,000	1.40	4.0	91.2	46.1	43.8
5,000	1.26	4.5	87.3	37.9	47.8

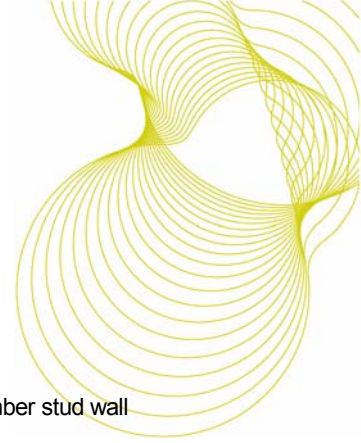
Rating according to BS EN ISO 717-1:1997

**$R_w (C; C_{tr}) = 39 (-1; -7) \text{ dB}$**      $C_{50-3150} = -2 \text{ dB}$      $C_{50-5000} = -1 \text{ dB}$      $C_{100-5000} = -1 \text{ dB}$   
 $C_{tr,50-3150} = -9 \text{ dB}$      $C_{tr,50-5000} = -9 \text{ dB}$      $C_{tr,100-5000} = -7 \text{ dB}$

Evaluation based on laboratory measurement results obtained by an engineering method

Based on the data provided in BS EN 20140-2:1993 it is estimated that the measurement uncertainty should not exceed  $\pm 1 \text{ dB}$  for the single-number quantity ( $R_w$ ) and should not exceed the values in Table A1 of BS EN 20140-2:1993 for the data in the individual third octaves (R)

This page may only be distributed with the test report in its entirety and in accordance with the terms and conditions of the contract



**Laboratory measurement of airborne sound insulation of building elements**  
**Sound reduction index according to BS EN ISO 140-3:1995**  
**BRE horizontal transmission suite (B9 051-053)**

**Client:** Tremco illbruck Limited  
**Test date:** 16/05/2006      **Test number:** L106-071      **Test element:** Timber stud wall

0578

**Test element area:** 9.9 m<sup>2</sup>

**Description:**

Wall with sample 1: 8 mm slot filled to a depth of 20 mm with Compriband 600 (20/8-15)

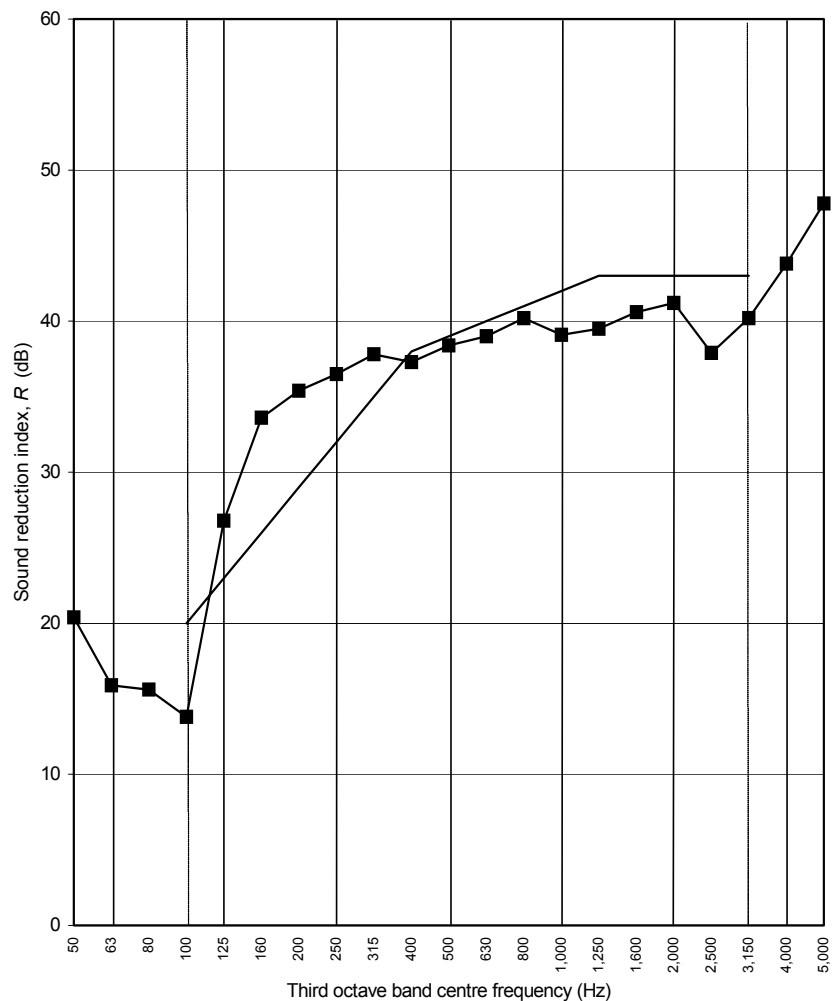
**Source room volume:** 130 m<sup>3</sup>

**Air temperature:** 17 °C

**Receive room volume:** 115 m<sup>3</sup>

**Air relative humidity:** 70 %

Frequency (Hz)	R One-third octave (dB)
50	20.4
63	15.9
80	15.6
100	13.8
125	26.8
160	33.6
200	35.4
250	36.5
315	37.8
400	37.3
500	38.4
630	39.0
800	40.2
1,000	39.1
1,250	39.5
1,600	40.6
2,000	41.2
2,500	37.9
3,150	40.2
4,000	43.8
5,000	47.8



Rating according to BS EN ISO 717-1:1997

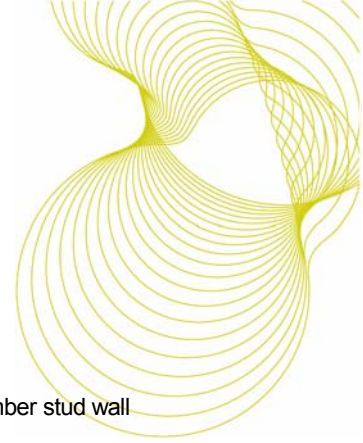
**$R_w (C; C_{tr}) = 39 (-1; -7) \text{ dB}$**        $C_{50-3150} = -2 \text{ dB}$        $C_{50-5000} = -1 \text{ dB}$        $C_{100-5000} = -1 \text{ dB}$   
 $C_{tr,50-3150} = -9 \text{ dB}$        $C_{tr,50-5000} = -9 \text{ dB}$        $C_{tr,100-5000} = -7 \text{ dB}$

Evaluation based on laboratory measurement results obtained by an engineering method

Based on the data provided in BS EN 20140-2:1993 it is estimated that the measurement uncertainty should not exceed  $\pm 1 \text{ dB}$  for the single-number quantity ( $R_w$ ) and should not exceed the values in Table A1 of BS EN 20140-2:1993 for the data in the individual third octaves (R)

This page may only be distributed with the test report in its entirety and in accordance with the terms and conditions of the contract

Laboratory sound insulation measurements to demonstrate the effect of filling empty slots with different Tremco illbruck Limited products



**Laboratory measurement of airborne sound insulation of building elements**  
**Sound reduction index according to BS EN ISO 140-3:1995**  
**BRE horizontal transmission suite (B9 051-053)**

**Client:** Tremco illbruck Limited  
**Test date:** 17/05/2006      **Test number:** L106-072      **Test element:** Timber stud wall

0578

**Test element area:** 9.9 m<sup>2</sup>

**Description:**

Wall with sample 5: 8 mm slot filled to a depth of 20 mm with Compriband 600 (20/8-15)  
 + I3 PU canister foam + illbruck Internal Window Foil 'E' + Lapseal on foil ends

**Source room volume:** 130 m<sup>3</sup>

**Air temperature:** 16 °C

**Receive room volume:** 115 m<sup>3</sup>

**Air relative humidity:** 72 %

Frequency (Hz)	Reverberation time (s)	Background level (dB)	Source level (dB)	Receive level (dB)	R (dB)
50	2.08	26.4	89.2	69.9	19.8
63	2.16	24.6	94.4	78.9	16.2
80	2.06	18.6	94.0	83.8	10.6
100	1.23	15.0	91.8	77.7	12.2
125	1.56	8.9	94.0	65.6	27.6
160	1.56	5.2	95.9	61.0	34.1
200	1.59	12.3	98.0	60.9	36.4
250	1.54	7.9	96.5	58.9	36.8
315	1.46	5.7	95.2	57.2	37.0
400	1.50	10.3	92.6	55.0	36.7
500	1.62	6.8	92.0	53.1	38.4
630	1.53	5.0	92.7	52.1	39.7
800	1.52	4.9	91.8	48.5	42.3
1,000	1.58	12.7	91.8	46.2	44.9
1,250	1.58	5.1	91.6	44.1	46.8
1,600	1.57	3.3	93.0	45.5	46.8
2,000	1.56	3.3	92.9	49.0	43.2
2,500	1.53	3.7	94.3	55.2	38.3
3,150	1.51	5.5	93.4	51.3	41.2
4,000	1.42	7.2	89.6	41.8	46.6
5,000	1.29	5.8	86.6	33.3	51.7

Rating according to BS EN ISO 717-1:1997

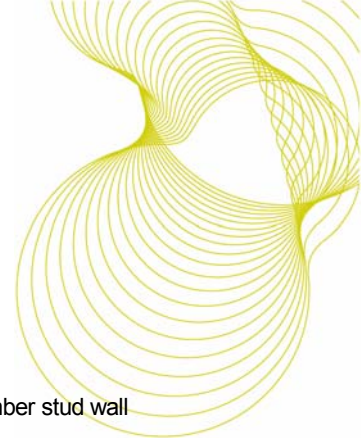
**R<sub>w</sub> (C; C<sub>tr</sub>) = 41 (-3; -9) dB**

C <sub>50-3150</sub>	= -4 dB	C <sub>50-5000</sub>	= -3 dB	C <sub>100-5000</sub>	= -2 dB
C <sub>tr,50-3150</sub>	= -13 dB	C <sub>tr,50-5000</sub>	= -13 dB	C <sub>tr,100-5000</sub>	= -9 dB

Evaluation based on laboratory measurement results obtained by an engineering method

*Based on the data provided in BS EN 20140-2:1993 it is estimated that the measurement uncertainty should not exceed ±1 dB for the single-number quantity (R<sub>w</sub>) and should not exceed the values in Table A1 of BS EN 20140-2:1993 for the data in the individual third octaves (R)*

This page may only be distributed with the test report in its entirety and in accordance with the terms and conditions of the contract



**Laboratory measurement of airborne sound insulation of building elements**  
**Sound reduction index according to BS EN ISO 140-3:1995**  
**BRE horizontal transmission suite (B9 051-053)**

**Client:** Tremco illbruck Limited  
**Test date:** 17/05/2006      **Test number:** L106-072      **Test element:** Timber stud wall

0578

**Test element area:** 9.9 m<sup>2</sup>

**Description:**

Wall with sample 5: 8 mm slot filled to a depth of 20 mm with Compriband 600 (20/8-15)  
 + I3 PU canister foam + illbruck Internal Window Foil 'E' + Lapseal on foil ends

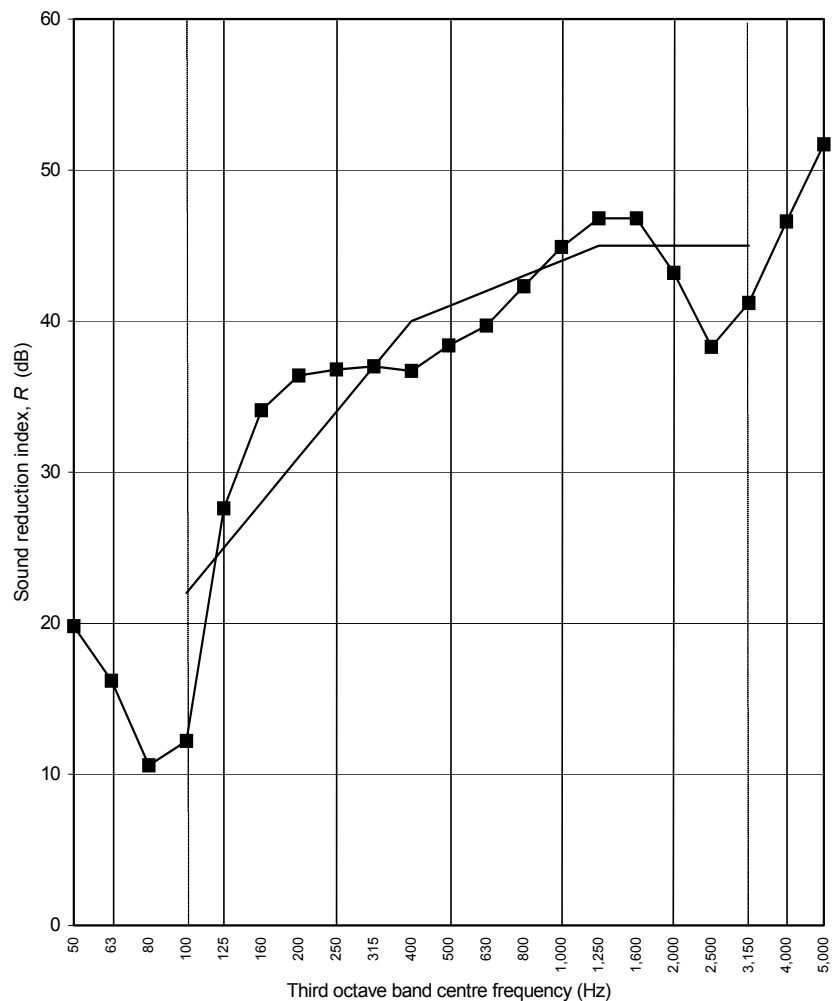
**Source room volume:** 130 m<sup>3</sup>

**Air temperature:** 16 °C

**Receive room volume:** 115 m<sup>3</sup>

**Air relative humidity:** 72 %

Frequency (Hz)	R One-third octave (dB)
50	19.8
63	16.2
80	10.6
100	12.2
125	27.6
160	34.1
200	36.4
250	36.8
315	37.0
400	36.7
500	38.4
630	39.7
800	42.3
1,000	44.9
1,250	46.8
1,600	46.8
2,000	43.2
2,500	38.3
3,150	41.2
4,000	46.6
5,000	51.7



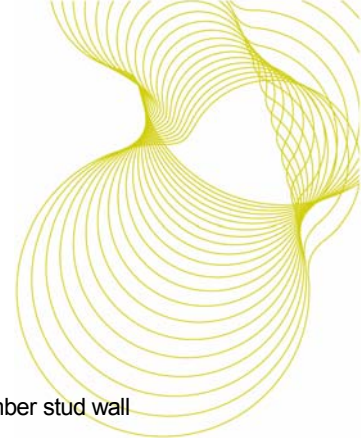
Rating according to BS EN ISO 717-1:1997

**R<sub>w</sub> (C; C<sub>tr</sub>) = 41 (-3; -9) dB**      C<sub>50-3150</sub> = -4 dB      C<sub>50-5000</sub> = -3 dB      C<sub>100-5000</sub> = -2 dB  
 C<sub>tr,50-3150</sub> = -13 dB      C<sub>tr,50-5000</sub> = -13 dB      C<sub>tr,100-5000</sub> = -9 dB

Evaluation based on laboratory measurement results obtained by an engineering method

Based on the data provided in BS EN 20140-2:1993 it is estimated that the measurement uncertainty should not exceed ±1 dB for the single-number quantity (R<sub>w</sub>) and should not exceed the values in Table A1 of BS EN 20140-2:1993 for the data in the individual third octaves (R)

This page may only be distributed with the test report in its entirety and in accordance with the terms and conditions of the contract



0578

**Laboratory measurement of airborne sound insulation of building elements**

**Sound reduction index according to BS EN ISO 140-3:1995**

**BRE horizontal transmission suite (B9 051-053)**

**Client:** Tremco illbruck Limited

**Test date:** 17/05/2006

**Test number:** L106-073

**Test element:** Timber stud wall

**Test element area:** 9.9 m<sup>2</sup>

**Description:**

Wall with sample 6: 8 mm slot filled to a depth of 20 mm with Compriband Super (20 mm Wide x 40 mm Thick)

**Source room volume:** 130 m<sup>3</sup>

**Air temperature:** 17 °C

**Receive room volume:** 115 m<sup>3</sup>

**Air relative humidity:** 70 %

Frequency (Hz)	Reverberation time (s)	Background level (dB)	Source level (dB)	Receive level (dB)	R (dB)
50	2.05	26.3	89.3	69.2	20.5
63	2.23	23.5	94.6	79.3	16.1
80	1.95	20.3	89.9	76.8	13.2
100	1.17	15.9	92.2	77.9	12.3
125	1.51	12.9	93.1	65.3	26.9
160	1.47	6.9	93.0	58.5	33.5
200	1.60	8.8	95.9	58.9	36.4
250	1.50	6.9	95.4	57.7	36.8
315	1.53	6.4	95.0	57.7	36.4
400	1.50	9.7	93.4	56.5	36.0
500	1.54	7.1	92.9	55.4	36.6
630	1.56	5.5	93.6	56.4	36.4
800	1.55	5.3	92.6	57.1	34.6
1,000	1.54	11.2	92.6	59.4	32.3
1,250	1.50	4.7	92.1	59.5	31.7
1,600	1.56	3.3	93.5	59.5	33.2
2,000	1.59	3.6	93.5	57.4	35.4
2,500	1.52	4.2	94.9	59.0	35.0
3,150	1.47	5.2	94.2	58.2	35.0
4,000	1.40	7.3	90.4	53.1	36.1
5,000	1.26	5.8	86.2	46.0	38.5

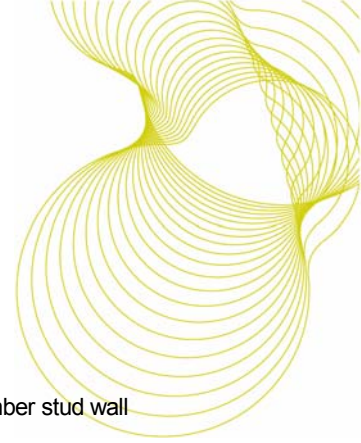
Rating according to BS EN ISO 717-1:1997

**$R_w (C; C_{tr}) = 34 (-1; -4) \text{ dB}$**      $C_{50-3150} = -1 \text{ dB}$      $C_{50-5000} = 0 \text{ dB}$      $C_{100-5000} = 0 \text{ dB}$   
 $C_{tr,50-3150} = -6 \text{ dB}$      $C_{tr,50-5000} = -6 \text{ dB}$      $C_{tr,100-5000} = -4 \text{ dB}$

Evaluation based on laboratory measurement results obtained by an engineering method

Based on the data provided in BS EN 20140-2:1993 it is estimated that the measurement uncertainty should not exceed  $\pm 1 \text{ dB}$  for the single-number quantity ( $R_w$ ) and should not exceed the values in Table A1 of BS EN 20140-2:1993 for the data in the individual third octaves (R)

This page may only be distributed with the test report in its entirety and in accordance with the terms and conditions of the contract



**Laboratory measurement of airborne sound insulation of building elements**  
**Sound reduction index according to BS EN ISO 140-3:1995**  
**BRE horizontal transmission suite (B9 051-053)**

**Client:** Tremco illbruck Limited

**Test date:** 17/05/2006

**Test number:** L106-073

**Test element:** Timber stud wall

0578

**Test element area:** 9.9 m<sup>2</sup>

**Description:**

Wall with sample 6: 8 mm slot filled to a depth of 20 mm with Compriband Super (20 mm Wide x 40 mm Thick)

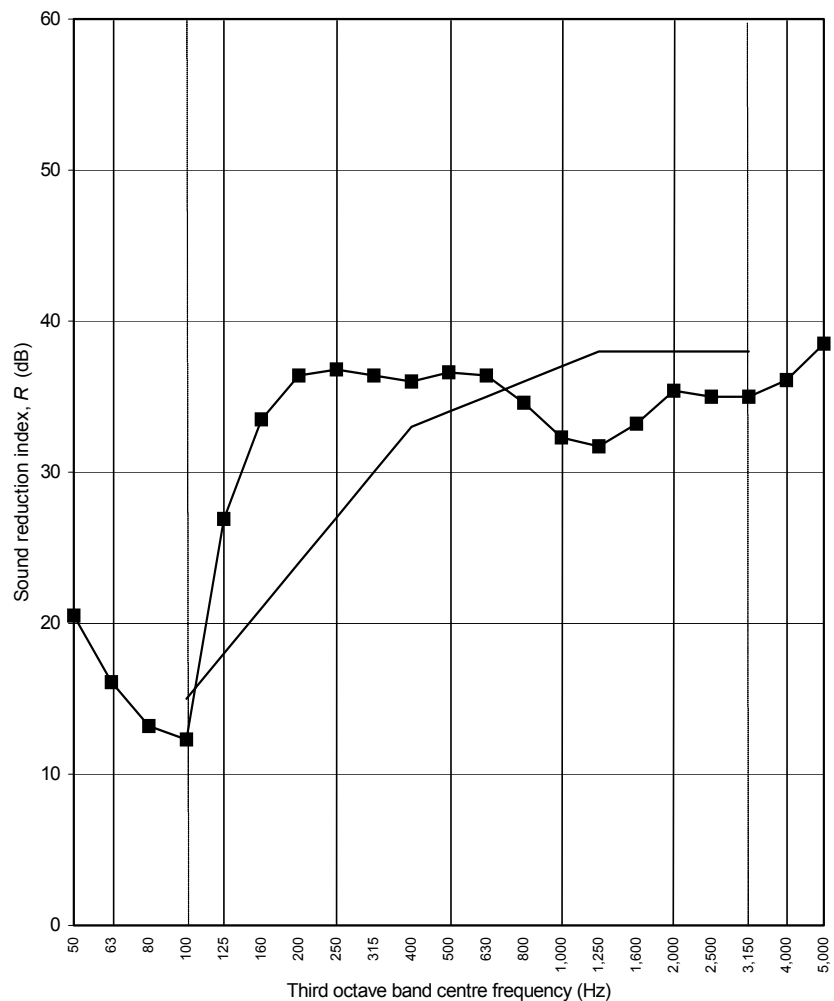
**Source room volume:** 130 m<sup>3</sup>

**Air temperature:** 17 °C

**Receive room volume:** 115 m<sup>3</sup>

**Air relative humidity:** 70 %

Frequency (Hz)	R One-third octave (dB)
50	20.5
63	16.1
80	13.2
100	12.3
125	26.9
160	33.5
200	36.4
250	36.8
315	36.4
400	36.0
500	36.6
630	36.4
800	34.6
1,000	32.3
1,250	31.7
1,600	33.2
2,000	35.4
2,500	35.0
3,150	35.0
4,000	36.1
5,000	38.5



Rating according to BS EN ISO 717-1:1997

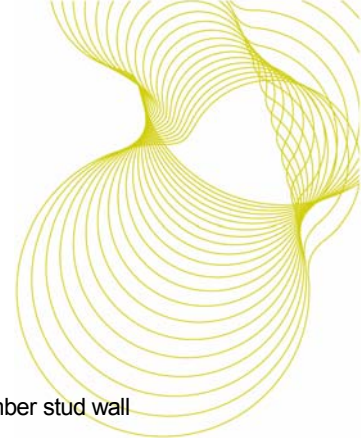
**$R_w (C; C_{tr}) = 34 (-1; -4) \text{ dB}$**       $C_{50-3150} = -1 \text{ dB}$       $C_{50-5000} = 0 \text{ dB}$       $C_{100-5000} = 0 \text{ dB}$   
 $C_{tr,50-3150} = -6 \text{ dB}$       $C_{tr,50-5000} = -6 \text{ dB}$       $C_{tr,100-5000} = -4 \text{ dB}$

Evaluation based on laboratory measurement results obtained by an engineering method

Based on the data provided in BS EN 20140-2:1993 it is estimated that the measurement uncertainty should not exceed  $\pm 1 \text{ dB}$  for the single-number quantity ( $R_w$ ) and should not exceed the values in Table A1 of BS EN 20140-2:1993 for the data in the individual third octaves (R)

This page may only be distributed with the test report in its entirety and in accordance with the terms and conditions of the contract

Laboratory sound insulation measurements to demonstrate the effect of filling empty slots with different Tremco illbruck Limited products



**Laboratory measurement of airborne sound insulation of building elements**  
**Sound reduction index according to BS EN ISO 140-3:1995**  
**BRE horizontal transmission suite (B9 051-053)**

**Client:** Tremco illbruck Limited

**Test date:** 17/05/2006

**Test number:** L106-074

**Test element:** Timber stud wall

0578

**Test element area:** 9.9 m<sup>2</sup>

**Description:**

Wall with sample 3: 8 mm slot filled to a depth of 15 mm with Compriband 600 (15/8-15)

**Source room volume:** 130 m<sup>3</sup>

**Air temperature:** 16 °C

**Receive room volume:** 115 m<sup>3</sup>

**Air relative humidity:** 73 %

Frequency (Hz)	Reverberation time (s)	Background level (dB)	Source level (dB)	Receive level (dB)	R (dB)
50	1.94	26.3	88.6	68.7	20.1
63	2.08	26.0	94.7	79.5	15.7
80	1.85	18.4	89.2	76.5	12.7
100	1.21	14.8	92.9	77.7	13.4
125	1.45	8.7	93.3	65.5	26.7
160	1.47	4.9	93.0	58.6	33.4
200	1.58	6.2	96.0	59.1	36.2
250	1.44	4.2	95.5	57.6	36.7
315	1.49	6.1	95.3	57.6	36.7
400	1.51	9.6	93.1	55.4	36.8
500	1.53	6.1	93.0	53.9	38.3
630	1.50	2.2	93.6	53.3	39.3
800	1.55	2.2	92.4	50.8	40.8
1,000	1.52	12.2	92.5	51.3	40.3
1,250	1.54	3.9	92.2	50.6	40.7
1,600	1.58	2.6	93.4	50.9	41.8
2,000	1.59	3.0	93.3	51.1	41.6
2,500	1.56	3.6	94.9	56.0	38.1
3,150	1.49	5.4	94.3	53.2	40.1
4,000	1.41	7.3	90.6	45.5	43.8
5,000	1.28	5.7	86.4	38.1	46.6

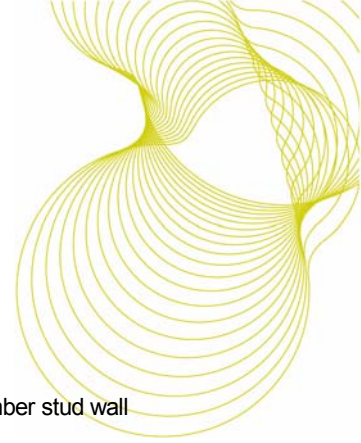
Rating according to BS EN ISO 717-1:1997

**$R_w (C; C_{tr}) = 39 (-1; -7) \text{ dB}$**   $C_{50-3150} = -2 \text{ dB}$   $C_{50-5000} = -1 \text{ dB}$   $C_{100-5000} = -1 \text{ dB}$   
 $C_{tr,50-3150} = -10 \text{ dB}$   $C_{tr,50-5000} = -10 \text{ dB}$   $C_{tr,100-5000} = -7 \text{ dB}$

Evaluation based on laboratory measurement results obtained by an engineering method

Based on the data provided in BS EN 20140-2:1993 it is estimated that the measurement uncertainty should not exceed  $\pm 1 \text{ dB}$  for the single-number quantity ( $R_w$ ) and should not exceed the values in Table A1 of BS EN 20140-2:1993 for the data in the individual third octaves (R)

This page may only be distributed with the test report in its entirety and in accordance with the terms and conditions of the contract



**Laboratory measurement of airborne sound insulation of building elements**  
**Sound reduction index according to BS EN ISO 140-3:1995**  
**BRE horizontal transmission suite (B9 051-053)**

**Client:** Tremco illbruck Limited

**Test date:** 17/05/2006

**Test number:** L106-074

**Test element:** Timber stud wall

0578

**Test element area:** 9.9 m<sup>2</sup>

**Description:**

Wall with sample 3: 8 mm slot filled to a depth of 15 mm with Compriband 600 (15/8-15)

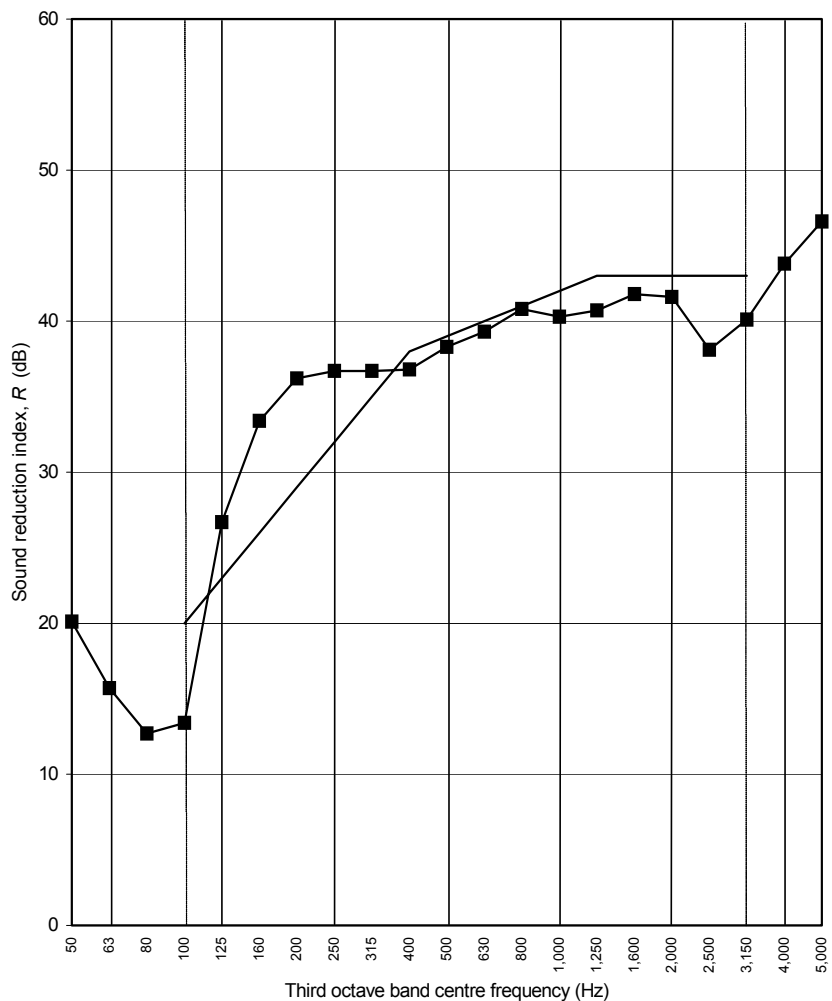
**Source room volume:** 130 m<sup>3</sup>

**Air temperature:** 16 °C

**Receive room volume:** 115 m<sup>3</sup>

**Air relative humidity:** 73 %

Frequency (Hz)	R One-third octave (dB)
50	20.1
63	15.7
80	12.7
100	13.4
125	26.7
160	33.4
200	36.2
250	36.7
315	36.7
400	36.8
500	38.3
630	39.3
800	40.8
1,000	40.3
1,250	40.7
1,600	41.8
2,000	41.6
2,500	38.1
3,150	40.1
4,000	43.8
5,000	46.6



Rating according to BS EN ISO 717-1:1997

**$R_w (C; C_{tr}) = 39 (-1; -7) \text{ dB}$**       $C_{50-3150} = -2 \text{ dB}$       $C_{50-5000} = -1 \text{ dB}$       $C_{100-5000} = -1 \text{ dB}$   
 $C_{tr,50-3150} = -10 \text{ dB}$       $C_{tr,50-5000} = -10 \text{ dB}$       $C_{tr,100-5000} = -7 \text{ dB}$

Evaluation based on laboratory measurement results obtained by an engineering method

Based on the data provided in BS EN 20140-2:1993 it is estimated that the measurement uncertainty should not exceed  $\pm 1 \text{ dB}$  for the single-number quantity ( $R_w$ ) and should not exceed the values in Table A1 of BS EN 20140-2:1993 for the data in the individual third octaves (R)

This page may only be distributed with the test report in its entirety and in accordance with the terms and conditions of the contract





0578

**Laboratory measurement of airborne sound insulation of building elements**  
**Sound reduction index according to BS EN ISO 140-3:1995**  
**BRE horizontal transmission suite (B9 051-053)**

**Client:** Tremco illbruck Limited

**Test date:** 18/05/2006

**Test number:** L106-075

**Test element:** Timber stud wall

**Test element area:** 9.9 m<sup>2</sup>

**Description:**

Wall with sample 14: 5 mm wide by 100 mm deep open slot

**Source room volume:** 130 m<sup>3</sup>

**Air temperature:** 17 °C

**Receive room volume:** 115 m<sup>3</sup>

**Air relative humidity:** 71 %

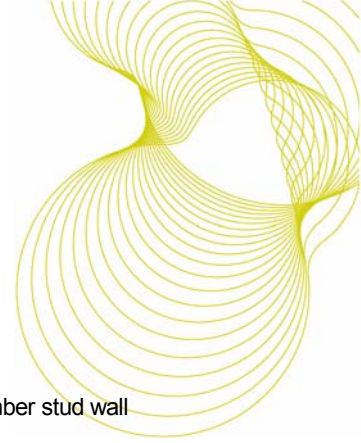
Frequency (Hz)	Reverberation time (s)	Background level (dB)	Source level (dB)	Receive level (dB)	R (dB)
50	2.09	27.9	86.8	68.7	18.7
63	2.28	25.4	92.0	76.9	15.9
80	2.08	20.9	93.1	82.1	11.5
100	1.06	16.4	92.7	77.6	12.7
125	1.49	11.8	93.1	65.5	26.6
160	1.57	5.1	92.3	61.4	30.1
200	1.52	6.6	95.5	63.1	31.5
250	1.50	4.4	94.9	62.6	31.4
315	1.54	5.1	94.7	62.4	31.5
400	1.49	9.8	92.8	59.6	32.2
500	1.60	6.9	92.3	59.4	32.2
630	1.55	4.0	93.0	60.1	32.1
800	1.56	3.4	91.8	59.8	31.2
1,000	1.55	10.7	91.9	61.6	29.5
1,250	1.55	4.4	91.6	64.8	26.0
1,600	1.55	2.7	92.9	70.7	21.4
2,000	1.57	2.9	92.9	69.8	22.4
2,500	1.55	3.5	94.4	67.4	26.2
3,150	1.50	4.8	93.6	67.5	25.2
4,000	1.42	6.7	90.1	62.8	26.1
5,000	1.28	5.8	85.5	58.1	25.9

Rating according to BS EN ISO 717-1:1997

**R<sub>w</sub> (C; C<sub>tr</sub>) = 26 (-1; 0) dB**    C<sub>50-3150</sub> = -1 dB    C<sub>50-5000</sub> = -1 dB    C<sub>100-5000</sub> = -1 dB  
 C<sub>tr,50-3150</sub> = -1 dB    C<sub>tr,50-5000</sub> = -2 dB    C<sub>tr,100-5000</sub> = -1 dB

Evaluation based on laboratory measurement results obtained by an engineering method

Based on the data provided in BS EN 20140-2:1993 it is estimated that the measurement uncertainty should not exceed ±1 dB for the single-number quantity (R<sub>w</sub>) and should not exceed the values in Table A1 of BS EN 20140-2:1993 for the data in the individual third octaves (R)



**Laboratory measurement of airborne sound insulation of building elements**  
**Sound reduction index according to BS EN ISO 140-3:1995**  
**BRE horizontal transmission suite (B9 051-053)**

**Client:** Tremco illbruck Limited  
**Test date:** 18/05/2006      **Test number:** L106-075      **Test element:** Timber stud wall

0578

**Test element area:** 9.9 m<sup>2</sup>

**Description:**

Wall with sample 14: 5 mm wide by 100 mm deep open slot

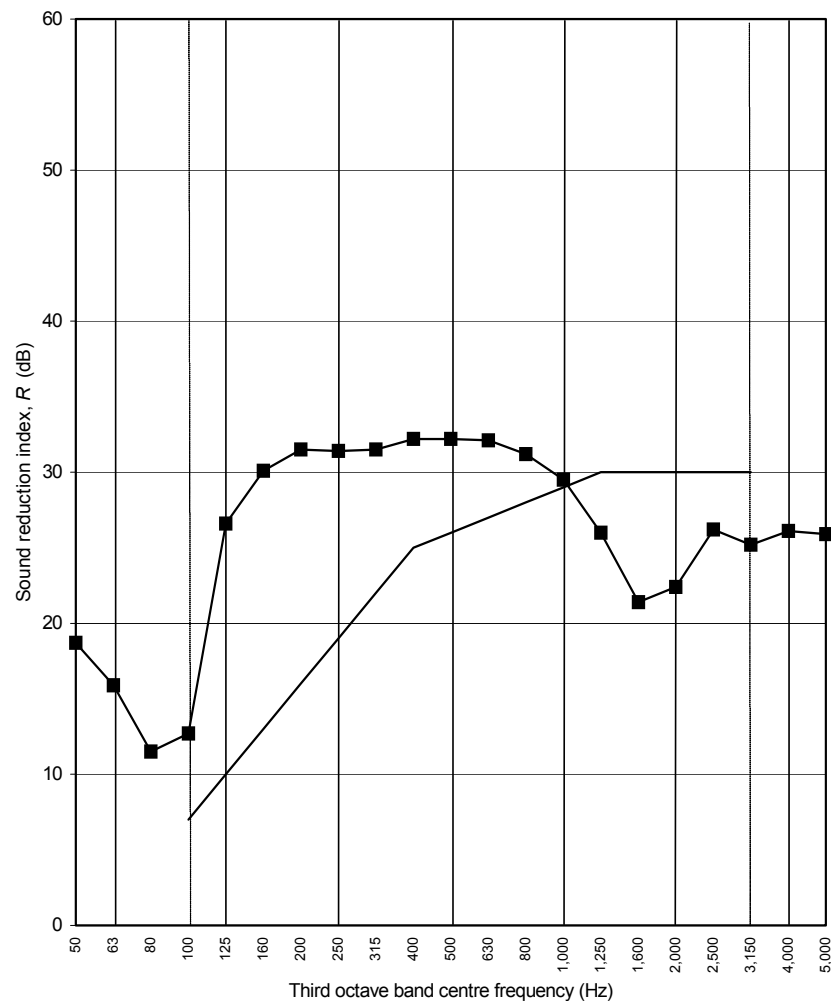
**Source room volume:** 130 m<sup>3</sup>

**Air temperature:** 17 °C

**Receive room volume:** 115 m<sup>3</sup>

**Air relative humidity:** 71 %

Frequency (Hz)	R One-third octave (dB)
50	18.7
63	15.9
80	11.5
100	12.7
125	26.6
160	30.1
200	31.5
250	31.4
315	31.5
400	32.2
500	32.2
630	32.1
800	31.2
1,000	29.5
1,250	26.0
1,600	21.4
2,000	22.4
2,500	26.2
3,150	25.2
4,000	26.1
5,000	25.9



Rating according to BS EN ISO 717-1:1997

**R<sub>w</sub> (C; C<sub>tr</sub>) = 26 (-1; 0) dB**      C<sub>50-3150</sub> = -1 dB      C<sub>50-5000</sub> = -1 dB      C<sub>100-5000</sub> = -1 dB  
 C<sub>tr,50-3150</sub> = -1 dB      C<sub>tr,50-5000</sub> = -2 dB      C<sub>tr,100-5000</sub> = -1 dB

Evaluation based on laboratory measurement results obtained by an engineering method

Based on the data provided in BS EN 20140-2:1993 it is estimated that the measurement uncertainty should not exceed ±1 dB for the single-number quantity (R<sub>w</sub>) and should not exceed the values in Table A1 of BS EN 20140-2:1993 for the data in the individual third octaves (R)

This page may only be distributed with the test report in its entirety and in accordance with the terms and conditions of the contract



**Laboratory measurement of airborne sound insulation of building elements**  
**Sound reduction index according to BS EN ISO 140-3:1995**  
**BRE horizontal transmission suite (B9 051-053)**

**Client:** Tremco illbruck Limited

**Test date:** 18/05/2006

**Test number:** L106-076

**Test element:** Timber stud wall

0578

**Test element area:** 9.9 m<sup>2</sup>

**Description:**

Wall with sample 7: 5 mm slot filled to a depth of 10 mm with Alfas Seal P115SR (10 mm Wide x 8 mm Thick)

**Source room volume:** 130 m<sup>3</sup>

**Air temperature:** 16 °C

**Receive room volume:** 115 m<sup>3</sup>

**Air relative humidity:** 73 %

Frequency (Hz)	Reverberation time (s)	Background level (dB)	Source level (dB)	Receive level (dB)	R (dB)
50	1.96	25.5	87.5	68.1	19.6
63	2.22	24.0	91.6	76.6	15.7
80	1.96	18.6	93.3	81.5	12.0
100	1.12	15.5	92.3	77.3	12.8
125	1.55	11.3	92.8	65.0	27.0
160	1.59	8.2	92.6	57.7	34.2
200	1.50	11.0	96.1	58.7	36.5
250	1.54	4.5	94.6	57.1	36.6
315	1.48	4.7	94.2	56.3	37.0
400	1.53	10.2	92.7	54.9	37.0
500	1.56	7.3	92.4	53.1	38.6
630	1.57	3.6	93.1	52.8	39.6
800	1.52	3.1	91.9	48.8	42.2
1,000	1.57	13.0	92.0	46.6	44.7
1,250	1.50	4.2	91.6	44.4	46.3
1,600	1.56	2.7	92.9	45.8	46.3
2,000	1.58	3.1	93.0	49.1	43.2
2,500	1.54	3.7	94.5	55.3	38.4
3,150	1.51	5.0	93.8	52.0	40.9
4,000	1.43	6.7	90.3	43.0	46.2
5,000	1.26	5.5	86.0	34.2	50.1

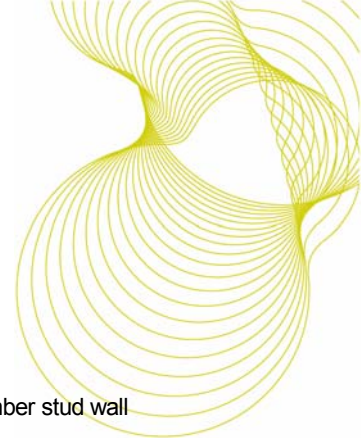
Rating according to BS EN ISO 717-1:1997

**R<sub>w</sub> (C; C<sub>tr</sub>) = 41 (-3;-9) dB**    C<sub>50-3150</sub> = -4 dB    C<sub>50-5000</sub> = -3 dB    C<sub>100-5000</sub> = -2 dB  
 C<sub>tr,50-3150</sub> = -12 dB    C<sub>tr,50-5000</sub> = -12 dB    C<sub>tr,100-5000</sub> = -9 dB

Evaluation based on laboratory measurement results obtained by an engineering method

Based on the data provided in BS EN 20140-2:1993 it is estimated that the measurement uncertainty should not exceed ±1 dB for the single-number quantity (R<sub>w</sub>) and should not exceed the values in Table A1 of BS EN 20140-2:1993 for the data in the individual third octaves (R)

This page may only be distributed with the test report in its entirety and in accordance with the terms and conditions of the contract



**Laboratory measurement of airborne sound insulation of building elements**  
**Sound reduction index according to BS EN ISO 140-3:1995**  
**BRE horizontal transmission suite (B9 051-053)**

**Client:** Tremco illbruck Limited

**Test date:** 18/05/2006

**Test number:** L106-076

**Test element:** Timber stud wall

0578

**Test element area:** 9.9 m<sup>2</sup>

**Description:**

Wall with sample 7: 5 mm slot filled to a depth of 10 mm with Alfas Seal P115SR (10 mm Wide x 8 mm Thick)

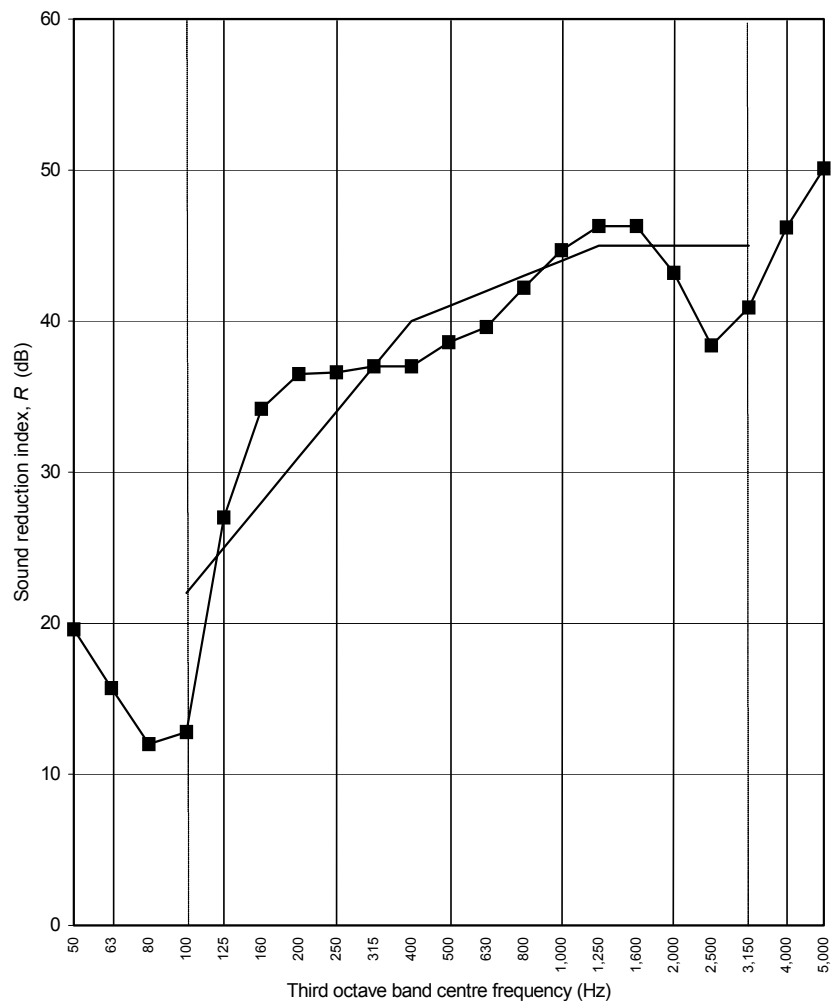
**Source room volume:** 130 m<sup>3</sup>

**Air temperature:** 16 °C

**Receive room volume:** 115 m<sup>3</sup>

**Air relative humidity:** 73 %

Frequency (Hz)	R One-third octave (dB)
50	19.6
63	15.7
80	12.0
100	12.8
125	27.0
160	34.2
200	36.5
250	36.6
315	37.0
400	37.0
500	38.6
630	39.6
800	42.2
1,000	44.7
1,250	46.3
1,600	46.3
2,000	43.2
2,500	38.4
3,150	40.9
4,000	46.2
5,000	50.1



Rating according to BS EN ISO 717-1:1997

**$R_w (C; C_{tr}) = 41 (-3; -9) \text{ dB}$**      $C_{50-3150} = -4 \text{ dB}$      $C_{50-5000} = -3 \text{ dB}$      $C_{100-5000} = -2 \text{ dB}$   
 $C_{tr,50-3150} = -12 \text{ dB}$      $C_{tr,50-5000} = -12 \text{ dB}$      $C_{tr,100-5000} = -9 \text{ dB}$

Evaluation based on laboratory measurement results obtained by an engineering method

Based on the data provided in BS EN 20140-2:1993 it is estimated that the measurement uncertainty should not exceed  $\pm 1 \text{ dB}$  for the single-number quantity ( $R_w$ ) and should not exceed the values in Table A1 of BS EN 20140-2:1993 for the data in the individual third octaves ( $R$ )

This page may only be distributed with the test report in its entirety and in accordance with the terms and conditions of the contract