

## **A Report on the Sound Insulation of:**

**28 Crynant Business park, Crynant, Neath, South Wales, SA10 8PA**

**Report Ref:**  
AVB2325

**Date:**  
15<sup>th</sup> May 2008

**Prepared for:**  
Wall Transform

Completed by  
**Sound Solution Acoustic Consultancy Ltd**

Accredited by  
**United Kingdom Accreditation Service**



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# Test Summary

## on Sound Insulation

The overall result with respect to Requirement E1 of the building regulations (2000) Approved Document E (2003 plus amendments 2004) is:-

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# PASSED

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See section 3

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**Separating Elements**

**Walls**

See section 4

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**Remedial Work Required**

**No**

See section 5

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The level of sound insulation with the information disclosed within SSAC report AVB2325 dated 15<sup>th</sup> May 2008 for

Wall Transform c/o Xetal,  
28 Crynant Business Park,  
Crynant,  
Neath,  
South Wales,  
SA10 8PA

- 1) meets the minimum performance standards detailed in the Building Regulations, Approved Document E (2003 edition)
- 2) This result is specific to the areas tested and can only be taken as representative of other areas where separating element constructions are identical with identical or similar flanking arrangements

This test summary should always be read in conjunction with the full text of this report.

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Measured and Produced for Issue by Max Foster TechIOA, **Acoustic Technician**

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Checked, Issued and Signed by



Alex Browne, **Quality Manager**

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## 1.0 Test Details

Sound Solution Acoustic Consultancy has been commissioned to carry out the following pre-completion sound insulation (SI) testing.

<b>Name</b>	Wall Transform
<b>Address</b>	Unit 5, Rosedale Court, Stokesley Business Park, Stokesley, TS9 5GB
<b>Site Address</b>	28 Crynant Business Park, Crynant, Neath, South Wales, SA10 8PA
<b>Property Description</b>	

Test booth scenario to assess party wall construction method. Booths were essentially complete "rooms" with realistic flanking wall/floor constructions.

<b>Report Number</b>	AVB2325
<b>No of Report Certificates</b>	1
<b>Personnel Present During Survey</b>	Max Foster Tech IOA, Sound Solution Acoustic Consultancy Ltd.
<b>Test Date</b>	13 <sup>th</sup> May 2008

<b>Approved Document E (ADE) definition</b>	New Build	
<b>No of Airborne Tests on Walls</b>	<b>No of Airborne Tests on Floors</b>	<b>No of Impact Tests on Floors</b>
1	0	0
<b>Test programme selected by</b>	M.F.	

The sound insulation testing has been completed in accordance with Building regulations 2000 requirements (Approved Document E, 2003 edition plus amendments 2004) and relevant British Standards for assessment against Approved Document E sound insulation Requirement E1.

Sound Solution Acoustic Consultancy Ltd is UKAS accredited for airborne sound insulation testing in compliance with BS EN ISO/IEC 17025:2005 and in accordance with BS EN ISO 140-4:1998, BS EN ISO 140-7:1998, BS EN ISO 717-1:1997 and BS EN ISO 717-2:1997. Opinions and interpretations contained in this report are clearly marked (by the use blue italic text) and are outside the scope of the organisation's scope of accreditation.

Opinions and interpretations contained in this report are clearly marked (by the use *blue italic text*) and are outside the scope of the organisation's scope of accreditation.

There are certificate attachments to this report that should be read in conjunction with this report and are detailed under a separate pagination numbering system.

Further test details are given at Appendix A.



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## 2.0 Standards and Ratings

“In the secretary of states view the normal way of satisfying Requirement E1 will be to build separating walls, separating floors, and stairs that have a separating function, together with associated flanking construction, in such a way that they achieve the sound insulation values for dwelling houses and flats, and the values for rooms for residential purposes.”

The Requirement E1 sound insulation values are:

### Purpose built dwelling-houses and flats.

Separating Walls:	airborne	Dntw + Ctr	45dB or higher
Separating Floors:	airborne	Dntw + Ctr	45dB or higher
Separating Floors:	impact	Lntw	62dB or lower

### Dwelling houses and flats formed by material change of use.

Separating Walls:	airborne	Dntw + Ctr	43dB or higher
Separating Floors:	airborne	Dntw + Ctr	43dB or higher
Separating Floors:	impact	Lntw	64dB or lower

### Purpose built rooms for residential purposes.

Separating Walls:	airborne	Dntw + Ctr	45dB or higher
Separating Floors:	airborne	Dntw + Ctr	45dB or higher
Separating Floors:	impact	Lntw	62dB or lower

### Rooms for residential purposes formed by material change of use.

Separating Walls:	airborne	Dntw + Ctr	43dB or higher
Separating Floors:	airborne	Dntw + Ctr	43dB or higher
Separating Floors:	impact	Lntw	64dB or lower

### 3.0 Sound Insulation Performance

The results of the tests are summarised below , Appendix D contains the full test report certificates.

Certificate No.	Construction	Room Description		Measured $D_{nT,w} + C_{tr}$	Measured $L'_{nT,w}$	Requirement	ADE 2003, 'Pass' or 'Fail'
			VOL (m <sup>3</sup> )	(dB)	(dB)	(dB)	
1	Party Wall [A]	SOURCE ROOM	VOL (m <sup>3</sup> )	49	-	Min 45	PASS
		Test Room C	27				
		RECEIVER ROOM	VOL (m <sup>3</sup> )				
		Test Room B	27				

Test Type Key      A = Airborne    I = Impact



## 4.0 Construction Details

### 4.1 Details of construction under test

Certificate No.	Type	Construction Details
1	Party Wall	100mm concrete blockwork wall; 10mm Rubbercrete sound insulating backing plaster to each side; 3mm skim to each side.
	<b>FLANKING ELEMENTS</b>	2 x leaves of 100mm dense concrete blockwork; Cavity filled with Kingspan; Stud frame filled with 50mm Acoustiquilt insulation; 1 x layer of Soundshield plasterboard.

These construction details have been supplied by the client and therefore SSAC Ltd accepts no responsibility for their accuracy.

Any differing constructions or differing flanking arrangements may be subject to further pre-completion tests at the discretion of the building control officer.

## 5.0 Deviation & Comments

Has the test been subject to deviation from Building regulations 2000 requirements (Approved Document E, 2003 edition plus amendments 2004) and relevant British Standards for assessment against Approved Document E sound insulation Requirement E1?

**NO**

**Comments**

Who authorised such deviation?

**N/A**

**Comments**

## 6.0 Remedial Works

No remedial works required.

## Appendix A

### Survey Details

#### A1 Equipment

The following equipment has been calibrated in accordance with the laboratory accreditation requirements of the United Kingdom Accreditation Service (UKAS).

Calibration schedules are implemented within SSAC Ltd in accordance with UKAS guidance document LAB 23.

Item	Description	Manufacturer	Serial No.	Calibration Expiration Date.
Nor-118	Analyser/Noise Generator	Norsonic	1402833	24 Aug 2009
Nor-1225	Microphone	Norsonic	72882	24 Aug 2009
Nor-1206	Pre-amplifier	Norsonic	12440	24 Aug 2009
Nor-1251	Sound Level Calibrator	Norsonic	31687	21 August 2008
Nor-211	Tapping Machine	Norsonic	31489	8 August 2008

#### A2. Calibration

Before and after the survey the measurement apparatus was checked calibrated to an accuracy of  $\pm 0.3$  dB using the Sound Level Calibrator.

#### A3 Quality Assurance

Staffs involved in the testing procedure are members of the Institute of Acoustics. This membership indicates an experience in the field of acoustics and that the members' skills and work record have been scrutinised by the IOA membership committee.

Sound Solution Acoustic Consultancy's site testing is undertaken to a stringent internal quality system following the guidance from ISO/IEC 17025:2005 'General requirements for the competence of testing and calibration laboratories'.

The testing methods for airborne and impact sound insulation are in full accordance with the methods presented in BS EN ISO 140-parts 4 and 7: 1998. The results of the tests are analysed in accordance with BS EN ISO 717 parts 1 and 2: 1997.

In addition, all the procedures in Annex B of the Approved Document E, guidance to the Building Regulations, have been followed.



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## Appendix B

### B1 Description of Test and Analysis Procedures

Prior to commencement of testing, audibility and suitability checks were conducted in order to ensure the rooms are ready for testing.

The developments sound insulation tests are to be carried out and rated in accordance with the following current standards:

- BS EN ISO 140-4:1998 – ‘Acoustics – Measurement of Sound Insulation in Buildings and of Building Elements. Part 4 ‘Field Measurement of Airborne Sound Insulation Between Rooms’
- BS EN ISO 140-7:1998 – ‘Acoustics – Measurement of Sound Insulation in Buildings and of Building Elements. Part 7 ‘Field Measurement of Impact Sound Insulation of Floors.
- BS EN ISO 717-1:1997 – ‘Acoustics – ‘Rating of Sound Insulation in Buildings and of Building Elements: Part 1. Airborne Sound Insulation’
- BS EN ISO 717-2:1997 – ‘Acoustics - ‘Rating of Sound Insulation in Buildings and of Building Elements: Part 2. Impact Sound Insulation’.
- Building Regulations Approved Document E 2003 ‘Resistance to the Passage of Sound’

Where a deviation occurs such tests are only completed with the acceptance of Building Control and/or the client.

## Appendix C

Calculated Results, complete report certificates on floor and w all SI tests

See Attached Sheets (1 off)



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