Paragon
Acoustic Consultants

Project:	30-32 Blyth Road, Hayes			
Client:	Bellway Homes			
Report Title:	Acoustic Assessment for Planning Condition 10			
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Checked:	J A Gillott MIOA		Date:	03/12/2020
Revision:	A			
Report Status:	**Issue**			
Reference:	20201203_4371_C10.docx			

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1 Introduction

A parcel of land located at Blyth Road, Hayes, is undergoing redevelopment to provide a mixed use scheme comprising residential accommodation together with a ground floor level commercial unit and associated facilities.

Paragon Acoustic Consultants Ltd has been commissioned to provide an acoustic assessment for the purposes of discharging Condition 10 of planning permission 689784/APP/2018/2146 which requires that:

> 10 . Prior to occupation of the development, details shall be submitted to and approved in writing by the Council, of an enhanced sound insulation value DnT,w and L'nT,w of at least 5dB above the Building Regulations value, for the floor/ceiling/wall structures separating different types of rooms/ uses in adjoining dwellings, namely living room and kitchen above bedroom of separate dwelling. Approved details shall be implemented prior to occupation of the development and thereafter be permanently retained.

The reason given for the condition is:

> To safeguard the amenity of the surrounding area in accordance with policy OE1 of the Hillingdon Local Plan: Part Two Saved UDP Policies (November 2012).

2 Design Guidance

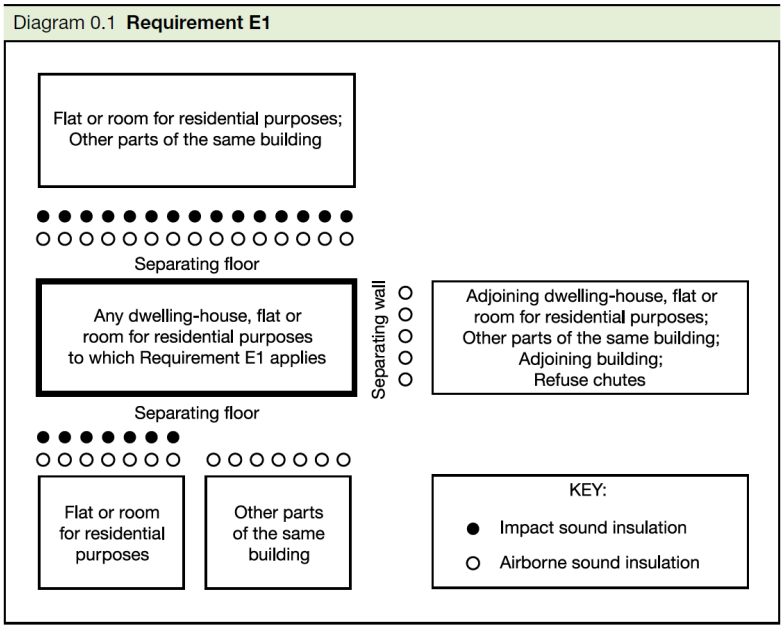
2.1 Building Regulations Approved Document E

Part E of Schedule 1 to the Building Regulations 2000 requires that reasonable resistance to sound is provided both between and within dwelling houses, flats and rooms for residential purposes. Compliance with Requirement E1 may be demonstrated by building separating walls, separating floors and stairs that have a separating function, together with associated flanking construction, in such a way that they achieve prescribed sound insulation values set out in the Approved Document.

Dwelling-houses and flats – performance standards for separating walls, separating floors, and stairs that have a separating function (source: ADE Table 0.1a)		
	Airborne sound insulation $D_{nT,w} + C_{tr}$ dB (Minimum values)	**Impact sound insulation $L'_{nT,w}$ dB (Maximum values)**
Purpose built dwelling-houses and flats		
Walls	45	-
Floors and stairs	45	62

The limits on application of Requirement E1 are set out by Diagram 0.1 of ADE, as below.

Figure 1: Limits on application of Requirement E1 (source: ADE Diagram 0.1)



Condition 10 sets airborne sound insulation targets in terms of the quantity $D_{nT,w}$ rather than $D_{nT,w} + C_{tr}$ as stipulated by ADE. Strictly therefore, to meet Condition 10, the following airborne sound insulation value between dwellings would therefore need to be attained:

- $D_{nT,w} \geq 50$ dB;
- $L'_{nT,w} \leq 57$ dB.

Further, it should be noted that C10 requires details be submitted for approval, rather than confirming performance by means of field sound insulation tests. The method for demonstrating compliance with C10 is set out below.

3 Prediction of Sound Insulation between Dwellings

In order to estimate the likely sound insulation between the commercial unit and vertically adjoining dwellings, airborne sound insulation calculations have been carried out using the prediction methods detailed below.

3.1 Method

The sound insulation performance of individual structural elements has generally been determined from results of laboratory tests undertaken to:

- BS EN ISO 140-3: 1995 Acoustics – Measurement of sound insulation in buildings and of building elements. Part 3. Laboratory measurement of airborne sound insulation of building elements; and/or
- BS EN ISO 10140-2:2010 Acoustics. Laboratory measurement of sound insulation of building elements Measurement of airborne sound insulation.

In instances where suitable laboratory test data is unavailable, element sound insulation may be estimated using proprietary applications such as INSUL. This program models the sound insulation of materials using the simple mass law and coincidence frequency approach and models more complex partitions using work by Sharp, Cremer and others. In addition, element sound insulation may be gauged using SONmultilayer which implements the Transfer Matrix Method.

BS EN 12354-1:2000 Building acoustics – Estimation of acoustic performance of buildings from the performance of elements – Part 1. Airborne sound insulation between rooms, describes calculation models designed to estimate the airborne sound insulation primarily using data that characterises direct or indirect flanking transmission by the participating building elements, and theoretically derived methods of sound propagation in structural elements. The model accounts for factors such as element mass, element radiating area, sound reduction improvement from additional layers, vibration reduction index for each transmission path over a specified junction etc...

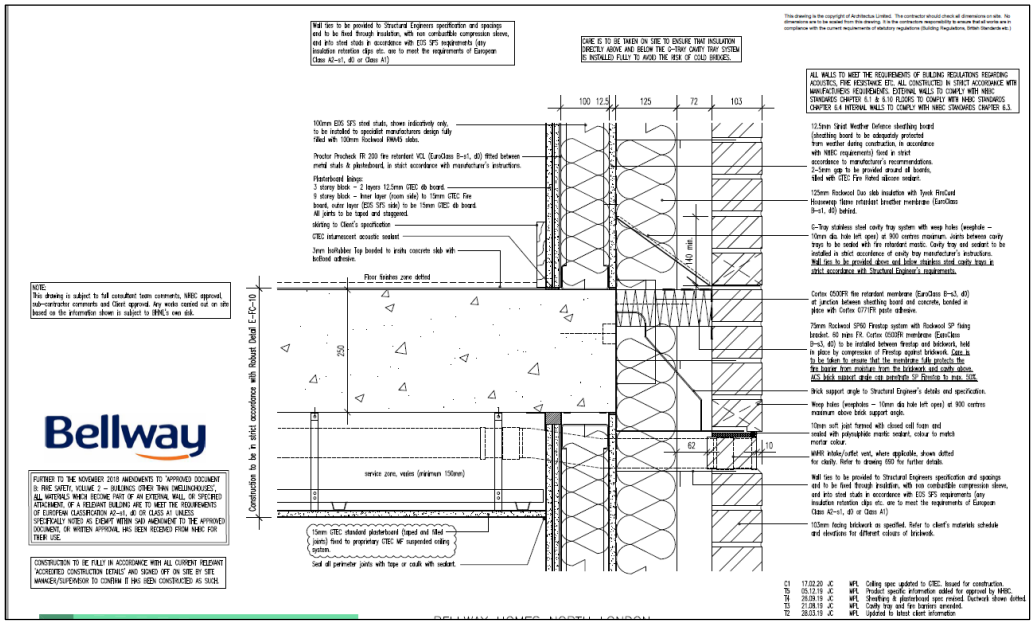
A detailed model is described for calculation in frequency bands, with single number ratings subsequently being determined from the calculation results. The procedures given in BS EN 12354-1:2000 are fully implemented by the software package BASTIAN Building Acoustics Planning Software. This applications also extend the calculation model given in Part 1 of the British Standard to allow for transmission via double leaf separating and flanking walls, following the work of Metzen et al[1].

[1] Extending the CEN-Calculation model for sound transmission in buildings to heavy double walls as separating and flanking walls. PACS reference: 43.55Rg

4 Separating Floors

The following base build constructions are to be provided, as illustrated by Figure 2 below

Figure 2: Separating floor/external wall junction



4.1 Structural Floor Base

The proposed form of construction of the separating floor between dwellings is to be in-situ concrete of minimum thickness 250mm and typical superficial mass 600 kg/m^2, based on a dry set density of 2400 kg/m^3. From predictions using Insul v9.0.3 software, the element sound insulation performance is calculated to be R_w (C;C_{tr}) 62 (-2;-5) dB.

4.2 Resilient Layer

Finishes on 3mm IsoRubber Top resilient layer bonded to the structural floor base. The improvement in impact sound insulation is $\triangle L_w$ (Ci) 15 (-7) dB.

4.3 Suspended Ceiling to Dwellings

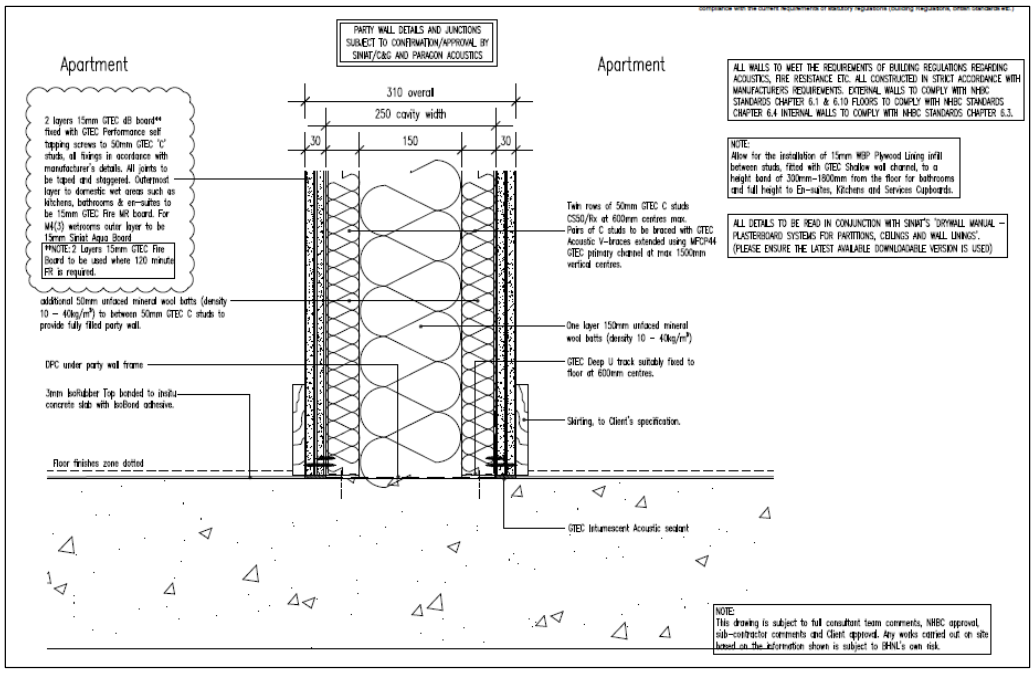
15mm GTEC plasterboard affixed to proprietary metal framing system (GTEC MF) set to provide a minimum void of 150mm.

The improvement in sound insulation above the floor base is calculated to be ΔR_w (C;C_{tr}) 15 (-1;-4) dB and $\triangle L_w$ 17 dB.

5 Separating Walls

Separating walls between dwellings are to comprise a proprietary twin frame metal stud system as illustrated by Figure 3. The element sound insulation is expected to be at least R_w (C;C_{tr}) 66 (-2;-7) dB. This value has been derived from laboratory test report BTC H14323BA and subsequently corrected to allow for use of fill insulation, rather than 25mm as per the laboratory tested construction.

Figure 3: Separating wall arrangement



6 Internal Partitions within Dwellings

Internal partitions within dwellings will be subject to Requirement E2 of ADE (also having regard to limits on application) and would therefore need to attain a minimum sound insulation value of R_w 40 dB. Typically, this would comprise 12.5mm Wallboard both sides of 70mm Studs with 25mm APR1200 in the void.

An element sound insulation of R_w (C;C_{tr}) 42 (-3;-9) dB would be expected for this arrangement, based on test report BTC 11921A.

7 External Envelope

The external envelope will typically comprise facing brickwork, cavity, sheathing board, framed inner leaf lined with a minimum 2 sheets of 12.5mm plasterboard with 100mm Rockwool in the stud zone. The element sound insulation performance is calculated to be R_w (C;C_{tr}) 64 (-1;-4) dB.

8 Sound Insulation Prediction Results

Representative calculations have been carried out to determine likely airborne and impact sound insulation values between representative pairwise adjoining spaces. Results are summarised in Table 1 and compared with the target values required under Condition 10. Calculation sheets are given over to Appendix A.

Table 1: Summary of prediction results

Source Room	Receive Room	Element Type	Prediction Result [1]			C10 Derived Target		
			$D_{nT,w} + C_{tr}$	$D_{nT,w}$	$L'_{nT,w}$	$D_{nT,w}$	$L'_{nT,w}$	Compliant
F59 Bed 2	F43 Bed 2	Floor	62 dB	71 dB	44 dB	≥50 dB	≤57dB	Yes/Yes
F58 KLD	F42 KLD	Floor	61 dB	70 dB	42 dB	≥50 dB	≤57dB	Yes/Yes
F27 KLD	F26 KLD	Wall	55 dB	62 dB	n/a	≥50 dB	n/a	Yes
F33 KLD	F27 Bed 1	Wall	55 dB	62 dB	n/a	≥50 dB	n/a	Yes
F36 Bed	F35 Bed 1	Wall	54 dB	60 dB	n/a	≥50 dB	n/a	Yes

Notes:

[1] Single number quantity $D_{nT,w} + C_{tr}$ not covered by Condition 10, reported for information.

9 Conclusions

A detailed assessment of sound insulation between adjoining dwellings has been carried out. Prediction results reported herein shows compliance with the sound insulation target values set out under Condition 10 of the planning permission for the scheme and it is therefore considered that sufficient evidence has been provided for its discharge.

Appendix A: Calculation Sheets

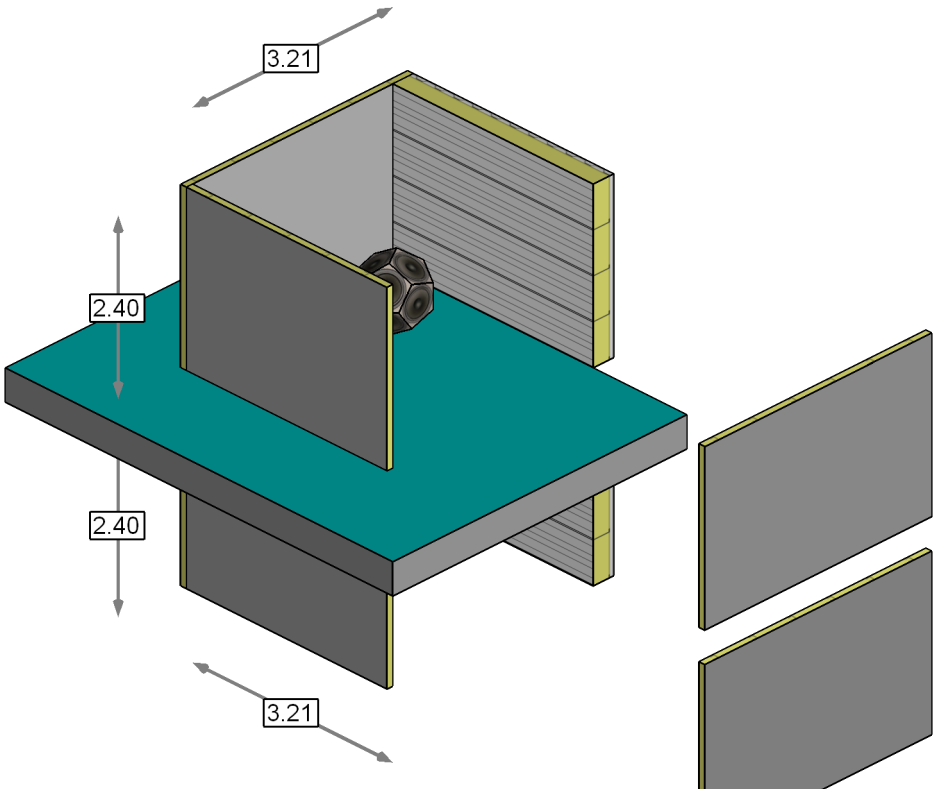
Project Info

Project Name:	Blyth Road
Client:	Bellway
Project No.:	4371
Project:	
Remarks:	F59 Bed 2 to F43 Bed 2
Editor:	PJS
Worksheet:	Worksheet 6 [DM Ts (1)]
Program:	BASTIAN V 2.3

Worksheet Configuration

Calculation Model:	DM Ts (1)
Perf. Param. Airborne Sound Transm. in Buildings:	DnT,w
Perf. Param. Impact Sound Transm. in Buildings:	L'nT,w + Ctr
Perf. Param. Outdoor Sound Transmission:	D2m,nT,w + Ctr
Reference Reverberation Time T0 (s):	0.5
f1: Surface mass m"4 (kg/m²):	200
f1: Outer leaf interrupted:	no
f2: Surface mass m"4 (kg/m²):	200
f2: Outer leaf interrupted:	no
f3: Surface mass m"4 (kg/m²):	200
f4: Surface mass m"4 (kg/m²):	200
Correction Sigma_free/Sigma_forced for Monolithic Flanking Elements:	off
Correction Sigma_free/Sigma_forced for Lightweight Flanking Elements:	off
Alpha_k-Limit, MIN (-):	-
Alpha_k-Limit, MAX (-):	-
Ts-Limit for Elements, MIN (dB):	-
Ts-Limit for Elements, MAX (dB):	-
R'45° - R' (dB):	1.0
R'tr,s - R' (dB):	0.0
Level Difference DeltaL_fs (dB):	-

Room View



Worksheet-Table

		Sending Room		Jur	Receiving Room		DnT,		L'nT,	
f	t	Basic Element	Additional Layer	Typ	Basic Element	Additional Layer	dB	%	dB	%
Xd		250mm In-situ Concrete (Insul 7.0.1	Ceramic Tiles on 3m			15mm Plasterboard, 150mm	2.2	83	3.0	84
X1		British Gypsum Gypwall Classic BT(		13	British Gypsum Gypwall Classic BT(		4.2	5	1.0	5
X2		100mm Brick, 100mm Void, 10mm (		14	100mm Brick, 100mm Void, 10mm (		2.(	1	8.1	0
X3		British Gypsum Gypwall Classic BT(		13	British Gypsum Gypwall Classic BT(		4.2	5	1.0	5
X4		British Gypsum Gypwall Classic BT(		13	British Gypsum Gypwall Classic BT(		4.2	5	1.0	5
						Total:	1.4	00	3.9	00

Elements / Constructions

tau	Room	Element	Construction
d	SR	monolithic floor	250mm In-situ Concrete (Insul 7.0.13)
d	SR	dry floating floor construction	Ceramic Tiles on 3mm IsoRubber Top on 250mm Concrete
d	RR	suspended ceiling	15mm Plasterboard, 150mm MF, 250mm Concrete - no absorber (Insul v7.0.13)
f1	SR	lightweight double wall, metal frar	British Gypsum Gypwall Classic BTC12227A
f1	RR	lightweight double wall, metal frar	British Gypsum Gypwall Classic BTC12227A
f2	SR	facade, steel panel sections	100mm Brick, 100mm Void, 10mm CPB, 100mm METSEC, 2 x 12.5mm Wallboard, 100mm R
f2	RR	facade, steel panel sections	100mm Brick, 100mm Void, 10mm CPB, 100mm METSEC, 2 x 12.5mm Wallboard, 100mm R
f3	SR	lightweight double wall, metal frar	British Gypsum Gypwall Classic BTC12227A
f3	RR	lightweight double wall, metal frar	British Gypsum Gypwall Classic BTC12227A
f4	SR	lightweight double wall, metal frar	British Gypsum Gypwall Classic BTC12227A
f4	RR	lightweight double wall, metal frar	British Gypsum Gypwall Classic BTC12227A

Geometry Data

Volume sending room (m³): 24.73
Volume receiving room (m³): 24.73

t	Room	Basic Element	a	b	S	lij
			(m)	(m)	(m²)	(m)
d		250mm In-situ Concrete (Insul 7.0.13)	3.21	3.21	10.30	
f1	SR	British Gypsum Gypwall Classic BTC12227A	2.40	3.21	7.70	3.21
f1	RR	British Gypsum Gypwall Classic BTC12227A	2.40	3.21	7.70	3.21
f2	SR	100mm Brick, 100mm Void, 10mm CPB, 100mm METSEC, 2 x 12.5mm Wallboard, 100mm Rockwo	2.40	3.21	7.70	3.21
f2	RR	100mm Brick, 100mm Void, 10mm CPB, 100mm METSEC, 2 x 12.5mm Wallboard, 100mm Rockwo	2.40	3.21	7.70	3.21
f3	SR	British Gypsum Gypwall Classic BTC12227A	2.40	3.21	7.70	3.21
f3	RR	British Gypsum Gypwall Classic BTC12227A	2.40	3.21	7.70	3.21
f4	SR	British Gypsum Gypwall Classic BTC12227A	2.40	3.21	7.70	3.21
f4	RR	British Gypsum Gypwall Classic BTC12227A	2.40	3.21	7.70	3.21

Input Data Elements

tau	Roor	X	50	63	80	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000	Xw
d	SR	R	44.2	44.2	45.6	43.7	43.6	46.3	48.8	51.2	53.8	56.4	58.9	61.4	64.7	66.2	67.8	69.4	71.0	72.5	74.1	75.8	77.4	62
d	SR	Ln	47.8	53.8	55.3	55.9	56.9	58.5	60.9	67.6	67.7	67.9	68.0	68.1	68.3	68.4	68.5	67.3	66.1	65.0	63.9	62.8	61.8	72
d	SR	DeltaF	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
d	SR	DeltaL	-6.1	-6.9	0.0	4.3	1.5	2.1	7.7	8.9	9.0	7.4	4.3	7.7	13.1	14.0	16.3	21.8	22.4	23.3	21.3	21.0	20.2	17
d	RR	DeltaF	-5.4	0.8	-3.5	-1.5	1.6	2.8	4.2	6.0	8.1	10.5	12.6	14.7	16.0	17.6	17.9	18.7	18.2	17.2	16.9	17.5	17.9	15
d	RR	DeltaL	-7.7	-6.8	-3.3	-0.5	1.8	2.4	3.3	4.6	6.3	8.3	10.2	12.3	14.5	16.3	17.8	18.2	19.7	15.9	14.5	17.2	19.3	15
f1	SR	R	17.0	14.4	10.6	14.9	16.8	25.3	28.0	28.6	33.9	36.9	41.5	44.6	48.0	50.4	53.9	56.3	56.3	50.0	41.6	43.1	45.3	40
f1	RR	R	17.0	14.4	10.6	14.9	16.8	25.3	28.0	28.6	33.9	36.9	41.5	44.6	48.0	50.4	53.9	56.3	56.3	50.0	41.6	43.1	45.3	40
f2	SR	R	31.4	37.6	40.6	43.6	48.8	52.5	56.6	57.7	61.1	65.0	67.7	70.2	72.6	74.8	77.1	79.6	80.3	80.9	80.1	81.0	83.3	69
f2	RR	R	31.4	37.6	40.6	43.6	48.8	52.5	56.6	57.7	61.1	65.0	67.7	70.2	72.6	74.8	77.1	79.6	80.3	80.9	80.1	81.0	83.3	69
f3	SR	R	17.0	14.4	10.6	14.9	16.8	25.3	28.0	28.6	33.9	36.9	41.5	44.6	48.0	50.4	53.9	56.3	56.3	50.0	41.6	43.1	45.3	40
f3	RR	R	17.0	14.4	10.6	14.9	16.8	25.3	28.0	28.6	33.9	36.9	41.5	44.6	48.0	50.4	53.9	56.3	56.3	50.0	41.6	43.1	45.3	40
f4	SR	R	17.0	14.4	10.6	14.9	16.8	25.3	28.0	28.6	33.9	36.9	41.5	44.6	48.0	50.4	53.9	56.3	56.3	50.0	41.6	43.1	45.3	40
f4	RR	R	17.0	14.4	10.6	14.9	16.8	25.3	28.0	28.6	33.9	36.9	41.5	44.6	48.0	50.4	53.9	56.3	56.3	50.0	41.6	43.1	45.3	40

Structural Reverb. Time, lab (s)

tau	Room	50	63	80	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000
d	SR	0.838	0.727	0.617	0.534	0.495	0.435	0.381	0.332	0.289	0.251	0.217	0.187	0.161	0.138	0.118	0.100	0.085	0.072	0.060	0.051	0.042

Structural Reverb. Time, situ (s)

tau	Room	50	63	80	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000
d	SR	0.217	0.192	0.169	0.151	0.136	0.120	0.107	0.095	0.084	0.074	0.065	0.058	0.051	0.045	0.039	0.034	0.030	0.026	0.023	0.020	0.017

In-Situ-Data Elements

tau	Room	X	50	63	80	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000	Xw
d	SR	R	50.1	50.0	51.2	49.2	49.2	51.9	54.3	56.7	59.2	61.7	64.1	66.5	69.7	71.1	72.6	74.0	75.5	76.8	78.3	79.8	81.3	68
d	SR	Ln	41.9	48.0	49.7	50.4	51.3	52.9	55.4	62.1	62.3	62.6	62.8	63.0	63.3	63.5	63.7	62.7	61.6	60.7	59.7	58.8	57.9	68
d	SR	DeltaF	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
d	SR	DeltaL	-6.1	-6.9	0.0	4.3	1.5	2.1	7.7	8.9	9.0	7.4	4.3	7.7	13.1	14.0	16.3	21.8	22.4	23.3	21.3	21.0	20.2	17
d	RR	DeltaF	-5.4	0.8	-3.5	-1.5	1.6	2.8	4.2	6.0	8.1	10.5	12.6	14.7	16.0	17.6	17.9	18.7	18.2	17.2	16.9	17.5	17.9	15
d	RR	DeltaL	-7.7	-6.8	-3.3	-0.5	1.8	2.4	3.3	4.6	6.3	8.3	10.2	12.3	14.5	16.3	17.8	18.2	19.7	15.9	14.5	17.2	19.3	15
f1	SR	R	17.0	14.4	10.6	14.9	16.8	25.3	28.0	28.6	33.9	36.9	41.5	44.6	48.0	50.4	53.9	56.3	56.3	50.0	41.6	43.1	45.3	40
f1	RR	R	17.0	14.4	10.6	14.9	16.8	25.3	28.0	28.6	33.9	36.9	41.5	44.6	48.0	50.4	53.9	56.3	56.3	50.0	41.6	43.1	45.3	40
f2	SR	R	31.4	37.6	40.6	43.6	48.8	52.5	56.6	57.7	61.1	65.0	67.7	70.2	72.6	74.8	77.1	79.6	80.3	80.9	80.1	81.0	83.3	69
f2	RR	R	31.4	37.6	40.6	43.6	48.8	52.5	56.6	57.7	61.1	65.0	67.7	70.2	72.6	74.8	77.1	79.6	80.3	80.9	80.1	81.0	83.3	69
f3	SR	R	17.0	14.4	10.6	14.9	16.8	25.3	28.0	28.6	33.9	36.9	41.5	44.6	48.0	50.4	53.9	56.3	56.3	50.0	41.6	43.1	45.3	40
f3	RR	R	17.0	14.4	10.6	14.9	16.8	25.3	28.0	28.6	33.9	36.9	41.5	44.6	48.0	50.4	53.9	56.3	56.3	50.0	41.6	43.1	45.3	40
f4	SR	R	17.0	14.4	10.6	14.9	16.8	25.3	28.0	28.6	33.9	36.9	41.5	44.6	48.0	50.4	53.9	56.3	56.3	50.0	41.6	43.1	45.3	40
f4	RR	R	17.0	14.4	10.6	14.9	16.8	25.3	28.0	28.6	33.9	36.9	41.5	44.6	48.0	50.4	53.9	56.3	56.3	50.0	41.6	43.1	45.3	40

Junction Type

Flank	Junction	mi	mi_	M	E1	t1	f1	a
f1	Type 13 (Cross-junction, single leaf separat. / double leaf lightweight flank. elem., continuous se	11	585	1.74				
f2	Type 14 (T-junction, single leaf separat. / double leaf lightweight flank. elem., continuous flank. e	16	585	1.56				
f3	Type 13 (Cross-junction, single leaf separat. / double leaf lightweight flank. elem., continuous se	11	585	1.74				
f4	Type 13 (Cross-junction, single leaf separat. / double leaf lightweight flank. elem., continuous se	11	585	1.74				

Vibration Reduction Index Kij

Flank	Path	50	63	80	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000
f1	Ff	48.1	47.8	47.5	47.1	46.8	46.5	46.2	45.8	45.5	45.2	44.8	44.5	44.2	43.8	43.5	43.2	42.9	42.5	42.2	41.9	41.5
f1	Fd	24.1	24.4	24.8	25.1	25.4	25.8	26.1	26.4	26.8	27.1	27.4	27.7	28.1	28.4	28.7	29.1	29.4	29.7	30.1	30.4	30.7
f1	Df	24.1	24.4	24.8	25.1	25.4	25.8	26.1	26.4	26.8	27.1	27.4	27.7	28.1	28.4	28.7	29.1	29.4	29.7	30.1	30.4	30.7
f2	Ff	20.6	20.6	20.6	20.6	20.6	20.6	20.6	20.6	20.6	20.6	20.6	20.6	20.6	20.6	20.6	20.6	20.6	20.6	20.6	20.6	20.6
f2	Fd	25.6	25.6	25.6	25.6	25.6	25.6	25.6	25.6	25.6	25.6	25.6	25.6	25.6	25.6	25.6	25.6	25.6	25.6	25.6	25.6	25.6
f2	Df	25.6	25.6	25.6	25.6	25.6	25.6	25.6	25.6	25.6	25.6	25.6	25.6	25.6	25.6	25.6	25.6	25.6	25.6	25.6	25.6	25.6
f3	Ff	48.1	47.8	47.5	47.1	46.8	46.5	46.2	45.8	45.5	45.2	44.8	44.5	44.2	43.8	43.5	43.2	42.9	42.5	42.2	41.9	41.5
f3	Fd	24.1	24.4	24.8	25.1	25.4	25.8	26.1	26.4	26.8	27.1	27.4	27.7	28.1	28.4	28.7	29.1	29.4	29.7	30.1	30.4	30.7
f3	Df	24.1	24.4	24.8	25.1	25.4	25.8	26.1	26.4	26.8	27.1	27.4	27.7	28.1	28.4	28.7	29.1	29.4	29.7	30.1	30.4	30.7
f4	Ff	48.1	47.8	47.5	47.1	46.8	46.5	46.2	45.8	45.5	45.2	44.8	44.5	44.2	43.8	43.5	43.2	42.9	42.5	42.2	41.9	41.5
f4	Fd	24.1	24.4	24.8	25.1	25.4	25.8	26.1	26.4	26.8	27.1	27.4	27.7	28.1	28.4	28.7	29.1	29.4	29.7	30.1	30.4	30.7
f4	Df	24.1	24.4	24.8	25.1	25.4	25.8	26.1	26.4	26.8	27.1	27.4	27.7	28.1	28.4	28.7	29.1	29.4	29.7	30.1	30.4	30.7

Velocity Level Difference Dv,ij,situ

Flank	Path	50	63	80	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000
f1	Ff	51.9	51.6	51.3	50.9	50.6	50.3	50.0	49.6	49.3	49.0	48.6	48.3	48.0	47.6	47.3	47.0	46.7	46.3	46.0	45.7	45.3
f1	Fd	29.1	29.5	29.9	30.2	30.5	30.8	31.2	31.5	31.9	32.2	32.6	32.9	33.3	33.6	34.0	34.3	34.7	35.1	35.5	35.8	36.2
f1	Df	29.1	29.5	29.9	30.2	30.5	30.8	31.2	31.5	31.9	32.2	32.6	32.9	33.3	33.6	34.0	34.3	34.7	35.1	35.5	35.8	36.2
f2	Ff	24.4	24.4	24.4	24.4	24.4	24.4	24.4	24.4	24.4	24.4	24.4	24.4	24.4	24.4	24.4	24.4	24.4	24.4	24.4	24.4	24.4
f2	Fd	30.7	30.7	30.7	30.7	30.7	30.7	30.7	30.7	30.7	30.7	30.8	30.8	30.8	30.8	30.9	30.9	30.9	31.0	31.0	31.1	31.1
f2	Df	30.7	30.7	30.7	30.7	30.7	30.7	30.7	30.7	30.7	30.7	30.8	30.8	30.8	30.8	30.9	30.9	30.9	31.0	31.0	31.1	31.1
f3	Ff	51.9	51.6	51.3	50.9	50.6	50.3	50.0	49.6	49.3	49.0	48.6	48.3	48.0	47.6	47.3	47.0	46.7	46.3	46.0	45.7	45.3
f3	Fd	29.1	29.5	29.9	30.2	30.5	30.8	31.2	31.5	31.9	32.2	32.6	32.9	33.3	33.6	34.0	34.3	34.7	35.1	35.5	35.8	36.2
f3	Df	29.1	29.5	29.9	30.2	30.5	30.8	31.2	31.5	31.9	32.2	32.6	32.9	33.3	33.6	34.0	34.3	34.7	35.1	35.5	35.8	36.2
f4	Ff	51.9	51.6	51.3	50.9	50.6	50.3	50.0	49.6	49.3	49.0	48.6	48.3	48.0	47.6	47.3	47.0	46.7	46.3	46.0	45.7	45.3
f4	Fd	29.1	29.5	29.9	30.2	30.5	30.8	31.2	31.5	31.9	32.2	32.6	32.9	33.3	33.6	34.0	34.3	34.7	35.1	35.5	35.8	36.2
f4	Df	29.1	29.5	29.9	30.2	30.5	30.8	31.2	31.5	31.9	32.2	32.6	32.9	33.3	33.6	34.0	34.3	34.7	35.1	35.5	35.8	36.2

Sound Reduction per Path

Path	50	63	80	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000	DnT,w (0.5
Dd	43.5	49.6	46.6	46.5	49.7	53.5	57.4	61.5	66.1	71.1	75.6	80.1	84.6	87.5	89.3	91.6	92.5	92.9	94.0	96.2	98.0	72.5
1d	56.8	62.0	56.7	60.2	64.6	71.7	76.0	79.6	86.0	91.5	97.4	102.6	107.6	111.4	114.6	117.7	118.3	115.2	111.8	114.3	116.9	89.8
2d	65.5	74.7	72.6	75.1	80.8	85.1	89.8	93.4	98.5	104.1	108.8	113.3	117.4	120.9	123.1	125.9	126.5	126.5	126.6	128.5	130.8	103.9
3d	56.8	62.0	56.7	60.2	64.6	71.7	76.0	79.6	86.0	91.5	97.4	102.6	107.6	111.4	114.6	117.7	118.3	115.2	111.8	114.3	116.9	89.8
4d	56.8	62.0	56.7	60.2	64.6	71.7	76.0	79.6	86.0	91.5	97.4	102.6	107.6	111.4	114.6	117.7	118.3	115.2	111.8	114.3	116.9	89.8
d	42.9	48.9	45.5	46.0	49.3	53.3	57.2	61.3	66.0	70.9	75.5	80.0	84.5	87.5	89.3	91.5	92.5	92.8	93.8	96.0	97.8	72.2
11	69.1	66.1	62.0	66.0	67.5	75.7	78.1	78.3	83.3	86.0	90.3	93.0	96.1	98.2	101.3	103.4	103.1	96.4	87.7	88.9	90.8	90.0
D1	62.2	61.2	60.2	61.7	63.0	68.9	71.8	73.6	77.9	81.0	84.8	87.9	91.6	93.8	96.7	99.0	100.1	98.0	94.9	96.8	99.0	85.5
f1	61.4	60.0	58.0	60.3	61.7	68.1	70.9	72.4	76.8	79.8	83.7	86.8	90.3	92.5	95.4	97.6	98.3	94.1	87.0	88.2	90.1	84.2
22	55.9	62.1	65.1	68.1	73.3	77.0	81.1	82.2	85.6	89.5	92.2	94.7	97.1	99.3	101.6	104.1	104.8	105.4	104.6	105.5	107.8	93.9
D2	70.9	73.9	76.1	76.6	79.2	82.3	85.6	87.4	90.4	93.6	96.2	98.6	101.4	103.3	105.2	107.2	108.3	109.3	109.7	111.0	112.9	98.9
f2	55.8	61.9	64.8	67.6	72.3	75.9	79.8	81.1	84.4	88.1	90.8	93.3	95.8	97.9	100.1	102.4	103.2	104.0	103.5	104.5	106.7	92.6
33	69.1	66.1	62.0	66.0	67.5	75.7	78.1	78.3	83.3	86.0	90.3	93.0	96.1	98.2	101.3	103.4	103.1	96.4	87.7	88.9	90.8	90.0
D3	62.2	61.2	60.2	61.7	63.0	68.9	71.8	73.6	77.9	81.0	84.8	87.9	91.6	93.8	96.7	99.0	100.1	98.0	94.9	96.8	99.0	85.5
f3	61.4	60.0	58.0	60.3	61.7	68.1	70.9	72.4	76.8	79.8	83.7	86.8	90.3	92.5	95.4	97.6	98.3	94.1	87.0	88.2	90.1	84.2
44	69.1	66.1	62.0	66.0	67.5	75.7	78.1	78.3	83.3	86.0	90.3	93.0	96.1	98.2	101.3	103.4	103.1	96.4	87.7	88.9	90.8	90.0
D4	62.2	61.2	60.2	61.7	63.0	68.9	71.8	73.6	77.9	81.0	84.8	87.9	91.6	93.8	96.7	99.0	100.1	98.0	94.9	96.8	99.0	85.5
f4	61.4	60.0	58.0	60.3	61.7	68.1	70.9	72.4	76.8	79.8	83.7	86.8	90.3	92.5	95.4	97.6	98.3	94.1	87.0	88.2	90.1	84.2
tot	42.5	47.8	44.7	45.5	48.6	52.9	56.7	60.4	65.0	69.4	73.8	77.7	81.8	84.4	86.7	88.9	89.8	87.6	81.9	83.2	85.1	71.4

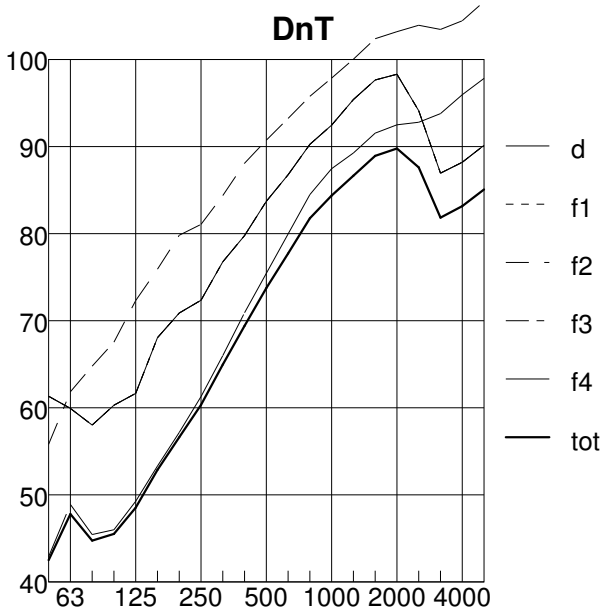
Airborne Sound per Element

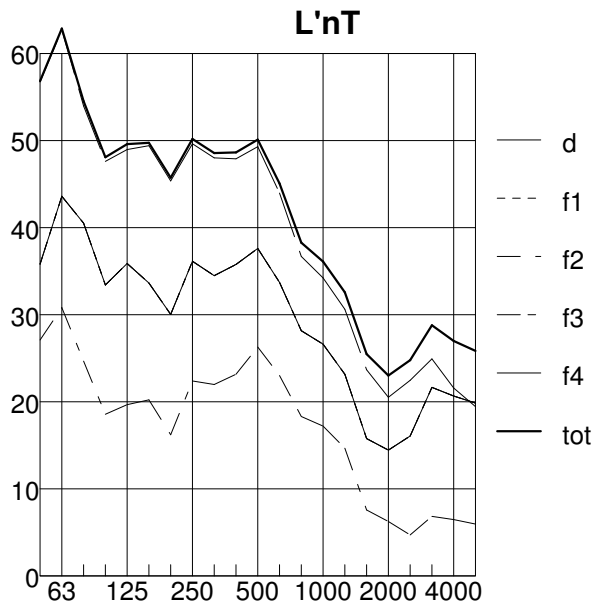
tau	50	63	80	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000	DnT,w (0.5
d	42.9	48.9	45.5	46.0	49.3	53.3	57.2	61.3	66.0	70.9	75.5	80.0	84.5	87.5	89.3	91.5	92.5	92.8	93.8	96.0	97.8	72.2
f1	61.4	60.0	58.0	60.3	61.7	68.1	70.9	72.4	76.8	79.8	83.7	86.8	90.3	92.5	95.4	97.6	98.3	94.1	87.0	88.2	90.1	84.2
f2	55.8	61.9	64.8	67.6	72.3	75.9	79.8	81.1	84.4	88.1	90.8	93.3	95.8	97.9	100.1	102.4	103.2	104.0	103.5	104.5	106.7	92.6
f3	61.4	60.0	58.0	60.3	61.7	68.1	70.9	72.4	76.8	79.8	83.7	86.8	90.3	92.5	95.4	97.6	98.3	94.1	87.0	88.2	90.1	84.2
f4	61.4	60.0	58.0	60.3	61.7	68.1	70.9	72.4	76.8	79.8	83.7	86.8	90.3	92.5	95.4	97.6	98.3	94.1	87.0	88.2	90.1	84.2
tot	42.5	47.8	44.7	45.5	48.6	52.9	56.7	60.4	65.0	69.4	73.8	77.7	81.8	84.4	86.7	88.9	89.8	87.6	81.9	83.2	85.1	71.4

Impact Sound per Element

tau	50	63	80	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000	L'nT,w
d	56.8	62.7	54.0	47.6	49.0	49.4	45.4	49.7	48.0	47.9	49.3	44.0	36.7	34.2	30.7	23.7	20.5	22.5	24.9	21.6	19.5	43.0
f1	35.8	43.6	40.5	33.5	35.9	33.7	30.1	36.1	34.5	35.8	37.6	33.7	28.2	26.6	23.2	15.8	14.5	16.1	21.7	20.7	19.9	31.0
f2	27.1	30.8	24.7	18.6	19.7	20.2	16.2	22.4	22.0	23.2	26.3	23.0	18.3	17.2	14.7	7.6	6.3	4.7	6.9	6.5	6.0	18.7
f3	35.8	43.6	40.5	33.5	35.9	33.7	30.1	36.1	34.5	35.8	37.6	33.7	28.2	26.6	23.2	15.8	14.5	16.1	21.7	20.7	19.9	31.0
f4	35.8	43.6	40.5	33.5	35.9	33.7	30.1	36.1	34.5	35.8	37.6	33.7	28.2	26.6	23.2	15.8	14.5	16.1	21.7	20.7	19.9	31.0
tot	56.9	62.9	54.6	48.1	49.6	49.8	45.8	50.2	48.6	48.7	50.1	45.1	38.3	36.1	32.6	25.5	23.0	24.8	28.8	27.0	25.8	43.9

Resulting Diagram





DnT,w = 71
DnT,w + C = 69
DnT,w + Ctr = 62
DnT,w + C100-5000 = 69
DnT,w + Ctr,100-5000 = 62
DnT,w + C50-5000 = 69
DnT,w + Ctr,50-5000 = 59
DnT,w + C50-3150 = 68
DnT,w + Ctr,50-3150 = 59

L'nT,w = 44
L'nT,w + Ci = 43
L'nT,w + Ci,50-2500 = 50

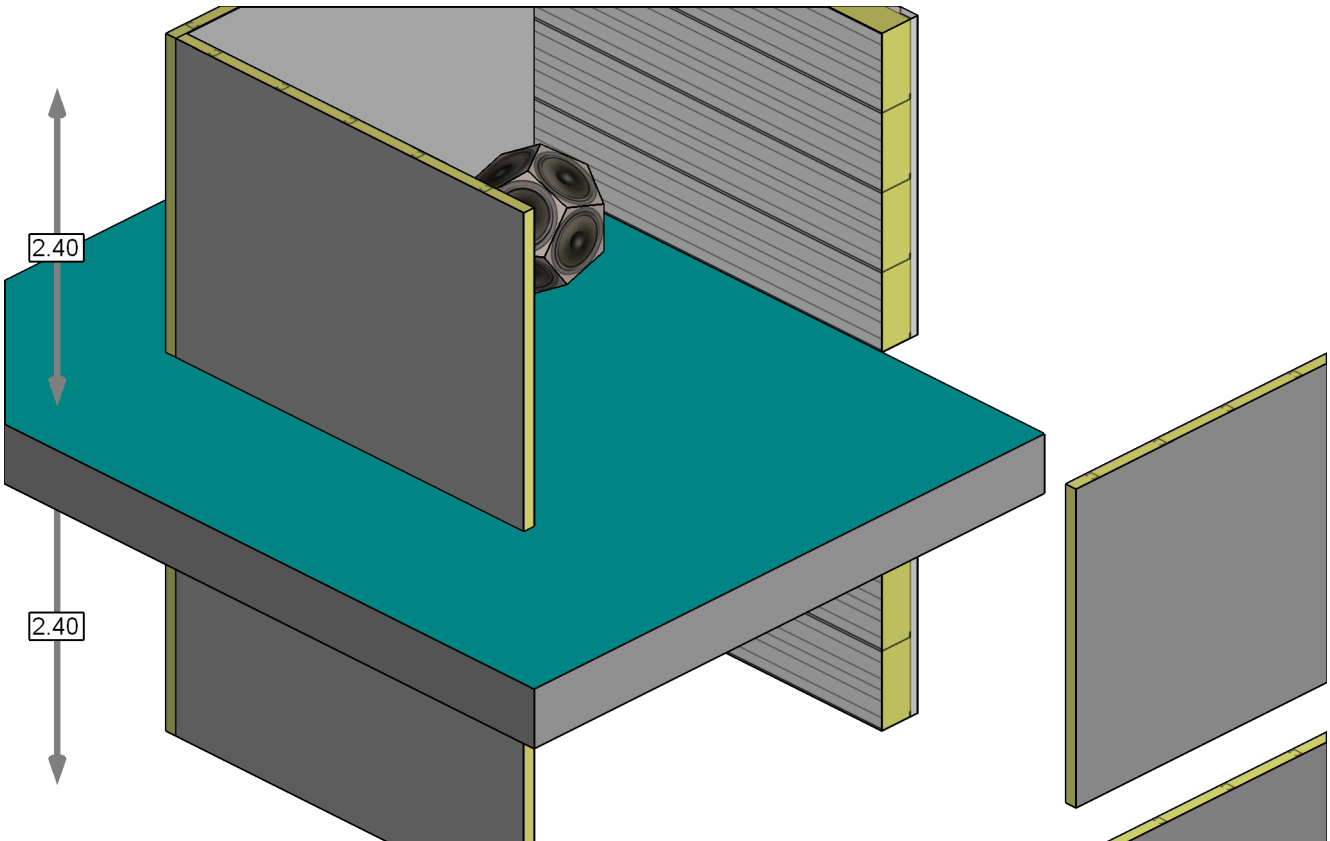
Project Info

Project Name:	Blyth Road
Client:	Bellway
Project No.:	4371
Project:	
Remarks:	F59 Bed 2 to F43 Bed 2
Editor:	PJS
Worksheet:	Copy of Worksheet 6 [DM Ts (1)]
Program:	BASTIAN V 2.3

Worksheet Configuration

Calculation Model:	DM Ts (1)
Perf. Param. Airborne Sound Transm. in Buildings:	DnT,w + Ctr
Perf. Param. Impact Sound Transm. in Buildings:	L'nT,w + Ctr
Perf. Param. Outdoor Sound Transmission:	D2m,nT,w + Ctr
Reference Reverberation Time T0 (s):	0.5
f1: Surface mass m"4 (kg/m²):	200
f1: Outer leaf interrupted:	no
f2: Surface mass m"4 (kg/m²):	200
f2: Outer leaf interrupted:	no
f3: Surface mass m"4 (kg/m²):	200
f4: Surface mass m"4 (kg/m²):	200
Correction Sigma_free/Sigma_forced for Monolithic Flanking Elements:	off
Correction Sigma_free/Sigma_forced for Lightweight Flanking Elements:	off
Alpha_k-Limit, MIN (-):	-
Alpha_k-Limit, MAX (-):	-
Ts-Limit for Elements, MIN (dB):	-
Ts-Limit for Elements, MAX (dB):	-
R'45° - R' (dB):	1.0
R'tr,s - R' (dB):	0.0
Level Difference DeltaL_fs (dB):	-

Room View



Worksheet-Table

		Sending Room		Jur	Receiving Room		DnT,w		L'nT,	
f	t	Basic Element	Additional Layer	Typ	Basic Element	Additional Layer	dB	%	dB	%
X	d	250mm In-situ Concrete (Insul 7.0.1	Ceramic Tiles on 3m			15mm Plasterboard, 150mm	63.2	86	53.0	84
X	1	British Gypsum Gypwall Classic BT		13	British Gypsum Gypwall Classic BT		76.2	4	51.0	5
X	2	100mm Brick, 100mm Void, 10mm		14	100mm Brick, 100mm Void, 10mm		84.6	1	58.1	0
X	3	British Gypsum Gypwall Classic BT		13	British Gypsum Gypwall Classic BT		76.2	4	51.0	5
X	4	British Gypsum Gypwall Classic BT		13	British Gypsum Gypwall Classic BT		76.2	4	51.0	5
						Total:	62.4	100	53.9	00

Elements / Constructions

tau	Room	Element	Construction
d	SR	monolithic floor	250mm In-situ Concrete (Insul 7.0.13)
d	SR	dry floating floor construction	Ceramic Tiles on 3mm IsoRubber Top on 250mm Concrete
d	RR	suspended ceiling	15mm Plasterboard, 150mm MF, 250mm Concrete - no absorber (Insul v7.0.13)
f1	SR	lightweight double wall, metal frar	British Gypsum Gypwall Classic BTC12227A
f1	RR	lightweight double wall, metal frar	British Gypsum Gypwall Classic BTC12227A
f2	SR	facade, steel panel sections	100mm Brick, 100mm Void, 10mm CPB, 100mm METSEC, 2 x 12.5mm Wallboard, 100mm R
f2	RR	facade, steel panel sections	100mm Brick, 100mm Void, 10mm CPB, 100mm METSEC, 2 x 12.5mm Wallboard, 100mm R
f3	SR	lightweight double wall, metal frar	British Gypsum Gypwall Classic BTC12227A
f3	RR	lightweight double wall, metal frar	British Gypsum Gypwall Classic BTC12227A
f4	SR	lightweight double wall, metal frar	British Gypsum Gypwall Classic BTC12227A
f4	RR	lightweight double wall, metal frar	British Gypsum Gypwall Classic BTC12227A

Geometry Data

Volume sending room (m³): 24.73
Volume receiving room (m³): 24.73

t	Room	Basic Element	a	b	S	lij
			(m)	(m)	(m²)	(m)
d		250mm In-situ Concrete (Insul 7.0.13)	3.21	3.21	10.30	
f1	SR	British Gypsum Gypwall Classic BTC12227A	2.40	3.21	7.70	3.21
f1	RR	British Gypsum Gypwall Classic BTC12227A	2.40	3.21	7.70	3.21
f2	SR	100mm Brick, 100mm Void, 10mm CPB, 100mm METSEC, 2 x 12.5mm Wallboard, 100mm Rockwo	2.40	3.21	7.70	3.21
f2	RR	100mm Brick, 100mm Void, 10mm CPB, 100mm METSEC, 2 x 12.5mm Wallboard, 100mm Rockwo	2.40	3.21	7.70	3.21
f3	SR	British Gypsum Gypwall Classic BTC12227A	2.40	3.21	7.70	3.21
f3	RR	British Gypsum Gypwall Classic BTC12227A	2.40	3.21	7.70	3.21
f4	SR	British Gypsum Gypwall Classic BTC12227A	2.40	3.21	7.70	3.21
f4	RR	British Gypsum Gypwall Classic BTC12227A	2.40	3.21	7.70	3.21

Input Data Elements

tau	Roor	X	50	63	80	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000	Xw
d	SR	R	44.2	44.2	45.6	43.7	43.6	46.3	48.8	51.2	53.8	56.4	58.9	61.4	64.7	66.2	67.8	69.4	71.0	72.5	74.1	75.8	77.4	62
d	SR	Ln	47.8	53.8	55.3	55.9	56.9	58.5	60.9	67.6	67.7	67.9	68.0	68.1	68.3	68.4	68.5	67.3	66.1	65.0	63.9	62.8	61.8	72
d	SR	DeltaF	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
d	SR	DeltaL	-6.1	-6.9	0.0	4.3	1.5	2.1	7.7	8.9	9.0	7.4	4.3	7.7	13.1	14.0	16.3	21.8	22.4	23.3	21.3	21.0	20.2	17
d	RR	DeltaF	-5.4	0.8	-3.5	-1.5	1.6	2.8	4.2	6.0	8.1	10.5	12.6	14.7	16.0	17.6	17.9	18.7	18.2	17.2	16.9	17.5	17.9	15
d	RR	DeltaL	-7.7	-6.8	-3.3	-0.5	1.8	2.4	3.3	4.6	6.3	8.3	10.2	12.3	14.5	16.3	17.8	18.2	19.7	15.9	14.5	17.2	19.3	15
f1	SR	R	17.0	14.4	10.6	14.9	16.8	25.3	28.0	28.6	33.9	36.9	41.5	44.6	48.0	50.4	53.9	56.3	56.3	50.0	41.6	43.1	45.3	40
f1	RR	R	17.0	14.4	10.6	14.9	16.8	25.3	28.0	28.6	33.9	36.9	41.5	44.6	48.0	50.4	53.9	56.3	56.3	50.0	41.6	43.1	45.3	40
f2	SR	R	31.4	37.6	40.6	43.6	48.8	52.5	56.6	57.7	61.1	65.0	67.7	70.2	72.6	74.8	77.1	79.6	80.3	80.9	80.1	81.0	83.3	69
f2	RR	R	31.4	37.6	40.6	43.6	48.8	52.5	56.6	57.7	61.1	65.0	67.7	70.2	72.6	74.8	77.1	79.6	80.3	80.9	80.1	81.0	83.3	69
f3	SR	R	17.0	14.4	10.6	14.9	16.8	25.3	28.0	28.6	33.9	36.9	41.5	44.6	48.0	50.4	53.9	56.3	56.3	50.0	41.6	43.1	45.3	40
f3	RR	R	17.0	14.4	10.6	14.9	16.8	25.3	28.0	28.6	33.9	36.9	41.5	44.6	48.0	50.4	53.9	56.3	56.3	50.0	41.6	43.1	45.3	40
f4	SR	R	17.0	14.4	10.6	14.9	16.8	25.3	28.0	28.6	33.9	36.9	41.5	44.6	48.0	50.4	53.9	56.3	56.3	50.0	41.6	43.1	45.3	40
f4	RR	R	17.0	14.4	10.6	14.9	16.8	25.3	28.0	28.6	33.9	36.9	41.5	44.6	48.0	50.4	53.9	56.3	56.3	50.0	41.6	43.1	45.3	40

Structural Reverb. Time, lab (s)

tau	Room	50	63	80	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000
d	SR	0.838	0.727	0.617	0.534	0.495	0.435	0.381	0.332	0.289	0.251	0.217	0.187	0.161	0.138	0.118	0.100	0.085	0.072	0.060	0.051	0.042

Structural Reverb. Time, situ (s)

tau	Room	50	63	80	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000
d	SR	0.217	0.192	0.169	0.151	0.136	0.120	0.107	0.095	0.084	0.074	0.065	0.058	0.051	0.045	0.039	0.034	0.030	0.026	0.023	0.020	0.017

In-Situ-Data Elements

tau	Room	X	50	63	80	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000	Xw
d	SR	R	50.1	50.0	51.2	49.2	49.2	51.9	54.3	56.7	59.2	61.7	64.1	66.5	69.7	71.1	72.6	74.0	75.5	76.8	78.3	79.8	81.3	68
d	SR	Ln	41.9	48.0	49.7	50.4	51.3	52.9	55.4	62.1	62.3	62.6	62.8	63.0	63.3	63.5	63.7	62.7	61.6	60.7	59.7	58.8	57.9	68
d	SR	DeltaF	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
d	SR	DeltaL	-6.1	-6.9	0.0	4.3	1.5	2.1	7.7	8.9	9.0	7.4	4.3	7.7	13.1	14.0	16.3	21.8	22.4	23.3	21.3	21.0	20.2	17
d	RR	DeltaF	-5.4	0.8	-3.5	-1.5	1.6	2.8	4.2	6.0	8.1	10.5	12.6	14.7	16.0	17.6	17.9	18.7	18.2	17.2	16.9	17.5	17.9	15
d	RR	DeltaL	-7.7	-6.8	-3.3	-0.5	1.8	2.4	3.3	4.6	6.3	8.3	10.2	12.3	14.5	16.3	17.8	18.2	19.7	15.9	14.5	17.2	19.3	15
f1	SR	R	17.0	14.4	10.6	14.9	16.8	25.3	28.0	28.6	33.9	36.9	41.5	44.6	48.0	50.4	53.9	56.3	56.3	50.0	41.6	43.1	45.3	40
f1	RR	R	17.0	14.4	10.6	14.9	16.8	25.3	28.0	28.6	33.9	36.9	41.5	44.6	48.0	50.4	53.9	56.3	56.3	50.0	41.6	43.1	45.3	40
f2	SR	R	31.4	37.6	40.6	43.6	48.8	52.5	56.6	57.7	61.1	65.0	67.7	70.2	72.6	74.8	77.1	79.6	80.3	80.9	80.1	81.0	83.3	69
f2	RR	R	31.4	37.6	40.6	43.6	48.8	52.5	56.6	57.7	61.1	65.0	67.7	70.2	72.6	74.8	77.1	79.6	80.3	80.9	80.1	81.0	83.3	69
f3	SR	R	17.0	14.4	10.6	14.9	16.8	25.3	28.0	28.6	33.9	36.9	41.5	44.6	48.0	50.4	53.9	56.3	56.3	50.0	41.6	43.1	45.3	40
f3	RR	R	17.0	14.4	10.6	14.9	16.8	25.3	28.0	28.6	33.9	36.9	41.5	44.6	48.0	50.4	53.9	56.3	56.3	50.0	41.6	43.1	45.3	40
f4	SR	R	17.0	14.4	10.6	14.9	16.8	25.3	28.0	28.6	33.9	36.9	41.5	44.6	48.0	50.4	53.9	56.3	56.3	50.0	41.6	43.1	45.3	40
f4	RR	R	17.0	14.4	10.6	14.9	16.8	25.3	28.0	28.6	33.9	36.9	41.5	44.6	48.0	50.4	53.9	56.3	56.3	50.0	41.6	43.1	45.3	40

Junction Type

Flank	Junction	mi	mi_	M	E1	t1	f1	a
f1	Type 13 (Cross-junction, single leaf separat. / double leaf lightweight flank. elem., continuous se	11	585	1.74				
f2	Type 14 (T-junction, single leaf separat. / double leaf lightweight flank. elem., continuous flank. e	16	585	1.56				
f3	Type 13 (Cross-junction, single leaf separat. / double leaf lightweight flank. elem., continuous se	11	585	1.74				
f4	Type 13 (Cross-junction, single leaf separat. / double leaf lightweight flank. elem., continuous se	11	585	1.74				

Vibration Reduction Index Kij

Flank	Path	50	63	80	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000
f1	Ff	48.1	47.8	47.5	47.1	46.8	46.5	46.2	45.8	45.5	45.2	44.8	44.5	44.2	43.8	43.5	43.2	42.9	42.5	42.2	41.9	41.5
f1	Fd	24.1	24.4	24.8	25.1	25.4	25.8	26.1	26.4	26.8	27.1	27.4	27.7	28.1	28.4	28.7	29.1	29.4	29.7	30.1	30.4	30.7
f1	Df	24.1	24.4	24.8	25.1	25.4	25.8	26.1	26.4	26.8	27.1	27.4	27.7	28.1	28.4	28.7	29.1	29.4	29.7	30.1	30.4	30.7
f2	Ff	20.6	20.6	20.6	20.6	20.6	20.6	20.6	20.6	20.6	20.6	20.6	20.6	20.6	20.6	20.6	20.6	20.6	20.6	20.6	20.6	20.6
f2	Fd	25.6	25.6	25.6	25.6	25.6	25.6	25.6	25.6	25.6	25.6	25.6	25.6	25.6	25.6	25.6	25.6	25.6	25.6	25.6	25.6	25.6
f2	Df	25.6	25.6	25.6	25.6	25.6	25.6	25.6	25.6	25.6	25.6	25.6	25.6	25.6	25.6	25.6	25.6	25.6	25.6	25.6	25.6	25.6
f3	Ff	48.1	47.8	47.5	47.1	46.8	46.5	46.2	45.8	45.5	45.2	44.8	44.5	44.2	43.8	43.5	43.2	42.9	42.5	42.2	41.9	41.5
f3	Fd	24.1	24.4	24.8	25.1	25.4	25.8	26.1	26.4	26.8	27.1	27.4	27.7	28.1	28.4	28.7	29.1	29.4	29.7	30.1	30.4	30.7
f3	Df	24.1	24.4	24.8	25.1	25.4	25.8	26.1	26.4	26.8	27.1	27.4	27.7	28.1	28.4	28.7	29.1	29.4	29.7	30.1	30.4	30.7
f4	Ff	48.1	47.8	47.5	47.1	46.8	46.5	46.2	45.8	45.5	45.2	44.8	44.5	44.2	43.8	43.5	43.2	42.9	42.5	42.2	41.9	41.5
f4	Fd	24.1	24.4	24.8	25.1	25.4	25.8	26.1	26.4	26.8	27.1	27.4	27.7	28.1	28.4	28.7	29.1	29.4	29.7	30.1	30.4	30.7
f4	Df	24.1	24.4	24.8	25.1	25.4	25.8	26.1	26.4	26.8	27.1	27.4	27.7	28.1	28.4	28.7	29.1	29.4	29.7	30.1	30.4	30.7

Velocity Level Difference Dv,ij,situ

Flank	Path	50	63	80	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000
f1	Ff	51.9	51.6	51.3	50.9	50.6	50.3	50.0	49.6	49.3	49.0	48.6	48.3	48.0	47.6	47.3	47.0	46.7	46.3	46.0	45.7	45.3
f1	Fd	29.1	29.5	29.9	30.2	30.5	30.8	31.2	31.5	31.9	32.2	32.6	32.9	33.3	33.6	34.0	34.3	34.7	35.1	35.5	35.8	36.2
f1	Df	29.1	29.5	29.9	30.2	30.5	30.8	31.2	31.5	31.9	32.2	32.6	32.9	33.3	33.6	34.0	34.3	34.7	35.1	35.5	35.8	36.2
f2	Ff	24.4	24.4	24.4	24.4	24.4	24.4	24.4	24.4	24.4	24.4	24.4	24.4	24.4	24.4	24.4	24.4	24.4	24.4	24.4	24.4	24.4
f2	Fd	30.7	30.7	30.7	30.7	30.7	30.7	30.7	30.7	30.7	30.7	30.8	30.8	30.8	30.8	30.9	30.9	30.9	31.0	31.0	31.1	31.1
f2	Df	30.7	30.7	30.7	30.7	30.7	30.7	30.7	30.7	30.7	30.7	30.8	30.8	30.8	30.8	30.9	30.9	30.9	31.0	31.0	31.1	31.1
f3	Ff	51.9	51.6	51.3	50.9	50.6	50.3	50.0	49.6	49.3	49.0	48.6	48.3	48.0	47.6	47.3	47.0	46.7	46.3	46.0	45.7	45.3
f3	Fd	29.1	29.5	29.9	30.2	30.5	30.8	31.2	31.5	31.9	32.2	32.6	32.9	33.3	33.6	34.0	34.3	34.7	35.1	35.5	35.8	36.2
f3	Df	29.1	29.5	29.9	30.2	30.5	30.8	31.2	31.5	31.9	32.2	32.6	32.9	33.3	33.6	34.0	34.3	34.7	35.1	35.5	35.8	36.2
f4	Ff	51.9	51.6	51.3	50.9	50.6	50.3	50.0	49.6	49.3	49.0	48.6	48.3	48.0	47.6	47.3	47.0	46.7	46.3	46.0	45.7	45.3
f4	Fd	29.1	29.5	29.9	30.2	30.5	30.8	31.2	31.5	31.9	32.2	32.6	32.9	33.3	33.6	34.0	34.3	34.7	35.1	35.5	35.8	36.2
f4	Df	29.1	29.5	29.9	30.2	30.5	30.8	31.2	31.5	31.9	32.2	32.6	32.9	33.3	33.6	34.0	34.3	34.7	35.1	35.5	35.8	36.2

Sound Reduction per Path

Path	50	63	80	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000	DnT,w (0.5 s) +
Dd	43.5	49.6	46.6	46.5	49.7	53.5	57.4	61.5	66.1	71.1	75.6	80.1	84.6	87.5	89.3	91.6	92.5	92.9	94.0	96.2	98.0	63.5
1d	56.8	62.0	56.7	60.2	64.6	71.7	76.0	79.6	86.0	91.5	97.4	102.6	107.6	111.4	114.6	117.7	118.3	115.2	111.8	114.3	116.9	77.8
2d	65.5	74.7	72.6	75.1	80.8	85.1	89.8	93.4	98.5	104.1	108.8	113.3	117.4	120.9	123.1	125.9	126.5	126.5	126.6	128.5	130.8	92.9
3d	56.8	62.0	56.7	60.2	64.6	71.7	76.0	79.6	86.0	91.5	97.4	102.6	107.6	111.4	114.6	117.7	118.3	115.2	111.8	114.3	116.9	77.8
4d	56.8	62.0	56.7	60.2	64.6	71.7	76.0	79.6	86.0	91.5	97.4	102.6	107.6	111.4	114.6	117.7	118.3	115.2	111.8	114.3	116.9	77.8
d	42.9	48.9	45.5	46.0	49.3	53.3	57.2	61.3	66.0	70.9	75.5	80.0	84.5	87.5	89.3	91.5	92.5	92.8	93.8	96.0	97.8	63.2
11	69.1	66.1	62.0	66.0	67.5	75.7	78.1	78.3	83.3	86.0	90.3	93.0	96.1	98.2	101.3	103.4	103.1	96.4	87.7	88.9	90.8	82.0
D1	62.2	61.2	60.2	61.7	63.0	68.9	71.8	73.6	77.9	81.0	84.8	87.9	91.6	93.8	96.7	99.0	100.1	98.0	94.9	96.8	99.0	77.5
f1	61.4	60.0	58.0	60.3	61.7	68.1	70.9	72.4	76.8	79.8	83.7	86.8	90.3	92.5	95.4	97.6	98.3	94.1	87.0	88.2	90.1	76.2
22	55.9	62.1	65.1	68.1	73.3	77.0	81.1	82.2	85.6	89.5	92.2	94.7	97.1	99.3	101.6	104.1	104.8	105.4	104.6	105.5	107.8	84.9
D2	70.9	73.9	76.1	76.6	79.2	82.3	85.6	87.4	90.4	93.6	96.2	98.6	101.4	103.3	105.2	107.2	108.3	109.3	109.7	111.0	112.9	91.9
f2	55.8	61.9	64.8	67.6	72.3	75.9	79.8	81.1	84.4	88.1	90.8	93.3	95.8	97.9	100.1	102.4	103.2	104.0	103.5	104.5	106.7	84.6
33	69.1	66.1	62.0	66.0	67.5	75.7	78.1	78.3	83.3	86.0	90.3	93.0	96.1	98.2	101.3	103.4	103.1	96.4	87.7	88.9	90.8	82.0
D3	62.2	61.2	60.2	61.7	63.0	68.9	71.8	73.6	77.9	81.0	84.8	87.9	91.6	93.8	96.7	99.0	100.1	98.0	94.9	96.8	99.0	77.5
f3	61.4	60.0	58.0	60.3	61.7	68.1	70.9	72.4	76.8	79.8	83.7	86.8	90.3	92.5	95.4	97.6	98.3	94.1	87.0	88.2	90.1	76.2
44	69.1	66.1	62.0	66.0	67.5	75.7	78.1	78.3	83.3	86.0	90.3	93.0	96.1	98.2	101.3	103.4	103.1	96.4	87.7	88.9	90.8	82.0
D4	62.2	61.2	60.2	61.7	63.0	68.9	71.8	73.6	77.9	81.0	84.8	87.9	91.6	93.8	96.7	99.0	100.1	98.0	94.9	96.8	99.0	77.5
f4	61.4	60.0	58.0	60.3	61.7	68.1	70.9	72.4	76.8	79.8	83.7	86.8	90.3	92.5	95.4	97.6	98.3	94.1	87.0	88.2	90.1	76.2
tot	42.5	47.8	44.7	45.5	48.6	52.9	56.7	60.4	65.0	69.4	73.8	77.7	81.8	84.4	86.7	88.9	89.8	87.6	81.9	83.2	85.1	62.4

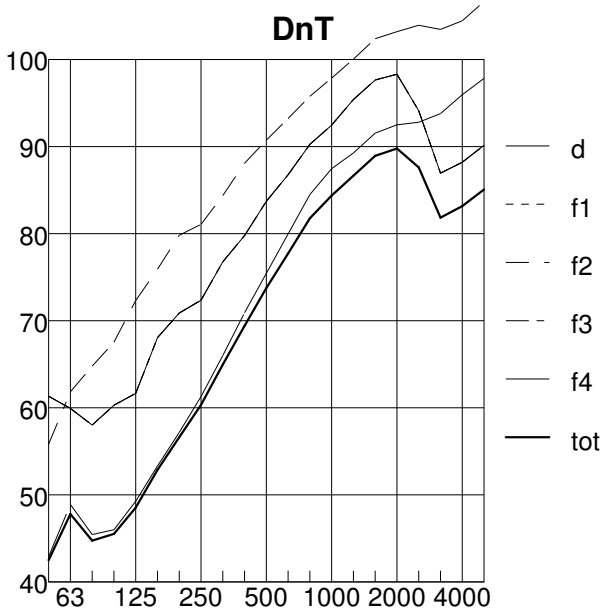
Airborne Sound per Element

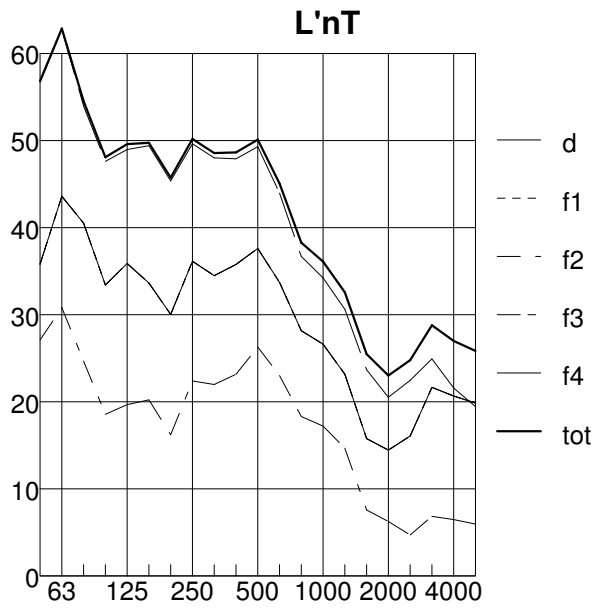
tau	50	63	80	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000	DnT,w (0.5 s) +
d	42.9	48.9	45.5	46.0	49.3	53.3	57.2	61.3	66.0	70.9	75.5	80.0	84.5	87.5	89.3	91.5	92.5	92.8	93.8	96.0	97.8	63.2
f1	61.4	60.0	58.0	60.3	61.7	68.1	70.9	72.4	76.8	79.8	83.7	86.8	90.3	92.5	95.4	97.6	98.3	94.1	87.0	88.2	90.1	76.2
f2	55.8	61.9	64.8	67.6	72.3	75.9	79.8	81.1	84.4	88.1	90.8	93.3	95.8	97.9	100.1	102.4	103.2	104.0	103.5	104.5	106.7	84.6
f3	61.4	60.0	58.0	60.3	61.7	68.1	70.9	72.4	76.8	79.8	83.7	86.8	90.3	92.5	95.4	97.6	98.3	94.1	87.0	88.2	90.1	76.2
f4	61.4	60.0	58.0	60.3	61.7	68.1	70.9	72.4	76.8	79.8	83.7	86.8	90.3	92.5	95.4	97.6	98.3	94.1	87.0	88.2	90.1	76.2
tot	42.5	47.8	44.7	45.5	48.6	52.9	56.7	60.4	65.0	69.4	73.8	77.7	81.8	84.4	86.7	88.9	89.8	87.6	81.9	83.2	85.1	62.4

Impact Sound per Element

tau	50	63	80	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000	L'nT,w
d	56.8	62.7	54.0	47.6	49.0	49.4	45.4	49.7	48.0	47.9	49.3	44.0	36.7	34.2	30.7	23.7	20.5	22.5	24.9	21.6	19.5	43.0
f1	35.8	43.6	40.5	33.5	35.9	33.7	30.1	36.1	34.5	35.8	37.6	33.7	28.2	26.6	23.2	15.8	14.5	16.1	21.7	20.7	19.9	31.0
f2	27.1	30.8	24.7	18.6	19.7	20.2	16.2	22.4	22.0	23.2	26.3	23.0	18.3	17.2	14.7	7.6	6.3	4.7	6.9	6.5	6.0	18.7
f3	35.8	43.6	40.5	33.5	35.9	33.7	30.1	36.1	34.5	35.8	37.6	33.7	28.2	26.6	23.2	15.8	14.5	16.1	21.7	20.7	19.9	31.0
f4	35.8	43.6	40.5	33.5	35.9	33.7	30.1	36.1	34.5	35.8	37.6	33.7	28.2	26.6	23.2	15.8	14.5	16.1	21.7	20.7	19.9	31.0
tot	56.9	62.9	54.6	48.1	49.6	49.8	45.8	50.2	48.6	48.7	50.1	45.1	38.3	36.1	32.6	25.5	23.0	24.8	28.8	27.0	25.8	43.9

Resulting Diagram





DnT,w = 71
DnT,w + C = 69
DnT,w + Ctr = 62
DnT,w + C100-5000 = 69
DnT,w + Ctr,100-5000 = 62
DnT,w + C50-5000 = 69
DnT,w + Ctr,50-5000 = 59
DnT,w + C50-3150 = 68
DnT,w + Ctr,50-3150 = 59

L'nT,w = 44
L'nT,w + Ci = 43
L'nT,w + Ci,50-2500 = 50

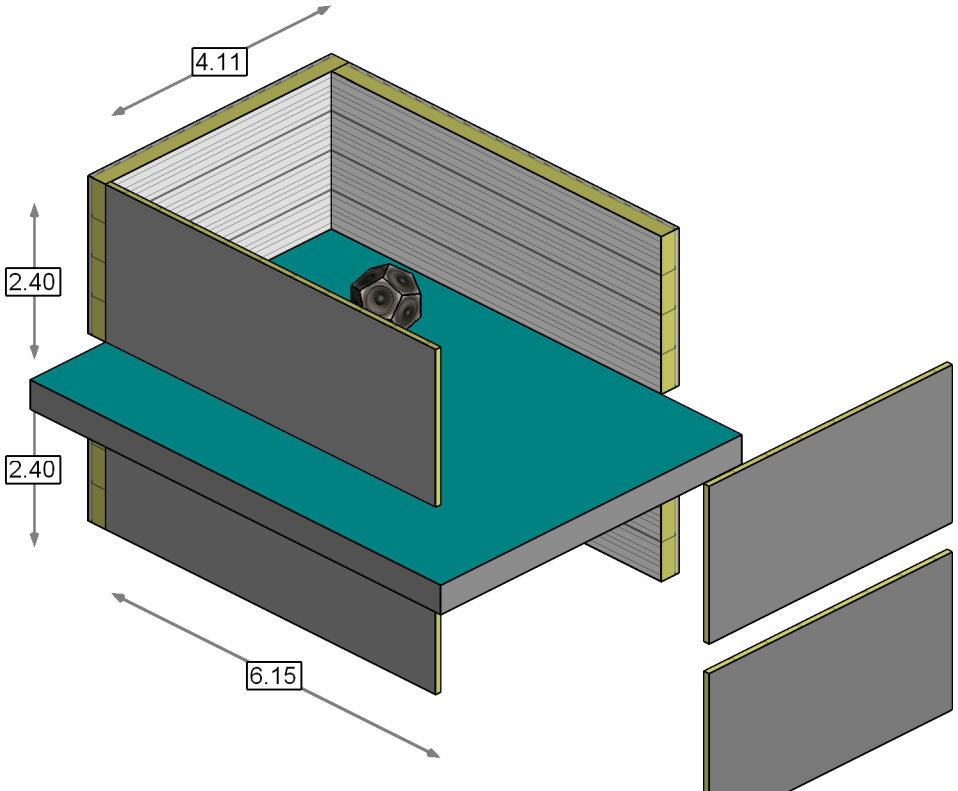
Project Info

Project Name:	Blyth Road
Client:	Bellway
Project No.:	4371
Project:	
Remarks:	F58 KLD to F42 KLD
Editor:	PJS
Worksheet:	Copy of Worksheet 1 [DM Ts (1)]
Program:	BASTIAN V 2.3

Worksheet Configuration

Calculation Model:	DM Ts (1)
Perf. Param. Airborne Sound Transm. in Buildings:	DnT,w
Perf. Param. Impact Sound Transm. in Buildings:	L'nT,w + Ctr
Perf. Param. Outdoor Sound Transmission:	D2m,nT,w + Ctr
Reference Reverberation Time T0 (s):	0.5
f1: Surface mass m"4 (kg/m²):	200
f1: Outer leaf interrupted:	no
f2: Surface mass m"4 (kg/m²):	200
f2: Outer leaf interrupted:	no
f3: Surface mass m"4 (kg/m²):	200
f4: Surface mass m"4 (kg/m²):	200
Correction Sigma_free/Sigma_forced for Monolithic Flanking Elements:	off
Correction Sigma_free/Sigma_forced for Lightweight Flanking Elements:	off
Alpha_k-Limit, MIN (-):	-
Alpha_k-Limit, MAX (-):	-
Ts-Limit for Elements, MIN (dB):	-
Ts-Limit for Elements, MAX (dB):	-
R'45° - R' (dB):	1.0
R'tr,s - R' (dB):	0.0
Level Difference DeltaL_fs (dB):	-

Room View



Worksheet-Table

		Sending Room		Jur	Receiving Room		DnT,		L'nT,	
	t	Basic Element	Additional Layer	Typ	Basic Element	Additional Layer	dB	%	dB	%
Xd		250mm In-situ Concrete (Insul 7.0.1	Ceramic Tiles on 3m			15mm Plasterboard, 150mm	0.	92	0.	92
X1		British Gypsum Gypwall Classic BT(		13	British Gypsum Gypwall Classic BT(		4.	4	7.	5
X2		100mm Brick, 100mm Void, 10mm (		14	100mm Brick, 100mm Void, 10mm (		3.	1	5.	0
X3		100mm Brick, 100mm Void, 10mm (		14	100mm Brick, 100mm Void, 10mm (		5.	0	3.	0
X4		British Gypsum Gypwall Classic BT(		13	British Gypsum Gypwall Classic BT(		5.	3	5.	3
						Total:	0.	00	1.	00

Elements / Constructions

tau	Room	Element	Construction
d	SR	monolithic floor	250mm In-situ Concrete (Insul 7.0.13)
d	SR	dry floating floor construction	Ceramic Tiles on 3mm IsoRubber Top on 250mm Concrete
d	RR	suspended ceiling	15mm Plasterboard, 150mm MF, 250mm Concrete - no absorber (Insul v7.0.13)
f1	SR	lightweight double wall, metal frar	British Gypsum Gypwall Classic BTC12227A
f1	RR	lightweight double wall, metal frar	British Gypsum Gypwall Classic BTC12227A
f2	SR	facade, steel panel sections	100mm Brick, 100mm Void, 10mm CPB, 100mm METSEC, 2 x 12.5mm Wallboard, 100mm R
f2	RR	facade, steel panel sections	100mm Brick, 100mm Void, 10mm CPB, 100mm METSEC, 2 x 12.5mm Wallboard, 100mm R
f3	SR	facade, steel panel sections	100mm Brick, 100mm Void, 10mm CPB, 100mm METSEC, 2 x 12.5mm Wallboard, 100mm R
f3	RR	facade, steel panel sections	100mm Brick, 100mm Void, 10mm CPB, 100mm METSEC, 2 x 12.5mm Wallboard, 100mm R
f4	SR	lightweight double wall, metal frar	British Gypsum Gypwall Classic BTC12227A
f4	RR	lightweight double wall, metal frar	British Gypsum Gypwall Classic BTC12227A

Geometry Data

Volume sending room (m³): 60.66
Volume receiving room (m³): 60.66

t	Room	Basic Element	a	b	S	lij
			(m)	(m)	(m²)	(m)
d		250mm In-situ Concrete (Insul 7.0.13)	4.11	6.15	25.28	
f1	SR	British Gypsum Gypwall Classic BTC12227A	2.40	6.15	14.76	6.15
f1	RR	British Gypsum Gypwall Classic BTC12227A	2.40	6.15	14.76	6.15
f2	SR	100mm Brick, 100mm Void, 10mm CPB, 100mm METSEC, 2 x 12.5mm Wallboard, 100mm Rockwo	2.40	6.15	14.76	6.15
f2	RR	100mm Brick, 100mm Void, 10mm CPB, 100mm METSEC, 2 x 12.5mm Wallboard, 100mm Rockwo	2.40	6.15	14.76	6.15
f3	SR	100mm Brick, 100mm Void, 10mm CPB, 100mm METSEC, 2 x 12.5mm Wallboard, 100mm Rockwo	2.40	4.11	9.86	4.11
f3	RR	100mm Brick, 100mm Void, 10mm CPB, 100mm METSEC, 2 x 12.5mm Wallboard, 100mm Rockwo	2.40	4.11	9.86	4.11
f4	SR	British Gypsum Gypwall Classic BTC12227A	2.40	4.11	9.86	4.11
f4	RR	British Gypsum Gypwall Classic BTC12227A	2.40	4.11	9.86	4.11

Input Data Elements

tau	Roor	X	50	63	80	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000	Xw
d	SR	R	44.2	44.2	45.6	43.7	43.6	46.3	48.8	51.2	53.8	56.4	58.9	61.4	64.7	66.2	67.8	69.4	71.0	72.5	74.1	75.8	77.4	62
d	SR	Ln	47.8	53.8	55.3	55.9	56.9	58.5	60.9	67.6	67.7	67.9	68.0	68.1	68.3	68.4	68.5	67.3	66.1	65.0	63.9	62.8	61.8	72
d	SR	DeltaF	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
d	SR	DeltaL	-6.1	-6.9	0.0	4.3	1.5	2.1	7.7	8.9	9.0	7.4	4.3	7.7	13.1	14.0	16.3	21.8	22.4	23.3	21.3	21.0	20.2	17
d	RR	DeltaF	-5.4	0.8	-3.5	-1.5	1.6	2.8	4.2	6.0	8.1	10.5	12.6	14.7	16.0	17.6	17.9	18.7	18.2	17.2	16.9	17.5	17.9	15
d	RR	DeltaL	-7.7	-6.8	-3.3	-0.5	1.8	2.4	3.3	4.6	6.3	8.3	10.2	12.3	14.5	16.3	17.8	18.2	19.7	15.9	14.5	17.2	19.3	15
f1	SR	R	17.0	14.4	10.6	14.9	16.8	25.3	28.0	28.6	33.9	36.9	41.5	44.6	48.0	50.4	53.9	56.3	56.3	50.0	41.6	43.1	45.3	40
f1	RR	R	17.0	14.4	10.6	14.9	16.8	25.3	28.0	28.6	33.9	36.9	41.5	44.6	48.0	50.4	53.9	56.3	56.3	50.0	41.6	43.1	45.3	40
f2	SR	R	31.4	37.6	40.6	43.6	48.8	52.5	56.6	57.7	61.1	65.0	67.7	70.2	72.6	74.8	77.1	79.6	80.3	80.9	80.1	81.0	83.3	69
f2	RR	R	31.4	37.6	40.6	43.6	48.8	52.5	56.6	57.7	61.1	65.0	67.7	70.2	72.6	74.8	77.1	79.6	80.3	80.9	80.1	81.0	83.3	69
f3	SR	R	31.4	37.6	40.6	43.6	48.8	52.5	56.6	57.7	61.1	65.0	67.7	70.2	72.6	74.8	77.1	79.6	80.3	80.9	80.1	81.0	83.3	69
f3	RR	R	31.4	37.6	40.6	43.6	48.8	52.5	56.6	57.7	61.1	65.0	67.7	70.2	72.6	74.8	77.1	79.6	80.3	80.9	80.1	81.0	83.3	69
f4	SR	R	17.0	14.4	10.6	14.9	16.8	25.3	28.0	28.6	33.9	36.9	41.5	44.6	48.0	50.4	53.9	56.3	56.3	50.0	41.6	43.1	45.3	40
f4	RR	R	17.0	14.4	10.6	14.9	16.8	25.3	28.0	28.6	33.9	36.9	41.5	44.6	48.0	50.4	53.9	56.3	56.3	50.0	41.6	43.1	45.3	40

Structural Reverb. Time, lab (s)

tau	Room	50	63	80	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000
d	SR	0.838	0.727	0.617	0.534	0.495	0.435	0.381	0.332	0.289	0.251	0.217	0.187	0.161	0.138	0.118	0.100	0.085	0.072	0.060	0.051	0.042

Structural Reverb. Time, situ (s)

tau	Room	50	63	80	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000
d	SR	0.329	0.290	0.254	0.222	0.201	0.178	0.158	0.140	0.123	0.108	0.095	0.084	0.073	0.064	0.056	0.049	0.043	0.037	0.032	0.028	0.024

In-Situ-Data Elements

tau	Room	X	50	63	80	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000	Xw
d	SR	R	48.3	48.2	49.5	47.5	47.5	50.2	52.6	55.0	57.5	60.0	62.5	64.9	68.1	69.5	71.0	72.5	74.0	75.4	76.9	78.4	79.9	66
d	SR	Ln	43.7	49.8	51.4	52.1	53.0	54.6	57.1	63.8	64.0	64.3	64.4	64.6	64.9	65.1	65.3	64.2	63.1	62.1	61.1	60.2	59.3	69
d	SR	DeltaF	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
d	SR	DeltaL	-6.1	-6.9	0.0	4.3	1.5	2.1	7.7	8.9	9.0	7.4	4.3	7.7	13.1	14.0	16.3	21.8	22.4	23.3	21.3	21.0	20.2	17
d	RR	DeltaF	-5.4	0.8	-3.5	-1.5	1.6	2.8	4.2	6.0	8.1	10.5	12.6	14.7	16.0	17.6	17.9	18.7	18.2	17.2	16.9	17.5	17.9	15
d	RR	DeltaL	-7.7	-6.8	-3.3	-0.5	1.8	2.4	3.3	4.6	6.3	8.3	10.2	12.3	14.5	16.3	17.8	18.2	19.7	15.9	14.5	17.2	19.3	15
f1	SR	R	17.0	14.4	10.6	14.9	16.8	25.3	28.0	28.6	33.9	36.9	41.5	44.6	48.0	50.4	53.9	56.3	56.3	50.0	41.6	43.1	45.3	40
f1	RR	R	17.0	14.4	10.6	14.9	16.8	25.3	28.0	28.6	33.9	36.9	41.5	44.6	48.0	50.4	53.9	56.3	56.3	50.0	41.6	43.1	45.3	40
f2	SR	R	31.4	37.6	40.6	43.6	48.8	52.5	56.6	57.7	61.1	65.0	67.7	70.2	72.6	74.8	77.1	79.6	80.3	80.9	80.1	81.0	83.3	69
f2	RR	R	31.4	37.6	40.6	43.6	48.8	52.5	56.6	57.7	61.1	65.0	67.7	70.2	72.6	74.8	77.1	79.6	80.3	80.9	80.1	81.0	83.3	69
f3	SR	R	31.4	37.6	40.6	43.6	48.8	52.5	56.6	57.7	61.1	65.0	67.7	70.2	72.6	74.8	77.1	79.6	80.3	80.9	80.1	81.0	83.3	69
f3	RR	R	31.4	37.6	40.6	43.6	48.8	52.5	56.6	57.7	61.1	65.0	67.7	70.2	72.6	74.8	77.1	79.6	80.3	80.9	80.1	81.0	83.3	69
f4	SR	R	17.0	14.4	10.6	14.9	16.8	25.3	28.0	28.6	33.9	36.9	41.5	44.6	48.0	50.4	53.9	56.3	56.3	50.0	41.6	43.1	45.3	40
f4	RR	R	17.0	14.4	10.6	14.9	16.8	25.3	28.0	28.6	33.9	36.9	41.5	44.6	48.0	50.4	53.9	56.3	56.3	50.0	41.6	43.1	45.3	40

Junction Type

Flank	Junction	mi	mi_	M	E1	t1	f1	a
f1	Type 13 (Cross-junction, single leaf separat. / double leaf lightweight flank. elem., continuous se	11	585	1.74				
f2	Type 14 (T-junction, single leaf separat. / double leaf lightweight flank. elem., continuous flank. e	16	585	1.56				
f3	Type 14 (T-junction, single leaf separat. / double leaf lightweight flank. elem., continuous flank. e	16	585	1.56				
f4	Type 13 (Cross-junction, single leaf separat. / double leaf lightweight flank. elem., continuous se	11	585	1.74				

Vibration Reduction Index Kij

Flank	Path	50	63	80	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000
f1	Ff	48.1	47.8	47.5	47.1	46.8	46.5	46.2	45.8	45.5	45.2	44.8	44.5	44.2	43.8	43.5	43.2	42.9	42.5	42.2	41.9	41.5
f1	Fd	24.1	24.4	24.8	25.1	25.4	25.8	26.1	26.4	26.8	27.1	27.4	27.7	28.1	28.4	28.7	29.1	29.4	29.7	30.1	30.4	30.7
f1	Df	24.1	24.4	24.8	25.1	25.4	25.8	26.1	26.4	26.8	27.1	27.4	27.7	28.1	28.4	28.7	29.1	29.4	29.7	30.1	30.4	30.7
f2	Ff	20.6	20.6	20.6	20.6	20.6	20.6	20.6	20.6	20.6	20.6	20.6	20.6	20.6	20.6	20.6	20.6	20.6	20.6	20.6	20.6	20.6
f2	Fd	25.6	25.6	25.6	25.6	25.6	25.6	25.6	25.6	25.6	25.6	25.6	25.6	25.6	25.6	25.6	25.6	25.6	25.6	25.6	25.6	25.6
f2	Df	25.6	25.6	25.6	25.6	25.6	25.6	25.6	25.6	25.6	25.6	25.6	25.6	25.6	25.6	25.6	25.6	25.6	25.6	25.6	25.6	25.6
f3	Ff	20.6	20.6	20.6	20.6	20.6	20.6	20.6	20.6	20.6	20.6	20.6	20.6	20.6	20.6	20.6	20.6	20.6	20.6	20.6	20.6	20.6
f3	Fd	25.6	25.6	25.6	25.6	25.6	25.6	25.6	25.6	25.6	25.6	25.6	25.6	25.6	25.6	25.6	25.6	25.6	25.6	25.6	25.6	25.6
f3	Df	25.6	25.6	25.6	25.6	25.6	25.6	25.6	25.6	25.6	25.6	25.6	25.6	25.6	25.6	25.6	25.6	25.6	25.6	25.6	25.6	25.6
f4	Ff	48.1	47.8	47.5	47.1	46.8	46.5	46.2	45.8	45.5	45.2	44.8	44.5	44.2	43.8	43.5	43.2	42.9	42.5	42.2	41.9	41.5
f4	Fd	24.1	24.4	24.8	25.1	25.4	25.8	26.1	26.4	26.8	27.1	27.4	27.7	28.1	28.4	28.7	29.1	29.4	29.7	30.1	30.4	30.7
f4	Df	24.1	24.4	24.8	25.1	25.4	25.8	26.1	26.4	26.8	27.1	27.4	27.7	28.1	28.4	28.7	29.1	29.4	29.7	30.1	30.4	30.7

Velocity Level Difference Dv,ij,situ

Flank	Path	50	63	80	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000
f1	Ff	51.9	51.6	51.3	50.9	50.6	50.3	50.0	49.6	49.3	49.0	48.6	48.3	48.0	47.6	47.3	47.0	46.7	46.3	46.0	45.7	45.3
f1	Fd	28.8	29.1	29.5	29.9	30.2	30.5	30.9	31.2	31.6	31.9	32.3	32.6	33.0	33.4	33.7	34.1	34.5	34.9	35.3	35.7	36.1
f1	Df	28.8	29.1	29.5	29.9	30.2	30.5	30.9	31.2	31.6	31.9	32.3	32.6	33.0	33.4	33.7	34.1	34.5	34.9	35.3	35.7	36.1
f2	Ff	24.4	24.4	24.4	24.4	24.4	24.4	24.4	24.4	24.4	24.4	24.4	24.4	24.4	24.4	24.4	24.4	24.4	24.4	24.4	24.4	24.4
f2	Fd	30.3	30.3	30.3	30.4	30.4	30.4	30.4	30.4	30.4	30.4	30.5	30.5	30.5	30.6	30.6	30.7	30.7	30.8	30.9	30.9	31.0
f2	Df	30.3	30.3	30.3	30.4	30.4	30.4	30.4	30.4	30.4	30.4	30.5	30.5	30.5	30.6	30.6	30.7	30.7	30.8	30.9	30.9	31.0
f3	Ff	24.4	24.4	24.4	24.4	24.4	24.4	24.4	24.4	24.4	24.4	24.4	24.4	24.4	24.4	24.4	24.4	24.4	24.4	24.4	24.4	24.4
f3	Fd	31.2	31.2	31.2	31.3	31.2	31.2	31.3	31.3	31.3	31.3	31.4	31.4	31.4	31.5	31.5	31.5	31.6	31.7	31.7	31.8	31.9
f3	Df	31.2	31.2	31.2	31.3	31.2	31.2	31.3	31.3	31.3	31.3	31.4	31.4	31.4	31.5	31.5	31.5	31.6	31.7	31.7	31.8	31.9
f4	Ff	51.9	51.6	51.3	50.9	50.6	50.3	50.0	49.6	49.3	49.0	48.6	48.3	48.0	47.6	47.3	47.0	46.7	46.3	46.0	45.7	45.3
f4	Fd	29.7	30.0	30.4	30.7	31.0	31.4	31.7	32.1	32.4	32.8	33.1	33.5	33.9	34.2	34.6	35.0	35.4	35.8	36.2	36.6	37.0
f4	Df	29.7	30.0	30.4	30.7	31.0	31.4	31.7	32.1	32.4	32.8	33.1	33.5	33.9	34.2	34.6	35.0	35.4	35.8	36.2	36.6	37.0

Sound Reduction per Path

Path	50	63	80	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000	DnT,w (0.5
Dd	41.7	47.8	44.8	44.9	48.0	51.8	55.7	59.8	64.5	69.4	73.9	78.4	83.0	86.0	87.8	90.1	91.0	91.4	92.6	94.8	96.7	70.8
1d	56.0	61.3	56.1	59.6	63.9	71.1	75.4	79.0	85.4	90.9	96.9	102.1	107.1	110.9	114.1	117.2	117.9	114.8	111.4	114.0	116.6	89.2
2d	64.8	74.0	71.9	74.5	80.1	84.5	89.2	92.8	97.9	103.5	108.2	112.8	116.9	120.4	122.6	125.4	126.1	126.2	126.3	128.2	130.5	103.3
3d	66.5	75.8	73.6	76.2	81.9	86.3	91.0	94.5	99.6	105.2	109.9	114.5	118.7	122.1	124.4	127.2	127.8	127.9	128.0	129.9	132.3	105.0
4d	57.8	63.0	57.8	61.3	65.7	72.8	77.1	80.8	87.1	92.7	98.6	103.8	108.8	112.7	115.9	119.0	119.6	116.6	113.2	115.7	118.4	90.9
d	41.4	47.5	44.3	44.6	47.8	51.7	55.6	59.7	64.4	69.3	73.9	78.4	82.9	85.9	87.7	90.0	91.0	91.4	92.5	94.7	96.6	70.7
11	70.1	67.2	63.1	67.0	68.6	76.8	79.1	79.4	84.4	87.0	91.3	94.1	97.2	99.2	102.4	104.5	104.1	97.5	88.8	89.9	91.8	91.1
D1	61.4	60.5	59.6	61.1	62.3	68.3	71.2	73.0	77.3	80.4	84.3	87.4	91.1	93.3	96.2	98.5	99.7	97.6	94.5	96.5	98.7	84.9
f1	60.9	59.6	58.0	60.1	61.4	67.7	70.5	72.1	76.5	79.6	83.5	86.6	90.1	92.3	95.3	97.6	98.3	94.6	87.8	89.1	91.0	84.1
22	57.0	63.2	66.2	69.2	74.4	78.1	82.2	83.3	86.7	90.6	93.3	95.8	98.2	100.4	102.7	105.2	105.9	106.5	105.7	106.6	108.9	94.9
D2	70.2	73.2	75.4	76.0	78.5	81.7	85.0	86.8	89.8	93.0	95.6	98.1	100.9	102.8	104.7	106.7	107.9	109.0	109.4	110.7	112.6	98.3
f2	56.8	62.8	65.7	68.4	73.0	76.5	80.4	81.7	85.0	88.6	91.3	93.8	96.4	98.4	100.6	102.9	103.8	104.6	104.2	105.2	107.4	93.3
33	58.8	65.0	68.0	71.0	76.2	79.9	84.0	85.1	88.5	92.4	95.1	97.6	100.0	102.2	104.5	107.0	107.7	108.3	107.5	108.4	110.7	96.7
D3	71.9	75.0	77.1	77.7	80.3	83.5	86.8	88.5	91.5	94.7	97.3	99.8	102.7	104.5	106.5	108.5	109.6	110.7	111.1	112.4	114.4	100.1
f3	58.6	64.6	67.5	70.1	74.7	78.3	82.1	83.5	86.7	90.4	93.0	95.5	98.1	100.2	102.3	104.7	105.5	106.3	105.9	106.9	109.1	95.0
44	71.9	68.9	64.8	68.8	70.4	78.5	80.9	81.2	86.1	88.8	93.1	95.8	98.9	101.0	104.2	106.2	105.9	99.3	90.5	91.7	93.6	92.9
D4	63.2	62.2	61.3	62.8	64.1	70.0	72.9	74.8	79.0	82.2	86.0	89.1	92.8	95.1	98.0	100.3	101.4	99.4	96.3	98.2	100.5	86.7
f4	62.6	61.4	59.7	61.9	63.2	69.4	72.3	73.9	78.3	81.3	85.2	88.3	91.9	94.1	97.0	99.3	100.1	96.3	89.5	90.8	92.8	85.8
tot	41.1	46.9	43.9	44.4	47.5	51.5	55.3	59.3	63.9	68.6	73.0	77.3	81.5	84.2	86.3	88.6	89.6	88.6	84.7	86.1	88.0	70.3

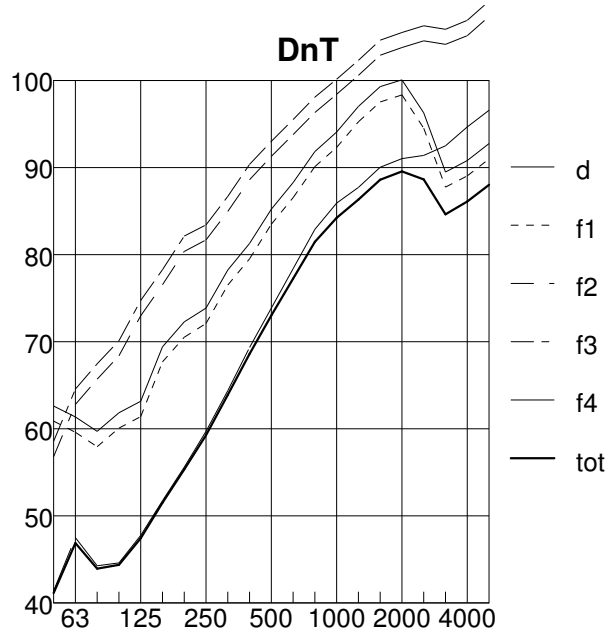
Airborne Sound per Element

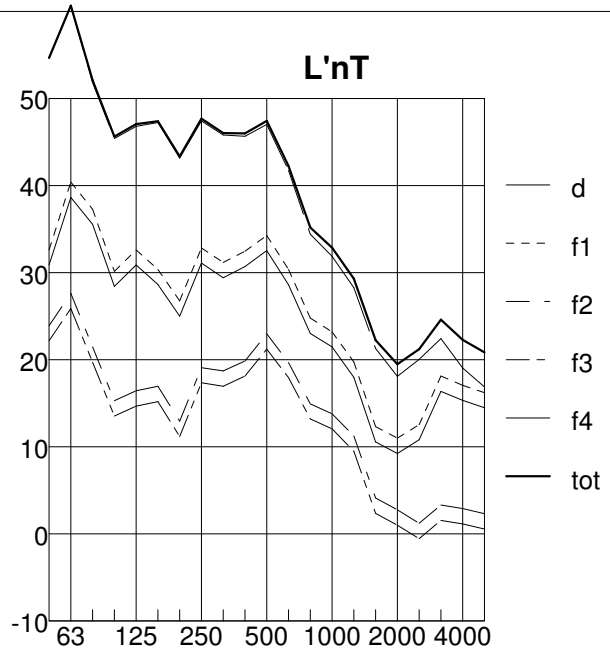
tau	50	63	80	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000	DnT,w (0.5
d	41.4	47.5	44.3	44.6	47.8	51.7	55.6	59.7	64.4	69.3	73.9	78.4	82.9	85.9	87.7	90.0	91.0	91.4	92.5	94.7	96.6	70.7
f1	60.9	59.6	58.0	60.1	61.4	67.7	70.5	72.1	76.5	79.6	83.5	86.6	90.1	92.3	95.3	97.6	98.3	94.6	87.8	89.1	91.0	84.1
f2	56.8	62.8	65.7	68.4	73.0	76.5	80.4	81.7	85.0	88.6	91.3	93.8	96.4	98.4	100.6	102.9	103.8	104.6	104.2	105.2	107.4	93.3
f3	58.6	64.6	67.5	70.1	74.7	78.3	82.1	83.5	86.7	90.4	93.0	95.5	98.1	100.2	102.3	104.7	105.5	106.3	105.9	106.9	109.1	95.0
f4	62.6	61.4	59.7	61.9	63.2	69.4	72.3	73.9	78.3	81.3	85.2	88.3	91.9	94.1	97.0	99.3	100.1	96.3	89.5	90.8	92.8	85.8
tot	41.1	46.9	43.9	44.4	47.5	51.5	55.3	59.3	63.9	68.6	73.0	77.3	81.5	84.2	86.3	88.6	89.6	88.6	84.7	86.1	88.0	70.3

Impact Sound per Element

tau	50	63	80	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000	L'nT,w
d	54.7	60.6	51.9	45.4	46.8	47.3	43.2	47.4	45.8	45.7	47.0	41.7	34.4	31.9	28.3	21.3	18.1	20.0	22.5	19.1	16.9	40.8
f1	32.6	40.4	37.3	30.2	32.6	30.4	26.8	32.9	31.2	32.5	34.3	30.4	24.8	23.2	19.8	12.3	11.0	12.6	18.1	17.1	16.2	27.7
f2	23.9	27.6	21.5	15.3	16.4	17.0	13.0	19.1	18.7	19.9	23.0	19.7	15.0	13.8	11.3	4.1	2.8	1.2	3.3	2.9	2.3	15.3
f3	22.2	25.9	19.7	13.6	14.7	15.2	11.2	17.4	17.0	18.1	21.2	17.9	13.2	12.1	9.5	2.4	1.0	-0.5	1.6	1.2	0.6	13.6
f4	30.9	38.7	35.6	28.4	30.9	28.7	25.0	31.1	29.4	30.7	32.5	28.6	23.0	21.5	18.0	10.6	9.2	10.8	16.4	15.3	14.5	25.9
tot	54.7	60.7	52.1	45.6	47.1	47.4	43.4	47.7	46.1	46.0	47.4	42.3	35.2	32.9	29.3	22.3	19.5	21.2	24.6	22.3	20.9	41.2

Resulting Diagram





DnT,w = 70
DnT,w + C = 67
DnT,w + Ctr = 61
DnT,w + C100-5000 = 68
DnT,w + Ctr,100-5000 = 61
DnT,w + C50-5000 = 68
DnT,w + Ctr,50-5000 = 58
DnT,w + C50-3150 = 67
DnT,w + Ctr,50-3150 = 58

L'nT,w = 42
L'nT,w + Ci = 41
L'nT,w + Ci,50-2500 = 48

BASTIAN® - Worksheet 1 [DM Ts (1)]

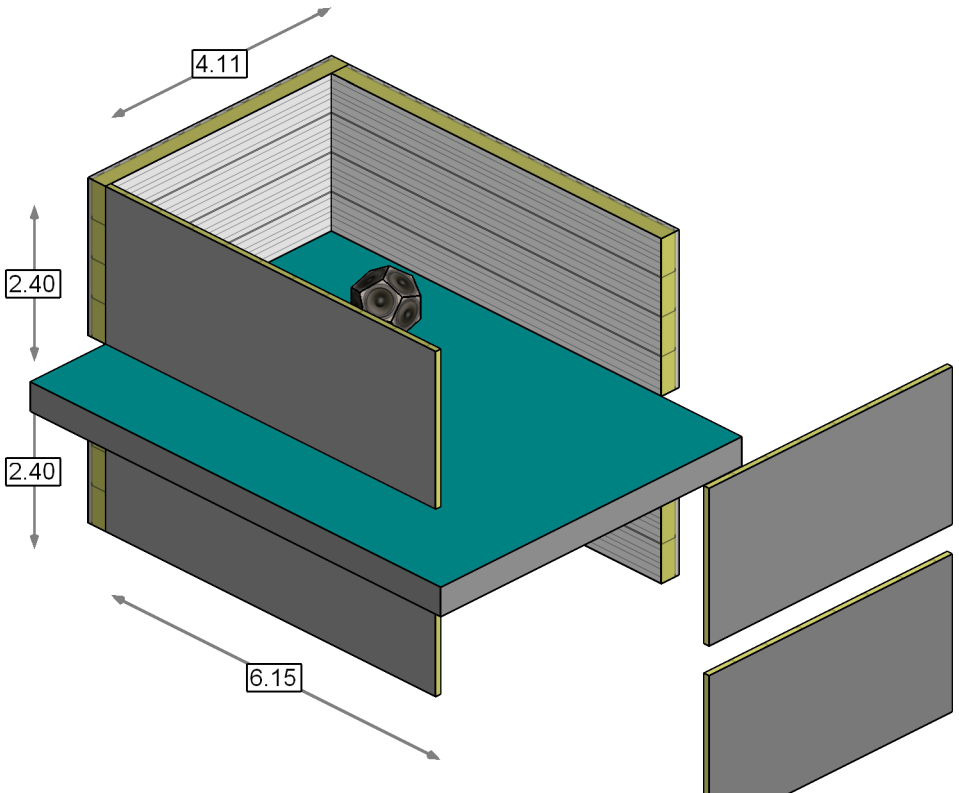
Project Info

Project Name:	Blyth Road
Client:	Bellway
Project No.:	4371
Project:	
Remarks:	F58 KLD to F42 KLD
Editor:	PJS
Worksheet:	Worksheet 1 [DM Ts (1)]
Program:	BASTIAN V 2.3

Worksheet Configuration

Calculation Model:	DM Ts (1)
Perf. Param. Airborne Sound Transm. in Buildings:	DnT,w + Ctr
Perf. Param. Impact Sound Transm. in Buildings:	L'nT,w + Ctr
Perf. Param. Outdoor Sound Transmission:	D2m,nT,w + Ctr
Reference Reverberation Time T0 (s):	0.5
f1: Surface mass m"4 (kg/m²):	200
f1: Outer leaf interrupted:	no
f2: Surface mass m"4 (kg/m²):	200
f2: Outer leaf interrupted:	no
f3: Surface mass m"4 (kg/m²):	200
f4: Surface mass m"4 (kg/m²):	200
Correction Sigma_free/Sigma_forced for Monolithic Flanking Elements:	off
Correction Sigma_free/Sigma_forced for Lightweight Flanking Elements:	off
Alpha_k-Limit, MIN (-):	-
Alpha_k-Limit, MAX (-):	-
Ts-Limit for Elements, MIN (dB):	-
Ts-Limit for Elements, MAX (dB):	-
R'45° - R' (dB):	1.0
R'tr,s - R' (dB):	0.0
Level Difference DeltaL_fs (dB):	-

Room View



Worksheet-Table

		Sending Room		Jur	Receiving Room		DnT,w		L'nT,	
f	t	Basic Element	Additional Layer	Typ	Basic Element	Additional Layer	dB	%	dB	%
Xd		250mm In-situ Concrete (Insul 7.0.1	Ceramic Tiles on 3m			15mm Plasterboard, 150mm	61.7	94	40.8	92
X1		British Gypsum Gypwall Classic BT		13	British Gypsum Gypwall Classic BT		76.1	3	27.1	5
X2		100mm Brick, 100mm Void, 10mm		14	100mm Brick, 100mm Void, 10mm		85.3	0	5.3	0
X3		100mm Brick, 100mm Void, 10mm		14	100mm Brick, 100mm Void, 10mm		87.0	0	3.6	0
X4		British Gypsum Gypwall Classic BT		13	British Gypsum Gypwall Classic BT		77.8	2	25.9	3
						Total:	61.3	100	1.2	100

Elements / Constructions

tau	Room	Element	Construction
d	SR	monolithic floor	250mm In-situ Concrete (Insul 7.0.13)
d	SR	dry floating floor construction	Ceramic Tiles on 3mm IsoRubber Top on 250mm Concrete
d	RR	suspended ceiling	15mm Plasterboard, 150mm MF, 250mm Concrete - no absorber (Insul v7.0.13)
f1	SR	lightweight double wall, metal frar	British Gypsum Gypwall Classic BTC12227A
f1	RR	lightweight double wall, metal frar	British Gypsum Gypwall Classic BTC12227A
f2	SR	facade, steel panel sections	100mm Brick, 100mm Void, 10mm CPB, 100mm METSEC, 2 x 12.5mm Wallboard, 100mm R
f2	RR	facade, steel panel sections	100mm Brick, 100mm Void, 10mm CPB, 100mm METSEC, 2 x 12.5mm Wallboard, 100mm R
f3	SR	facade, steel panel sections	100mm Brick, 100mm Void, 10mm CPB, 100mm METSEC, 2 x 12.5mm Wallboard, 100mm R
f3	RR	facade, steel panel sections	100mm Brick, 100mm Void, 10mm CPB, 100mm METSEC, 2 x 12.5mm Wallboard, 100mm R
f4	SR	lightweight double wall, metal frar	British Gypsum Gypwall Classic BTC12227A
f4	RR	lightweight double wall, metal frar	British Gypsum Gypwall Classic BTC12227A

Geometry Data

Volume sending room (m³): 60.66
Volume receiving room (m³): 60.66

t	Room	Basic Element	a	b	S	lij
			(m)	(m)	(m²)	(m)
d		250mm In-situ Concrete (Insul 7.0.13)	4.11	6.15	25.28	
f1	SR	British Gypsum Gypwall Classic BTC12227A	2.40	6.15	14.76	6.15
f1	RR	British Gypsum Gypwall Classic BTC12227A	2.40	6.15	14.76	6.15
f2	SR	100mm Brick, 100mm Void, 10mm CPB, 100mm METSEC, 2 x 12.5mm Wallboard, 100mm Rockwo	2.40	6.15	14.76	6.15
f2	RR	100mm Brick, 100mm Void, 10mm CPB, 100mm METSEC, 2 x 12.5mm Wallboard, 100mm Rockwo	2.40	6.15	14.76	6.15
f3	SR	100mm Brick, 100mm Void, 10mm CPB, 100mm METSEC, 2 x 12.5mm Wallboard, 100mm Rockwo	2.40	4.11	9.86	4.11
f3	RR	100mm Brick, 100mm Void, 10mm CPB, 100mm METSEC, 2 x 12.5mm Wallboard, 100mm Rockwo	2.40	4.11	9.86	4.11
f4	SR	British Gypsum Gypwall Classic BTC12227A	2.40	4.11	9.86	4.11
f4	RR	British Gypsum Gypwall Classic BTC12227A	2.40	4.11	9.86	4.11

Input Data Elements

tau	Roor	X	50	63	80	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000	Xw
d	SR	R	44.2	44.2	45.6	43.7	43.6	46.3	48.8	51.2	53.8	56.4	58.9	61.4	64.7	66.2	67.8	69.4	71.0	72.5	74.1	75.8	77.4	62
d	SR	Ln	47.8	53.8	55.3	55.9	56.9	58.5	60.9	67.6	67.7	67.9	68.0	68.1	68.3	68.4	68.5	67.3	66.1	65.0	63.9	62.8	61.8	72
d	SR	DeltaF	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
d	SR	DeltaL	-6.1	-6.9	0.0	4.3	1.5	2.1	7.7	8.9	9.0	7.4	4.3	7.7	13.1	14.0	16.3	21.8	22.4	23.3	21.3	21.0	20.2	17
d	RR	DeltaF	-5.4	0.8	-3.5	-1.5	1.6	2.8	4.2	6.0	8.1	10.5	12.6	14.7	16.0	17.6	17.9	18.7	18.2	17.2	16.9	17.5	17.9	15
d	RR	DeltaL	-7.7	-6.8	-3.3	-0.5	1.8	2.4	3.3	4.6	6.3	8.3	10.2	12.3	14.5	16.3	17.8	18.2	19.7	15.9	14.5	17.2	19.3	15
f1	SR	R	17.0	14.4	10.6	14.9	16.8	25.3	28.0	28.6	33.9	36.9	41.5	44.6	48.0	50.4	53.9	56.3	56.3	50.0	41.6	43.1	45.3	40
f1	RR	R	17.0	14.4	10.6	14.9	16.8	25.3	28.0	28.6	33.9	36.9	41.5	44.6	48.0	50.4	53.9	56.3	56.3	50.0	41.6	43.1	45.3	40
f2	SR	R	31.4	37.6	40.6	43.6	48.8	52.5	56.6	57.7	61.1	65.0	67.7	70.2	72.6	74.8	77.1	79.6	80.3	80.9	80.1	81.0	83.3	69
f2	RR	R	31.4	37.6	40.6	43.6	48.8	52.5	56.6	57.7	61.1	65.0	67.7	70.2	72.6	74.8	77.1	79.6	80.3	80.9	80.1	81.0	83.3	69
f3	SR	R	31.4	37.6	40.6	43.6	48.8	52.5	56.6	57.7	61.1	65.0	67.7	70.2	72.6	74.8	77.1	79.6	80.3	80.9	80.1	81.0	83.3	69
f3	RR	R	31.4	37.6	40.6	43.6	48.8	52.5	56.6	57.7	61.1	65.0	67.7	70.2	72.6	74.8	77.1	79.6	80.3	80.9	80.1	81.0	83.3	69
f4	SR	R	17.0	14.4	10.6	14.9	16.8	25.3	28.0	28.6	33.9	36.9	41.5	44.6	48.0	50.4	53.9	56.3	56.3	50.0	41.6	43.1	45.3	40
f4	RR	R	17.0	14.4	10.6	14.9	16.8	25.3	28.0	28.6	33.9	36.9	41.5	44.6	48.0	50.4	53.9	56.3	56.3	50.0	41.6	43.1	45.3	40

Structural Reverb. Time, lab (s)

tau	Room	50	63	80	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000
d	SR	0.838	0.727	0.617	0.534	0.495	0.435	0.381	0.332	0.289	0.251	0.217	0.187	0.161	0.138	0.118	0.100	0.085	0.072	0.060	0.051	0.042

Structural Reverb. Time, situ (s)

tau	Room	50	63	80	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000
d	SR	0.329	0.290	0.254	0.222	0.201	0.178	0.158	0.140	0.123	0.108	0.095	0.084	0.073	0.064	0.056	0.049	0.043	0.037	0.032	0.028	0.024

In-Situ-Data Elements

tau	Room	X	50	63	80	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000	Xw
d	SR	R	48.3	48.2	49.5	47.5	47.5	50.2	52.6	55.0	57.5	60.0	62.5	64.9	68.1	69.5	71.0	72.5	74.0	75.4	76.9	78.4	79.9	66
d	SR	Ln	43.7	49.8	51.4	52.1	53.0	54.6	57.1	63.8	64.0	64.3	64.4	64.6	64.9	65.1	65.3	64.2	63.1	62.1	61.1	60.2	59.3	69
d	SR	DeltaF	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
d	SR	DeltaL	-6.1	-6.9	0.0	4.3	1.5	2.1	7.7	8.9	9.0	7.4	4.3	7.7	13.1	14.0	16.3	21.8	22.4	23.3	21.3	21.0	20.2	17
d	RR	DeltaF	-5.4	0.8	-3.5	-1.5	1.6	2.8	4.2	6.0	8.1	10.5	12.6	14.7	16.0	17.6	17.9	18.7	18.2	17.2	16.9	17.5	17.9	15
d	RR	DeltaL	-7.7	-6.8	-3.3	-0.5	1.8	2.4	3.3	4.6	6.3	8.3	10.2	12.3	14.5	16.3	17.8	18.2	19.7	15.9	14.5	17.2	19.3	15
f1	SR	R	17.0	14.4	10.6	14.9	16.8	25.3	28.0	28.6	33.9	36.9	41.5	44.6	48.0	50.4	53.9	56.3	56.3	50.0	41.6	43.1	45.3	40
f1	RR	R	17.0	14.4	10.6	14.9	16.8	25.3	28.0	28.6	33.9	36.9	41.5	44.6	48.0	50.4	53.9	56.3	56.3	50.0	41.6	43.1	45.3	40
f2	SR	R	31.4	37.6	40.6	43.6	48.8	52.5	56.6	57.7	61.1	65.0	67.7	70.2	72.6	74.8	77.1	79.6	80.3	80.9	80.1	81.0	83.3	69
f2	RR	R	31.4	37.6	40.6	43.6	48.8	52.5	56.6	57.7	61.1	65.0	67.7	70.2	72.6	74.8	77.1	79.6	80.3	80.9	80.1	81.0	83.3	69
f3	SR	R	31.4	37.6	40.6	43.6	48.8	52.5	56.6	57.7	61.1	65.0	67.7	70.2	72.6	74.8	77.1	79.6	80.3	80.9	80.1	81.0	83.3	69
f3	RR	R	31.4	37.6	40.6	43.6	48.8	52.5	56.6	57.7	61.1	65.0	67.7	70.2	72.6	74.8	77.1	79.6	80.3	80.9	80.1	81.0	83.3	69
f4	SR	R	17.0	14.4	10.6	14.9	16.8	25.3	28.0	28.6	33.9	36.9	41.5	44.6	48.0	50.4	53.9	56.3	56.3	50.0	41.6	43.1	45.3	40
f4	RR	R	17.0	14.4	10.6	14.9	16.8	25.3	28.0	28.6	33.9	36.9	41.5	44.6	48.0	50.4	53.9	56.3	56.3	50.0	41.6	43.1	45.3	40

Junction Type

Flank	Junction	mi	mi_	M	E1	t1	f1	a
f1	Type 13 (Cross-junction, single leaf separat. / double leaf lightweight flank. elem., continuous se	11	585	1.74				
f2	Type 14 (T-junction, single leaf separat. / double leaf lightweight flank. elem., continuous flank. e	16	585	1.56				
f3	Type 14 (T-junction, single leaf separat. / double leaf lightweight flank. elem., continuous flank. e	16	585	1.56				
f4	Type 13 (Cross-junction, single leaf separat. / double leaf lightweight flank. elem., continuous se	11	585	1.74				

Vibration Reduction Index Kij

Flank	Path	50	63	80	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000
f1	Ff	48.1	47.8	47.5	47.1	46.8	46.5	46.2	45.8	45.5	45.2	44.8	44.5	44.2	43.8	43.5	43.2	42.9	42.5	42.2	41.9	41.5
f1	Fd	24.1	24.4	24.8	25.1	25.4	25.8	26.1	26.4	26.8	27.1	27.4	27.7	28.1	28.4	28.7	29.1	29.4	29.7	30.1	30.4	30.7
f1	Df	24.1	24.4	24.8	25.1	25.4	25.8	26.1	26.4	26.8	27.1	27.4	27.7	28.1	28.4	28.7	29.1	29.4	29.7	30.1	30.4	30.7
f2	Ff	20.6	20.6	20.6	20.6	20.6	20.6	20.6	20.6	20.6	20.6	20.6	20.6	20.6	20.6	20.6	20.6	20.6	20.6	20.6	20.6	20.6
f2	Fd	25.6	25.6	25.6	25.6	25.6	25.6	25.6	25.6	25.6	25.6	25.6	25.6	25.6	25.6	25.6	25.6	25.6	25.6	25.6	25.6	25.6
f2	Df	25.6	25.6	25.6	25.6	25.6	25.6	25.6	25.6	25.6	25.6	25.6	25.6	25.6	25.6	25.6	25.6	25.6	25.6	25.6	25.6	25.6
f3	Ff	20.6	20.6	20.6	20.6	20.6	20.6	20.6	20.6	20.6	20.6	20.6	20.6	20.6	20.6	20.6	20.6	20.6	20.6	20.6	20.6	20.6
f3	Fd	25.6	25.6	25.6	25.6	25.6	25.6	25.6	25.6	25.6	25.6	25.6	25.6	25.6	25.6	25.6	25.6	25.6	25.6	25.6	25.6	25.6
f3	Df	25.6	25.6	25.6	25.6	25.6	25.6	25.6	25.6	25.6	25.6	25.6	25.6	25.6	25.6	25.6	25.6	25.6	25.6	25.6	25.6	25.6
f4	Ff	48.1	47.8	47.5	47.1	46.8	46.5	46.2	45.8	45.5	45.2	44.8	44.5	44.2	43.8	43.5	43.2	42.9	42.5	42.2	41.9	41.5
f4	Fd	24.1	24.4	24.8	25.1	25.4	25.8	26.1	26.4	26.8	27.1	27.4	27.7	28.1	28.4	28.7	29.1	29.4	29.7	30.1	30.4	30.7
f4	Df	24.1	24.4	24.8	25.1	25.4	25.8	26.1	26.4	26.8	27.1	27.4	27.7	28.1	28.4	28.7	29.1	29.4	29.7	30.1	30.4	30.7

Velocity Level Difference Dv,ij,situ

Flank	Path	50	63	80	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000
f1	Ff	51.9	51.6	51.3	50.9	50.6	50.3	50.0	49.6	49.3	49.0	48.6	48.3	48.0	47.6	47.3	47.0	46.7	46.3	46.0	45.7	45.3
f1	Fd	28.8	29.1	29.5	29.9	30.2	30.5	30.9	31.2	31.6	31.9	32.3	32.6	33.0	33.4	33.7	34.1	34.5	34.9	35.3	35.7	36.1
f1	Df	28.8	29.1	29.5	29.9	30.2	30.5	30.9	31.2	31.6	31.9	32.3	32.6	33.0	33.4	33.7	34.1	34.5	34.9	35.3	35.7	36.1
f2	Ff	24.4	24.4	24.4	24.4	24.4	24.4	24.4	24.4	24.4	24.4	24.4	24.4	24.4	24.4	24.4	24.4	24.4	24.4	24.4	24.4	24.4
f2	Fd	30.3	30.3	30.3	30.4	30.4	30.4	30.4	30.4	30.4	30.4	30.5	30.5	30.5	30.6	30.6	30.7	30.7	30.8	30.9	30.9	31.0
f2	Df	30.3	30.3	30.3	30.4	30.4	30.4	30.4	30.4	30.4	30.4	30.5	30.5	30.5	30.6	30.6	30.7	30.7	30.8	30.9	30.9	31.0
f3	Ff	24.4	24.4	24.4	24.4	24.4	24.4	24.4	24.4	24.4	24.4	24.4	24.4	24.4	24.4	24.4	24.4	24.4	24.4	24.4	24.4	24.4
f3	Fd	31.2	31.2	31.2	31.3	31.2	31.2	31.3	31.3	31.3	31.3	31.4	31.4	31.4	31.5	31.5	31.5	31.6	31.7	31.7	31.8	31.9
f3	Df	31.2	31.2	31.2	31.3	31.2	31.2	31.3	31.3	31.3	31.3	31.4	31.4	31.4	31.5	31.5	31.5	31.6	31.7	31.7	31.8	31.9
f4	Ff	51.9	51.6	51.3	50.9	50.6	50.3	50.0	49.6	49.3	49.0	48.6	48.3	48.0	47.6	47.3	47.0	46.7	46.3	46.0	45.7	45.3
f4	Fd	29.7	30.0	30.4	30.7	31.0	31.4	31.7	32.1	32.4	32.8	33.1	33.5	33.9	34.2	34.6	35.0	35.4	35.8	36.2	36.6	37.0
f4	Df	29.7	30.0	30.4	30.7	31.0	31.4	31.7	32.1	32.4	32.8	33.1	33.5	33.9	34.2	34.6	35.0	35.4	35.8	36.2	36.6	37.0

Sound Reduction per Path

Path	50	63	80	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000	DnT,w (0.5 s) +
Dd	41.7	47.8	44.8	44.9	48.0	51.8	55.7	59.8	64.5	69.4	73.9	78.4	83.0	86.0	87.8	90.1	91.0	91.4	92.6	94.8	96.7	61.8
1d	56.0	61.3	56.1	59.6	63.9	71.1	75.4	79.0	85.4	90.9	96.9	102.1	107.1	110.9	114.1	117.2	117.9	114.8	111.4	114.0	116.6	77.2
2d	64.8	74.0	71.9	74.5	80.1	84.5	89.2	92.8	97.9	103.5	108.2	112.8	116.9	120.4	122.6	125.4	126.1	126.2	126.3	128.2	130.5	92.3
3d	66.5	75.8	73.6	76.2	81.9	86.3	91.0	94.5	99.6	105.2	109.9	114.5	118.7	122.1	124.4	127.2	127.8	127.9	128.0	129.9	132.3	94.0
4d	57.8	63.0	57.8	61.3	65.7	72.8	77.1	80.8	87.1	92.7	98.6	103.8	108.8	112.7	115.9	119.0	119.6	116.6	113.2	115.7	118.4	78.9
d	41.4	47.5	44.3	44.6	47.8	51.7	55.6	59.7	64.4	69.3	73.9	78.4	82.9	85.9	87.7	90.0	91.0	91.4	92.5	94.7	96.6	61.7
11	70.1	67.2	63.1	67.0	68.6	76.8	79.1	79.4	84.4	87.0	91.3	94.1	97.2	99.2	102.4	104.5	104.1	97.5	88.8	89.9	91.8	83.1
D1	61.4	60.5	59.6	61.1	62.3	68.3	71.2	73.0	77.3	80.4	84.3	87.4	91.1	93.3	96.2	98.5	99.7	97.6	94.5	96.5	98.7	76.9
f1	60.9	59.6	58.0	60.1	61.4	67.7	70.5	72.1	76.5	79.6	83.5	86.6	90.1	92.3	95.3	97.6	98.3	94.6	87.8	89.1	91.0	76.1
22	57.0	63.2	66.2	69.2	74.4	78.1	82.2	83.3	86.7	90.6	93.3	95.8	98.2	100.4	102.7	105.2	105.9	106.5	105.7	106.6	108.9	85.9
D2	70.2	73.2	75.4	76.0	78.5	81.7	85.0	86.8	89.8	93.0	95.6	98.1	100.9	102.8	104.7	106.7	107.9	109.0	109.4	110.7	112.6	91.3
f2	56.8	62.8	65.7	68.4	73.0	76.5	80.4	81.7	85.0	88.6	91.3	93.8	96.4	98.4	100.6	102.9	103.8	104.6	104.2	105.2	107.4	85.3
33	58.8	65.0	68.0	71.0	76.2	79.9	84.0	85.1	88.5	92.4	95.1	97.6	100.0	102.2	104.5	107.0	107.7	108.3	107.5	108.4	110.7	87.7
D3	71.9	75.0	77.1	77.7	80.3	83.5	86.8	88.5	91.5	94.7	97.3	99.8	102.7	104.5	106.5	108.5	109.6	110.7	111.1	112.4	114.4	93.1
f3	58.6	64.6	67.5	70.1	74.7	78.3	82.1	83.5	86.7	90.4	93.0	95.5	98.1	100.2	102.3	104.7	105.5	106.3	105.9	106.9	109.1	87.0
44	71.9	68.9	64.8	68.8	70.4	78.5	80.9	81.2	86.1	88.8	93.1	95.8	98.9	101.0	104.2	106.2	105.9	99.3	90.5	91.7	93.6	84.9
D4	63.2	62.2	61.3	62.8	64.1	70.0	72.9	74.8	79.0	82.2	86.0	89.1	92.8	95.1	98.0	100.3	101.4	99.4	96.3	98.2	100.5	78.7
f4	62.6	61.4	59.7	61.9	63.2	69.4	72.3	73.9	78.3	81.3	85.2	88.3	91.9	94.1	97.0	99.3	100.1	96.3	89.5	90.8	92.8	77.8
tot	41.1	46.9	43.9	44.4	47.5	51.5	55.3	59.3	63.9	68.6	73.0	77.3	81.5	84.2	86.3	88.6	89.6	88.6	84.7	86.1	88.0	61.3

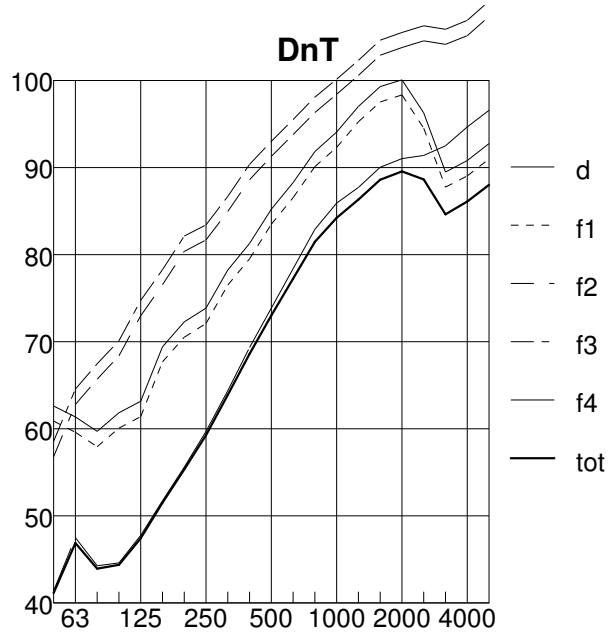
Airborne Sound per Element

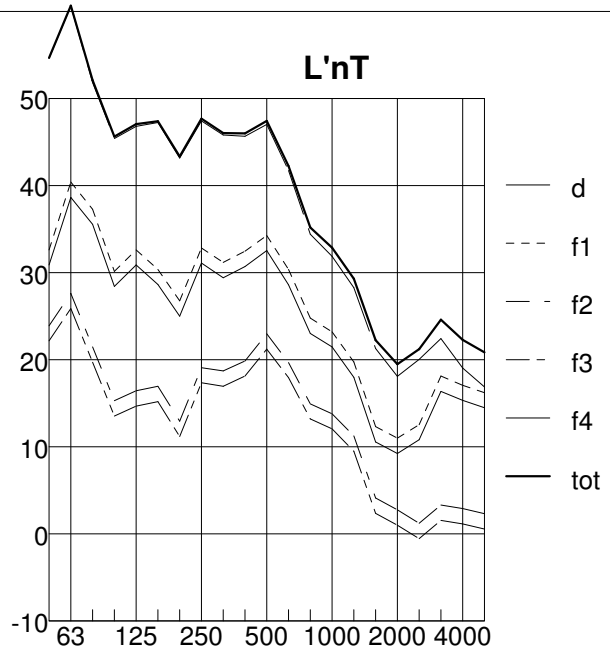
tau	50	63	80	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000	DnT,w (0.5 s) +
d	41.4	47.5	44.3	44.6	47.8	51.7	55.6	59.7	64.4	69.3	73.9	78.4	82.9	85.9	87.7	90.0	91.0	91.4	92.5	94.7	96.6	61.7
f1	60.9	59.6	58.0	60.1	61.4	67.7	70.5	72.1	76.5	79.6	83.5	86.6	90.1	92.3	95.3	97.6	98.3	94.6	87.8	89.1	91.0	76.1
f2	56.8	62.8	65.7	68.4	73.0	76.5	80.4	81.7	85.0	88.6	91.3	93.8	96.4	98.4	100.6	102.9	103.8	104.6	104.2	105.2	107.4	85.3
f3	58.6	64.6	67.5	70.1	74.7	78.3	82.1	83.5	86.7	90.4	93.0	95.5	98.1	100.2	102.3	104.7	105.5	106.3	105.9	106.9	109.1	87.0
f4	62.6	61.4	59.7	61.9	63.2	69.4	72.3	73.9	78.3	81.3	85.2	88.3	91.9	94.1	97.0	99.3	100.1	96.3	89.5	90.8	92.8	77.8
tot	41.1	46.9	43.9	44.4	47.5	51.5	55.3	59.3	63.9	68.6	73.0	77.3	81.5	84.2	86.3	88.6	89.6	88.6	84.7	86.1	88.0	61.3

Impact Sound per Element

tau	50	63	80	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000	L'nT,w
d	54.7	60.6	51.9	45.4	46.8	47.3	43.2	47.4	45.8	45.7	47.0	41.7	34.4	31.9	28.3	21.3	18.1	20.0	22.5	19.1	16.9	40.8
f1	32.6	40.4	37.3	30.2	32.6	30.4	26.8	32.9	31.2	32.5	34.3	30.4	24.8	23.2	19.8	12.3	11.0	12.6	18.1	17.1	16.2	27.7
f2	23.9	27.6	21.5	15.3	16.4	17.0	13.0	19.1	18.7	19.9	23.0	19.7	15.0	13.8	11.3	4.1	2.8	1.2	3.3	2.9	2.3	15.3
f3	22.2	25.9	19.7	13.6	14.7	15.2	11.2	17.4	17.0	18.1	21.2	17.9	13.2	12.1	9.5	2.4	1.0	-0.5	1.6	1.2	0.6	13.6
f4	30.9	38.7	35.6	28.4	30.9	28.7	25.0	31.1	29.4	30.7	32.5	28.6	23.0	21.5	18.0	10.6	9.2	10.8	16.4	15.3	14.5	25.9
tot	54.7	60.7	52.1	45.6	47.1	47.4	43.4	47.7	46.1	46.0	47.4	42.3	35.2	32.9	29.3	22.3	19.5	21.2	24.6	22.3	20.9	41.2

Resulting Diagram





DnT,w = 70
DnT,w + C = 67
DnT,w + Ctr = 61
DnT,w + C100-5000 = 68
DnT,w + Ctr,100-5000 = 61
DnT,w + C50-5000 = 68
DnT,w + Ctr,50-5000 = 58
DnT,w + C50-3150 = 67
DnT,w + Ctr,50-3150 = 58

L'nT,w = 42
L'nT,w + Ci = 41
L'nT,w + Ci,50-2500 = 48

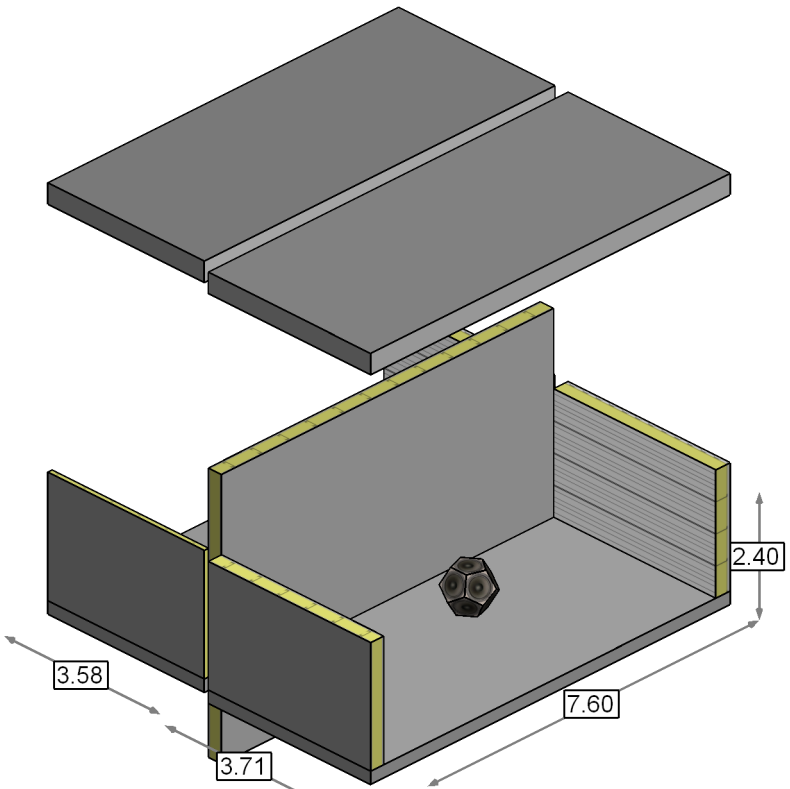
Project Info

Project Name:	Blyth Road
Client:	Bellway
Project No.:	4371
Remarks:	F27 KLD to F26 KLD
Editor:	PJS
Worksheet:	Copy of Worksheet 7 [DM Ts (1)]
Program:	BASTIAN V 2.3

Worksheet Configuration

Calculation Model:	DM Ts (1)
Perf. Param. Airborne Sound Transm. in Buildings:	DnT,w + Ctr
Perf. Param. Impact Sound Transm. in Buildings:	L'nT,w + Ctr
Perf. Param. Outdoor Sound Transmission:	D2m,nT,w + Ctr
Reference Reverberation Time T0 (s):	0.5
f1: Surface mass m"4 (kg/m²):	200
f1: Outer leaf interrupted:	no
f2: Surface mass m"4 (kg/m²):	200
f2: Outer leaf interrupted:	no
f3: Surface mass m"4 (kg/m²):	200
f4: Surface mass m"4 (kg/m²):	200
Correction Sigma_free/Sigma_forced for Monolithic Flanking Elements:	off
Correction Sigma_free/Sigma_forced for Lightweight Flanking Elements:	off
Alpha_k-Limit, MIN (-):	-
Alpha_k-Limit, MAX (-):	-
Ts-Limit for Elements, MIN (dB):	-
Ts-Limit for Elements, MAX (dB):	-
R'45° - R' (dB):	1.0
R'tr,s - R' (dB):	0.0
Level Difference DeltaL_fs (dB):	-

Room View



Worksheet-Table

		Sending Room		Jur	Receiving Room		DnT,w		L'nT,	
I	t	Basic Element	Additional Layer	Typ	Basic Element	Additional Layer	dB	%	dB	%
X	d	Siniat RSP 038 Twin Frame Wall					60.2	31		
X	1	100mm Brick, 100mm Void, 10mr		20	100mm Brick, 100mm Void, 10mr		31.7	0		
X	2	Siniat RSP 038 Twin Frame Wall		20	British Gypsum Gypwall Classic B		55.9	8		
X	3	250mm In-situ Concrete (Insul 7.0		17	250mm In-situ Concrete (Insul 7.0		59.2	39		
X	4	250mm In-situ Concrete (Insul 7.0	15mm Plasterboard, 150m	17	250mm In-situ Concrete (Insul 7.0	15mm Plasterboard, 150m	61.9	21		
						Total:	55.1	100		

Elements / Constructions

tau	Room	Element	Construction
d	SR	lightweight double wall, metal frar	Siniat RSP 038 Twin Frame Wall (corrected for 150mm Absorber)
f1	SR	facade, steel panel sections	100mm Brick, 100mm Void, 10mm CPB, 100mm METSEC, 2 x 12.5mm Wallboard, 100mm R
f1	RR	facade, steel panel sections	100mm Brick, 100mm Void, 10mm CPB, 100mm METSEC, 2 x 12.5mm Wallboard, 100mm R
f2	SR	lightweight double wall, metal frar	Siniat RSP 038 Twin Frame Wall (corrected for 150mm Absorber)
f2	RR	lightweight double wall, metal frar	British Gypsum Gypwall Classic BTC12227A
f3	SR	monolithic floor	250mm In-situ Concrete (Insul 7.0.13)
f3	RR	monolithic floor	250mm In-situ Concrete (Insul 7.0.13)
f4	SR	monolithic floor	250mm In-situ Concrete (Insul 7.0.13)
f4	SR	suspended ceiling	15mm Plasterboard, 150mm MF, 250mm Concrete - no absorber (Insul v7.0.13)
f4	RR	monolithic floor	250mm In-situ Concrete (Insul 7.0.13)
f4	RR	suspended ceiling	15mm Plasterboard, 150mm MF, 250mm Concrete - no absorber (Insul v7.0.13)

Geometry Data

Volume sending room (m³): 67.67
Volume receiving room (m³): 65.30

t	Room	Basic Element	a	b	S	lij
			(m)	(m)	(m²)	(m)
d		Siniat RSP 038 Twin Frame Wall (corrected for 150mm Absorber)	7.60	2.40	18.24	
f1	SR	100mm Brick, 100mm Void, 10mm CPB, 100mm METSEC, 2 x 12.5mm Wallboard, 100mm Rockwo	3.71	2.40	8.90	2.40
f1	RR	100mm Brick, 100mm Void, 10mm CPB, 100mm METSEC, 2 x 12.5mm Wallboard, 100mm Rockwo	3.58	2.40	8.59	2.40
f2	SR	Siniat RSP 038 Twin Frame Wall (corrected for 150mm Absorber)	3.71	2.40	8.90	2.40
f2	RR	British Gypsum Gypwall Classic BTC12227A	3.58	2.40	8.59	2.40
f3	SR	250mm In-situ Concrete (Insul 7.0.13)	3.71	7.60	28.20	7.60
f3	RR	250mm In-situ Concrete (Insul 7.0.13)	3.58	7.60	27.21	7.60
f4	SR	250mm In-situ Concrete (Insul 7.0.13)	3.71	7.60	28.20	7.60
f4	RR	250mm In-situ Concrete (Insul 7.0.13)	3.58	7.60	27.21	7.60

Input Data Elements

tau	Roor	X	50	63	80	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000	Xw
d	SR	R	23.4	36.9	30.5	43.1	48.3	48.4	53.5	57.1	61.7	65.0	67.0	66.9	69.2	71.4	73.5	75.9	73.6	65.1	65.6	70.9	73.5	66
f1	SR	R	31.4	37.6	40.6	43.6	48.8	52.5	56.6	57.7	61.1	65.0	67.7	70.2	72.6	74.8	77.1	79.6	80.3	80.9	80.1	81.0	83.3	69
f1	RR	R	31.4	37.6	40.6	43.6	48.8	52.5	56.6	57.7	61.1	65.0	67.7	70.2	72.6	74.8	77.1	79.6	80.3	80.9	80.1	81.0	83.3	69
f2	SR	R	23.4	36.9	30.5	43.1	48.3	48.4	53.5	57.1	61.7	65.0	67.0	66.9	69.2	71.4	73.5	75.9	73.6	65.1	65.6	70.9	73.5	66
f2	RR	R	17.0	14.4	10.6	14.9	16.8	25.3	28.0	28.6	33.9	36.9	41.5	44.6	48.0	50.4	53.9	56.3	56.3	50.0	41.6	43.1	45.3	40
f3	SR	R	44.2	44.2	45.6	43.7	43.6	46.3	48.8	51.2	53.8	56.4	58.9	61.4	64.7	66.2	67.8	69.4	71.0	72.5	74.1	75.8	77.4	62
f3	RR	R	44.2	44.2	45.6	43.7	43.6	46.3	48.8	51.2	53.8	56.4	58.9	61.4	64.7	66.2	67.8	69.4	71.0	72.5	74.1	75.8	77.4	62
f4	SR	R	44.2	44.2	45.6	43.7	43.6	46.3	48.8	51.2	53.8	56.4	58.9	61.4	64.7	66.2	67.8	69.4	71.0	72.5	74.1	75.8	77.4	62
f4	SR	Delta	-5.4	0.8	-3.5	-1.5	1.6	2.8	4.2	6.0	8.1	10.5	12.6	14.7	16.0	17.6	17.9	18.7	18.2	17.2	16.9	17.5	17.9	15
f4	RR	R	44.2	44.2	45.6	43.7	43.6	46.3	48.8	51.2	53.8	56.4	58.9	61.4	64.7	66.2	67.8	69.4	71.0	72.5	74.1	75.8	77.4	62
f4	RR	Delta	-5.4	0.8	-3.5	-1.5	1.6	2.8	4.2	6.0	8.1	10.5	12.6	14.7	16.0	17.6	17.9	18.7	18.2	17.2	16.9	17.5	17.9	15

Structural Reverb. Time, lab (s)

tau	Room	50	63	80	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000
f3	SR	0.838	0.727	0.617	0.534	0.495	0.435	0.381	0.332	0.289	0.251	0.217	0.187	0.161	0.138	0.118	0.100	0.085	0.072	0.060	0.051	0.042
f3	RR	0.838	0.727	0.617	0.534	0.495	0.435	0.381	0.332	0.289	0.251	0.217	0.187	0.161	0.138	0.118	0.100	0.085	0.072	0.060	0.051	0.042
f4	SR	0.838	0.727	0.617	0.534	0.495	0.435	0.381	0.332	0.289	0.251	0.217	0.187	0.161	0.138	0.118	0.100	0.085	0.072	0.060	0.051	0.042
f4	RR	0.838	0.727	0.617	0.534	0.495	0.435	0.381	0.332	0.289	0.251	0.217	0.187	0.161	0.138	0.118	0.100	0.085	0.072	0.060	0.051	0.042

Structural Reverb. Time, situ (s)

tau	Room	50	63	80	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000
f3	SR	0.332	0.293	0.256	0.225	0.204	0.180	0.160	0.141	0.124	0.110	0.096	0.085	0.074	0.065	0.057	0.049	0.043	0.037	0.032	0.028	0.024
f3	RR	0.325	0.287	0.251	0.220	0.199	0.177	0.156	0.138	0.122	0.107	0.094	0.083	0.073	0.064	0.056	0.048	0.042	0.037	0.032	0.027	0.023
f4	SR	0.332	0.293	0.256	0.225	0.204	0.180	0.160	0.141	0.124	0.110	0.096	0.085	0.074	0.065	0.057	0.049	0.043	0.037	0.032	0.028	0.024
f4	RR	0.325	0.287	0.251	0.220	0.199	0.177	0.156	0.138	0.122	0.107	0.094	0.083	0.073	0.064	0.056	0.048	0.042	0.037	0.032	0.027	0.023

In-Situ-Data Elements

tau	Room	X	50	63	80	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000	Xw
d	SR	R	23.4	36.9	30.5	43.1	48.3	48.4	53.5	57.1	61.7	65.0	67.0	66.9	69.2	71.4	73.5	75.9	73.6	65.1	65.6	70.9	73.5	66
f1	SR	R	31.4	37.6	40.6	43.6	48.8	52.5	56.6	57.7	61.1	65.0	67.7	70.2	72.6	74.8	77.1	79.6	80.3	80.9	80.1	81.0	83.3	69
f1	RR	R	31.4	37.6	40.6	43.6	48.8	52.5	56.6	57.7	61.1	65.0	67.7	70.2	72.6	74.8	77.1	79.6	80.3	80.9	80.1	81.0	83.3	69
f2	SR	R	23.4	36.9	30.5	43.1	48.3	48.4	53.5	57.1	61.7	65.0	67.0	66.9	69.2	71.4	73.5	75.9	73.6	65.1	65.6	70.9	73.5	66
f2	RR	R	17.0	14.4	10.6	14.9	16.8	25.3	28.0	28.6	33.9	36.9	41.5	44.6	48.0	50.4	53.9	56.3	56.3	50.0	41.6	43.1	45.3	40
f3	SR	R	48.2	48.1	49.4	47.5	47.5	50.1	52.6	54.9	57.5	60.0	62.4	64.8	68.1	69.5	71.0	72.5	74.0	75.3	76.8	78.4	79.9	66
f3	RR	R	48.3	48.2	49.5	47.6	47.5	50.2	52.7	55.0	57.6	60.1	62.5	64.9	68.1	69.6	71.1	72.5	74.0	75.4	76.9	78.5	80.0	66
f4	SR	R	48.2	48.1	49.4	47.5	47.5	50.1	52.6	54.9	57.5	60.0	62.4	64.8	68.1	69.5	71.0	72.5	74.0	75.3	76.8	78.4	79.9	66
f4	SR	Delta	-5.4	0.8	-3.5	-1.5	1.6	2.8	4.2	6.0	8.1	10.5	12.6	14.7	16.0	17.6	17.9	18.7	18.2	17.2	16.9	17.5	17.9	15
f4	RR	R	48.3	48.2	49.5	47.6	47.5	50.2	52.7	55.0	57.6	60.1	62.5	64.9	68.1	69.6	71.1	72.5	74.0	75.4	76.9	78.5	80.0	66
f4	RR	Delta	-5.4	0.8	-3.5	-1.5	1.6	2.8	4.2	6.0	8.1	10.5	12.6	14.7	16.0	17.6	17.9	18.7	18.2	17.2	16.9	17.5	17.9	15

Junction Type

Flank	Junction	mi	mi_	M	E1	t1	f1	a
f1	Type 20 (T-junction, double leaf lightweight elements, continuous separating element)	16	25	0.20				
f2	Type 20 (T-junction, double leaf lightweight elements, continuous separating element)	18	25	0.15				
f3	Type 17 (Cross-junction, double leaf lightweight separat. / single leaf flank. element, continuous	585	25	-1.37				
f4	Type 17 (Cross-junction, double leaf lightweight separat. / single leaf flank. element, continuous	585	25	-1.37				

Vibration Reduction Index Kij

Flank	Path	50	63	80	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000
f1	Ff	17.2	16.9	16.6	16.3	15.9	15.6	15.3	14.9	14.6	14.3	13.9	13.6	13.3	13.0	12.6	12.3	12.0	11.6	11.3	11.0	10.6
f1	Fd	15.3	14.9	14.6	14.3	14.0	13.6	13.3	13.0	12.6	12.3	12.0	11.6	11.3	11.0	10.7	10.3	10.0	9.7	9.3	9.0	8.7
f1	Df	15.3	14.9	14.6	14.3	14.0	13.6	13.3	13.0	12.6	12.3	12.0	11.6	11.3	11.0	10.7	10.3	10.0	9.7	9.3	9.0	8.7
f2	Ff	16.3	15.9	15.6	15.3	15.0	14.6	14.3	14.0	13.6	13.3	13.0	12.6	12.3	12.0	11.7	11.3	11.0	10.7	10.3	10.0	10.0
f2	Fd	14.8	14.5	14.1	13.8	13.5	13.1	12.8	12.5	12.1	11.8	11.5	11.2	10.8	10.5	10.2	9.8	9.5	9.2	8.8	8.5	8.2
f2	Df	14.8	14.5	14.1	13.8	13.5	13.1	12.8	12.5	12.1	11.8	11.5	11.2	10.8	10.5	10.2	9.8	9.5	9.2	8.8	8.5	8.2
f3	Ff	-5.6	-5.6	-5.6	-5.6	-5.6	-5.6	-5.6	-5.6	-5.6	-5.6	-5.6	-5.6	-5.6	-5.6	-5.6	-5.6	-5.6	-5.6	-5.6	-5.6	-5.6
f3	Fd	20.4	20.7	21.0	21.4	21.7	22.0	22.3	22.7	23.0	23.3	23.7	24.0	24.3	24.7	25.0	25.3	25.6	26.0	26.3	26.6	27.0
f3	Df	20.4	20.7	21.0	21.4	21.7	22.0	22.3	22.7	23.0	23.3	23.7	24.0	24.3	24.7	25.0	25.3	25.6	26.0	26.3	26.6	27.0
f4	Ff	-5.6	-5.6	-5.6	-5.6	-5.6	-5.6	-5.6	-5.6	-5.6	-5.6	-5.6	-5.6	-5.6	-5.6	-5.6	-5.6	-5.6	-5.6	-5.6	-5.6	-5.6
f4	Fd	20.4	20.7	21.0	21.4	21.7	22.0	22.3	22.7	23.0	23.3	23.7	24.0	24.3	24.7	25.0	25.3	25.6	26.0	26.3	26.6	27.0
f4	Df	20.4	20.7	21.0	21.4	21.7	22.0	22.3	22.7	23.0	23.3	23.7	24.0	24.3	24.7	25.0	25.3	25.6	26.0	26.3	26.6	27.0

Velocity Level Difference Dv,ij,situ

Flank	Path	50	63	80	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000
f1	Ff	22.9	22.5	22.2	21.9	21.5	21.2	20.9	20.6	20.2	19.9	19.6	19.2	18.9	18.6	18.2	17.9	17.6	17.3	16.9	16.6	16.3
f1	Fd	22.5	22.2	21.9	21.5	21.2	20.9	20.5	20.2	19.9	19.5	19.2	18.9	18.6	18.2	17.9	17.6	17.2	16.9	16.6	16.2	15.9
f1	Df	22.4	22.1	21.8	21.5	21.1	20.8	20.5	20.1	19.8	19.5	19.1	18.8	18.5	18.2	17.8	17.5	17.2	16.8	16.5	16.2	15.8
f2	Ff	21.9	21.6	21.2	20.9	20.6	20.2	19.9	19.6	19.2	18.9	18.6	18.3	17.9	17.6	17.3	16.9	16.6	16.3	15.9	15.6	15.6
f2	Fd	22.0	21.7	21.4	21.0	20.7	20.4	20.0	19.7	19.4	19.1	18.7	18.4	18.1	17.7	17.4	17.1	16.7	16.4	16.1	15.8	15.4
f2	Df	22.0	21.6	21.3	21.0	20.6	20.3	20.0	19.7	19.3	19.0	18.7	18.3	18.0	17.7	17.3	17.0	16.7	16.4	16.0	15.7	15.4
f3	Ff	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.3	0.4	0.5	0.6	0.8
f3	Fd	24.8	25.1	25.5	25.9	26.2	26.5	26.8	27.2	27.5	27.9	28.3	28.6	29.0	29.4	29.7	30.1	30.5	30.9	31.3	31.7	32.1
f3	Df	24.7	25.1	25.5	25.8	26.1	26.5	26.8	27.2	27.5	27.9	28.2	28.6	29.0	29.3	29.7	30.1	30.5	30.9	31.2	31.6	32.1
f4	Ff	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.3	0.4	0.5	0.6	0.8
f4	Fd	24.8	25.1	25.5	25.9	26.2	26.5	26.8	27.2	27.5	27.9	28.3	28.6	29.0	29.4	29.7	30.1	30.5	30.9	31.3	31.7	32.1
f4	Df	24.7	25.1	25.5	25.8	26.1	26.5	26.8	27.2	27.5	27.9	28.2	28.6	29.0	29.3	29.7	30.1	30.5	30.9	31.2	31.6	32.1

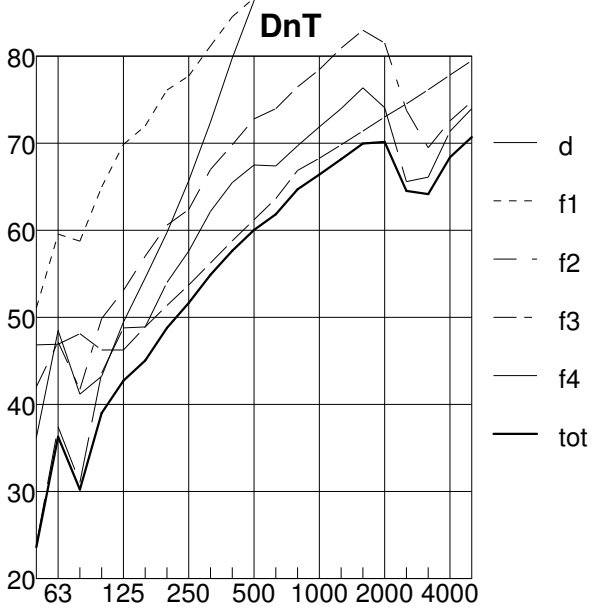
Sound Reduction per Path

Path	50	63	80	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000	DnT,w (0.5 s) +
Dd	24.0	37.5	31.1	43.7	48.9	49.0	54.1	57.7	62.3	65.6	67.6	67.5	69.8	72.0	74.1	76.5	74.2	65.7	66.2	71.5	74.1	60.3
1d	52.1	61.6	59.5	67.0	71.9	73.5	77.7	79.8	83.4	86.7	88.7	89.6	91.6	93.5	95.4	97.5	96.3	92.1	91.6	94.3	96.5	83.3
2d	47.6	60.8	54.0	66.3	71.2	70.9	75.7	79.0	83.2	86.2	87.9	87.5	89.4	91.3	93.1	95.1	92.5	83.7	83.8	88.8	91.1	81.9
3d	60.2	67.3	65.1	70.8	73.7	75.4	79.5	82.9	86.8	90.0	92.6	94.1	97.3	99.4	101.6	103.9	103.9	100.8	102.1	106.0	108.4	86.0
4d	54.8	68.1	61.6	69.3	75.3	78.2	83.7	88.9	94.9	100.5	105.2	108.8	113.3	117.0	119.5	122.6	122.1	118.0	119.0	123.5	126.3	87.4
d	24.0	37.4	31.1	43.6	48.8	48.9	54.0	57.6	62.2	65.5	67.5	67.4	69.7	71.9	74.0	76.4	74.1	65.6	66.1	71.4	74.0	60.2
11	58.0	63.9	66.6	69.3	74.1	77.5	81.3	82.0	85.1	88.7	91.0	93.2	95.3	97.2	99.1	101.3	101.7	101.9	100.8	101.4	103.3	85.6
D1	52.1	61.6	59.5	67.0	71.9	73.5	77.7	79.8	83.4	86.7	88.7	89.6	91.6	93.5	95.4	97.5	96.3	92.1	91.6	94.3	96.5	83.3
f1	51.1	59.6	58.8	65.0	69.9	72.0	76.1	77.7	81.2	84.6	86.7	88.0	90.0	91.9	93.8	95.9	95.2	91.6	91.1	93.6	95.7	81.7
22	45.9	51.0	45.5	53.7	56.9	60.9	64.4	66.2	70.8	73.6	76.6	77.8	80.3	82.3	84.8	86.8	85.3	77.6	73.3	76.4	78.8	69.8
D2	44.4	49.5	44.1	52.2	55.4	59.4	62.9	64.7	69.3	72.2	75.1	76.3	78.8	80.8	83.3	85.3	83.8	76.1	71.8	74.9	77.0	68.3
f2	42.1	47.2	41.7	49.9	53.1	57.0	60.6	62.4	67.0	69.8	72.8	74.0	76.5	78.5	80.9	83.0	81.5	73.8	69.5	72.6	74.8	65.9
33	47.0	47.0	48.2	46.3	46.3	48.9	51.4	53.7	56.3	58.8	61.2	63.7	66.9	68.3	69.9	71.4	73.0	74.5	76.2	77.9	79.5	59.2
D3	60.3	67.4	65.2	70.9	73.8	75.5	79.6	82.9	86.9	90.1	92.7	94.2	97.4	99.5	101.7	104.0	104.0	100.8	102.2	106.1	108.5	86.1
f3	46.8	46.9	48.1	46.3	46.3	48.9	51.4	53.7	56.3	58.8	61.2	63.7	66.9	68.3	69.8	71.4	73.0	74.5	76.1	77.8	79.5	59.2
44	36.2	48.6	41.2	43.3	49.5	54.5	59.8	65.7	72.5	79.8	86.4	93.1	98.9	103.5	105.7	108.8	109.4	108.9	110.0	112.9	115.3	61.9
D4	54.9	68.2	61.7	69.4	75.4	78.3	83.8	88.9	95.0	100.6	105.3	108.9	113.4	117.1	119.6	122.7	122.2	118.0	119.1	123.6	126.4	87.5
f4	36.2	48.5	41.2	43.3	49.5	54.5	59.8	65.7	72.5	79.8	86.4	93.0	98.7	103.3	105.5	108.6	109.2	108.4	109.5	112.5	115.0	61.9
tot	23.6	36.3	30.3	39.0	42.8	45.1	48.8	51.7	54.9	57.7	60.1	61.8	64.7	66.4	68.2	70.0	70.2	64.5	64.2	68.4	70.7	55.1

Airborne Sound per Element

tau	50	63	80	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000	DnT,w (0.5 s) +
d	24.0	37.4	31.1	43.6	48.8	48.9	54.0	57.6	62.2	65.5	67.5	67.4	69.7	71.9	74.0	76.4	74.1	65.6	66.1	71.4	74.0	60.2
f1	51.1	59.6	58.8	65.0	69.9	72.0	76.1	77.7	81.2	84.6	86.7	88.0	90.0	91.9	93.8	95.9	95.2	91.6	91.1	93.6	95.7	81.7
f2	42.1	47.2	41.7	49.9	53.1	57.0	60.6	62.4	67.0	69.8	72.8	74.0	76.5	78.5	80.9	83.0	81.5	73.8	69.5	72.6	74.8	65.9
f3	46.8	46.9	48.1	46.3	46.3	48.9	51.4	53.7	56.3	58.8	61.2	63.7	66.9	68.3	69.8	71.4	73.0	74.5	76.1	77.8	79.5	59.2
f4	36.2	48.5	41.2	43.3	49.5	54.5	59.8	65.7	72.5	79.8	86.4	93.0	98.7	103.3	105.5	108.6	109.2	108.4	109.5	112.5	115.0	61.9
tot	23.6	36.3	30.3	39.0	42.8	45.1	48.8	51.7	54.9	57.7	60.1	61.8	64.7	66.4	68.2	70.0	70.2	64.5	64.2	68.4	70.7	55.1

Resulting Diagram



DnT,w = 62
DnT,w + C = 60
DnT,w + Ctr = 55
DnT,w + C100-5000 = 61
DnT,w + Ctr,100-5000 = 55
DnT,w + C50-5000 = 58
DnT,w + Ctr,50-5000 = 46
DnT,w + C50-3150 = 57
DnT,w + Ctr,50-3150 = 46

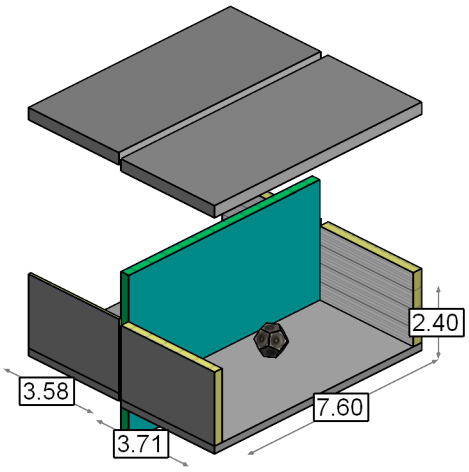
Project Info

Project Name:	Blyth Road
Client:	Bellway
Project No.:	4371
Remarks:	F27 KLD to F26 KLD
Editor:	PJS
Worksheet:	Worksheet 7 [DM Ts (1)]
Program:	BASTIAN V 2.3

Worksheet Configuration

Calculation Model:	DM Ts (1)
Perf. Param. Airborne Sound Transm. in Buildings:	DnT,w
Perf. Param. Impact Sound Transm. in Buildings:	L'nT,w + Ctr
Perf. Param. Outdoor Sound Transmission:	D2m,nT,w + Ctr
Reference Reverberation Time T0 (s):	0.5
f1: Surface mass m"4 (kg/m²):	200
f1: Outer leaf interrupted:	no
f2: Surface mass m"4 (kg/m²):	200
f2: Outer leaf interrupted:	no
f3: Surface mass m"4 (kg/m²):	200
f4: Surface mass m"4 (kg/m²):	200
Correction Sigma_free/Sigma_forced for Monolithic Flanking Elements:	off
Correction Sigma_free/Sigma_forced for Lightweight Flanking Elements:	off
Alpha_k-Limit, MIN (-):	-
Alpha_k-Limit, MAX (-):	-
Ts-Limit for Elements, MIN (dB):	-
Ts-Limit for Elements, MAX (dB):	-
R'45° - R' (dB):	1.0
R'tr,s - R' (dB):	0.0
Level Difference DeltaL_fs (dB):	-

Room View



Worksheet-Table

		Sending Room		Jur	Receiving Room		DnT,		L'nT,	
f	t	Basic Element	Additional Layer	Typ	Basic Element	Additional Layer	dB	%	dB	%
X	d	Siniat RSP 038 Twin Frame Wall (					7.	33		
X	1	100mm Brick, 100mm Void, 10mn		20	100mm Brick, 100mm Void, 10mn		8.	0		
X	2	Siniat RSP 038 Twin Frame Wall (		20	British Gypsum Gypwall Classic B		2.	9		
X	3	250mm In-situ Concrete (Insul 7.0		17	250mm In-situ Concrete (Insul 7.0		5.	52		
X	4	250mm In-situ Concrete (Insul 7.0	15mm Plasterboard, 150m	17	250mm In-situ Concrete (Insul 7.0	15mm Plasterboard, 150m	3.	7		
						Total:	2.	00		

Elements / Constructions

tau	Room	Element	Construction
d	SR	lightweight double wall, metal frar	Siniat RSP 038 Twin Frame Wall (corrected for 150mm Absorber)
f1	SR	facade, steel panel sections	100mm Brick, 100mm Void, 10mm CPB, 100mm METSEC, 2 x 12.5mm Wallboard, 100mm R
f1	RR	facade, steel panel sections	100mm Brick, 100mm Void, 10mm CPB, 100mm METSEC, 2 x 12.5mm Wallboard, 100mm R
f2	SR	lightweight double wall, metal frar	Siniat RSP 038 Twin Frame Wall (corrected for 150mm Absorber)
f2	RR	lightweight double wall, metal frar	British Gypsum Gypwall Classic BTC12227A
f3	SR	monolithic floor	250mm In-situ Concrete (Insul 7.0.13)
f3	RR	monolithic floor	250mm In-situ Concrete (Insul 7.0.13)
f4	SR	monolithic floor	250mm In-situ Concrete (Insul 7.0.13)
f4	SR	suspended ceiling	15mm Plasterboard, 150mm MF, 250mm Concrete - no absorber (Insul v7.0.13)
f4	RR	monolithic floor	250mm In-situ Concrete (Insul 7.0.13)
f4	RR	suspended ceiling	15mm Plasterboard, 150mm MF, 250mm Concrete - no absorber (Insul v7.0.13)

Geometry Data

Volume sending room (m³): 67.67
Volume receiving room (m³): 65.30

t	Room	Basic Element	a	b	S	lij
			(m)	(m)	(m²)	(m)
d		Siniat RSP 038 Twin Frame Wall (corrected for 150mm Absorber)	7.60	2.40	18.24	
f1	SR	100mm Brick, 100mm Void, 10mm CPB, 100mm METSEC, 2 x 12.5mm Wallboard, 100mm Rockwo	3.71	2.40	8.90	2.40
f1	RR	100mm Brick, 100mm Void, 10mm CPB, 100mm METSEC, 2 x 12.5mm Wallboard, 100mm Rockwo	3.58	2.40	8.59	2.40
f2	SR	Siniat RSP 038 Twin Frame Wall (corrected for 150mm Absorber)	3.71	2.40	8.90	2.40
f2	RR	British Gypsum Gypwall Classic BTC12227A	3.58	2.40	8.59	2.40
f3	SR	250mm In-situ Concrete (Insul 7.0.13)	3.71	7.60	28.20	7.60
f3	RR	250mm In-situ Concrete (Insul 7.0.13)	3.58	7.60	27.21	7.60
f4	SR	250mm In-situ Concrete (Insul 7.0.13)	3.71	7.60	28.20	7.60
f4	RR	250mm In-situ Concrete (Insul 7.0.13)	3.58	7.60	27.21	7.60

Input Data Elements

tau	Roor	X	50	63	80	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000	Xw
d	SR	R	23.4	36.9	30.5	43.1	48.3	48.4	53.5	57.1	61.7	65.0	67.0	66.9	69.2	71.4	73.5	75.9	73.6	65.1	65.6	70.9	73.5	66
f1	SR	R	31.4	37.6	40.6	43.6	48.8	52.5	56.6	57.7	61.1	65.0	67.7	70.2	72.6	74.8	77.1	79.6	80.3	80.9	80.1	81.0	83.3	69
f1	RR	R	31.4	37.6	40.6	43.6	48.8	52.5	56.6	57.7	61.1	65.0	67.7	70.2	72.6	74.8	77.1	79.6	80.3	80.9	80.1	81.0	83.3	69
f2	SR	R	23.4	36.9	30.5	43.1	48.3	48.4	53.5	57.1	61.7	65.0	67.0	66.9	69.2	71.4	73.5	75.9	73.6	65.1	65.6	70.9	73.5	66
f2	RR	R	17.0	14.4	10.6	14.9	16.8	25.3	28.0	28.6	33.9	36.9	41.5	44.6	48.0	50.4	53.9	56.3	56.3	50.0	41.6	43.1	45.3	40
f3	SR	R	44.2	44.2	45.6	43.7	43.6	46.3	48.8	51.2	53.8	56.4	58.9	61.4	64.7	66.2	67.8	69.4	71.0	72.5	74.1	75.8	77.4	62
f3	RR	R	44.2	44.2	45.6	43.7	43.6	46.3	48.8	51.2	53.8	56.4	58.9	61.4	64.7	66.2	67.8	69.4	71.0	72.5	74.1	75.8	77.4	62
f4	SR	R	44.2	44.2	45.6	43.7	43.6	46.3	48.8	51.2	53.8	56.4	58.9	61.4	64.7	66.2	67.8	69.4	71.0	72.5	74.1	75.8	77.4	62
f4	SR	Delta	-5.4	0.8	-3.5	-1.5	1.6	2.8	4.2	6.0	8.1	10.5	12.6	14.7	16.0	17.6	17.9	18.7	18.2	17.2	16.9	17.5	17.9	15
f4	RR	R	44.2	44.2	45.6	43.7	43.6	46.3	48.8	51.2	53.8	56.4	58.9	61.4	64.7	66.2	67.8	69.4	71.0	72.5	74.1	75.8	77.4	62
f4	RR	Delta	-5.4	0.8	-3.5	-1.5	1.6	2.8	4.2	6.0	8.1	10.5	12.6	14.7	16.0	17.6	17.9	18.7	18.2	17.2	16.9	17.5	17.9	15

Structural Reverb. Time, lab (s)

tau	Room	50	63	80	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000
f3	SR	0.838	0.727	0.617	0.534	0.495	0.435	0.381	0.332	0.289	0.251	0.217	0.187	0.161	0.138	0.118	0.100	0.085	0.072	0.060	0.051	0.042
f3	RR	0.838	0.727	0.617	0.534	0.495	0.435	0.381	0.332	0.289	0.251	0.217	0.187	0.161	0.138	0.118	0.100	0.085	0.072	0.060	0.051	0.042
f4	SR	0.838	0.727	0.617	0.534	0.495	0.435	0.381	0.332	0.289	0.251	0.217	0.187	0.161	0.138	0.118	0.100	0.085	0.072	0.060	0.051	0.042
f4	RR	0.838	0.727	0.617	0.534	0.495	0.435	0.381	0.332	0.289	0.251	0.217	0.187	0.161	0.138	0.118	0.100	0.085	0.072	0.060	0.051	0.042

Structural Reverb. Time, situ (s)

tau	Room	50	63	80	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000
f3	SR	0.332	0.293	0.256	0.225	0.204	0.180	0.160	0.141	0.124	0.110	0.096	0.085	0.074	0.065	0.057	0.049	0.043	0.037	0.032	0.028	0.024
f3	RR	0.325	0.287	0.251	0.220	0.199	0.177	0.156	0.138	0.122	0.107	0.094	0.083	0.073	0.064	0.056	0.048	0.042	0.037	0.032	0.027	0.023
f4	SR	0.332	0.293	0.256	0.225	0.204	0.180	0.160	0.141	0.124	0.110	0.096	0.085	0.074	0.065	0.057	0.049	0.043	0.037	0.032	0.028	0.024
f4	RR	0.325	0.287	0.251	0.220	0.199	0.177	0.156	0.138	0.122	0.107	0.094	0.083	0.073	0.064	0.056	0.048	0.042	0.037	0.032	0.027	0.023

In-Situ-Data Elements

tau	Room	X	50	63	80	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000	Xw
d	SR	R	23.4	36.9	30.5	43.1	48.3	48.4	53.5	57.1	61.7	65.0	67.0	66.9	69.2	71.4	73.5	75.9	73.6	65.1	65.6	70.9	73.5	66
f1	SR	R	31.4	37.6	40.6	43.6	48.8	52.5	56.6	57.7	61.1	65.0	67.7	70.2	72.6	74.8	77.1	79.6	80.3	80.9	80.1	81.0	83.3	69
f1	RR	R	31.4	37.6	40.6	43.6	48.8	52.5	56.6	57.7	61.1	65.0	67.7	70.2	72.6	74.8	77.1	79.6	80.3	80.9	80.1	81.0	83.3	69
f2	SR	R	23.4	36.9	30.5	43.1	48.3	48.4	53.5	57.1	61.7	65.0	67.0	66.9	69.2	71.4	73.5	75.9	73.6	65.1	65.6	70.9	73.5	66
f2	RR	R	17.0	14.4	10.6	14.9	16.8	25.3	28.0	28.6	33.9	36.9	41.5	44.6	48.0	50.4	53.9	56.3	56.3	50.0	41.6	43.1	45.3	40
f3	SR	R	48.2	48.1	49.4	47.5	47.5	50.1	52.6	54.9	57.5	60.0	62.4	64.8	68.1	69.5	71.0	72.5	74.0	75.3	76.8	78.4	79.9	66
f3	RR	R	48.3	48.2	49.5	47.6	47.5	50.2	52.7	55.0	57.6	60.1	62.5	64.9	68.1	69.6	71.1	72.5	74.0	75.4	76.9	78.5	80.0	66
f4	SR	R	48.2	48.1	49.4	47.5	47.5	50.1	52.6	54.9	57.5	60.0	62.4	64.8	68.1	69.5	71.0	72.5	74.0	75.3	76.8	78.4	79.9	66
f4	SR	Delta	-5.4	0.8	-3.5	-1.5	1.6	2.8	4.2	6.0	8.1	10.5	12.6	14.7	16.0	17.6	17.9	18.7	18.2	17.2	16.9	17.5	17.9	15
f4	RR	R	48.3	48.2	49.5	47.6	47.5	50.2	52.7	55.0	57.6	60.1	62.5	64.9	68.1	69.6	71.1	72.5	74.0	75.4	76.9	78.5	80.0	66
f4	RR	Delta	-5.4	0.8	-3.5	-1.5	1.6	2.8	4.2	6.0	8.1	10.5	12.6	14.7	16.0	17.6	17.9	18.7	18.2	17.2	16.9	17.5	17.9	15

Junction Type

Flank	Junction	mi	mi_	M	E1	t1	f1	a
f1	Type 20 (T-junction, double leaf lightweight elements, continuous separating element)	16	25	0.20				
f2	Type 20 (T-junction, double leaf lightweight elements, continuous separating element)	18	25	0.15				
f3	Type 17 (Cross-junction, double leaf lightweight separat. / single leaf flank. element, continuous	585	25	-1.37				
f4	Type 17 (Cross-junction, double leaf lightweight separat. / single leaf flank. element, continuous	585	25	-1.37				

Vibration Reduction Index Kij

Flank	Path	50	63	80	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000
f1	Ff	17.2	16.9	16.6	16.3	15.9	15.6	15.3	14.9	14.6	14.3	13.9	13.6	13.3	13.0	12.6	12.3	12.0	11.6	11.3	11.0	10.6
f1	Fd	15.3	14.9	14.6	14.3	14.0	13.6	13.3	13.0	12.6	12.3	12.0	11.6	11.3	11.0	10.7	10.3	10.0	9.7	9.3	9.0	8.7
f1	Df	15.3	14.9	14.6	14.3	14.0	13.6	13.3	13.0	12.6	12.3	12.0	11.6	11.3	11.0	10.7	10.3	10.0	9.7	9.3	9.0	8.7
f2	Ff	16.3	15.9	15.6	15.3	15.0	14.6	14.3	14.0	13.6	13.3	13.0	12.6	12.3	12.0	11.7	11.3	11.0	10.7	10.3	10.0	10.0
f2	Fd	14.8	14.5	14.1	13.8	13.5	13.1	12.8	12.5	12.1	11.8	11.5	11.2	10.8	10.5	10.2	9.8	9.5	9.2	8.8	8.5	8.2
f2	Df	14.8	14.5	14.1	13.8	13.5	13.1	12.8	12.5	12.1	11.8	11.5	11.2	10.8	10.5	10.2	9.8	9.5	9.2	8.8	8.5	8.2
f3	Ff	-5.6	-5.6	-5.6	-5.6	-5.6	-5.6	-5.6	-5.6	-5.6	-5.6	-5.6	-5.6	-5.6	-5.6	-5.6	-5.6	-5.6	-5.6	-5.6	-5.6	-5.6
f3	Fd	20.4	20.7	21.0	21.4	21.7	22.0	22.3	22.7	23.0	23.3	23.7	24.0	24.3	24.7	25.0	25.3	25.6	26.0	26.3	26.6	27.0
f3	Df	20.4	20.7	21.0	21.4	21.7	22.0	22.3	22.7	23.0	23.3	23.7	24.0	24.3	24.7	25.0	25.3	25.6	26.0	26.3	26.6	27.0
f4	Ff	-5.6	-5.6	-5.6	-5.6	-5.6	-5.6	-5.6	-5.6	-5.6	-5.6	-5.6	-5.6	-5.6	-5.6	-5.6	-5.6	-5.6	-5.6	-5.6	-5.6	-5.6
f4	Fd	20.4	20.7	21.0	21.4	21.7	22.0	22.3	22.7	23.0	23.3	23.7	24.0	24.3	24.7	25.0	25.3	25.6	26.0	26.3	26.6	27.0
f4	Df	20.4	20.7	21.0	21.4	21.7	22.0	22.3	22.7	23.0	23.3	23.7	24.0	24.3	24.7	25.0	25.3	25.6	26.0	26.3	26.6	27.0

Velocity Level Difference Dv,ij,situ

Flank	Path	50	63	80	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000
f1	Ff	22.9	22.5	22.2	21.9	21.5	21.2	20.9	20.6	20.2	19.9	19.6	19.2	18.9	18.6	18.2	17.9	17.6	17.3	16.9	16.6	16.3
f1	Fd	22.5	22.2	21.9	21.5	21.2	20.9	20.5	20.2	19.9	19.5	19.2	18.9	18.6	18.2	17.9	17.6	17.2	16.9	16.6	16.2	15.9
f1	Df	22.4	22.1	21.8	21.5	21.1	20.8	20.5	20.1	19.8	19.5	19.1	18.8	18.5	18.2	17.8	17.5	17.2	16.8	16.5	16.2	15.8
f2	Ff	21.9	21.6	21.2	20.9	20.6	20.2	19.9	19.6	19.2	18.9	18.6	18.3	17.9	17.6	17.3	16.9	16.6	16.3	15.9	15.6	15.6
f2	Fd	22.0	21.7	21.4	21.0	20.7	20.4	20.0	19.7	19.4	19.1	18.7	18.4	18.1	17.7	17.4	17.1	16.7	16.4	16.1	15.8	15.4
f2	Df	22.0	21.6	21.3	21.0	20.6	20.3	20.0	19.7	19.3	19.0	18.7	18.3	18.0	17.7	17.3	17.0	16.7	16.4	16.0	15.7	15.4
f3	Ff	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.3	0.4	0.5	0.6	0.8
f3	Fd	24.8	25.1	25.5	25.9	26.2	26.5	26.8	27.2	27.5	27.9	28.3	28.6	29.0	29.4	29.7	30.1	30.5	30.9	31.3	31.7	32.1
f3	Df	24.7	25.1	25.5	25.8	26.1	26.5	26.8	27.2	27.5	27.9	28.2	28.6	29.0	29.3	29.7	30.1	30.5	30.9	31.2	31.6	32.1
f4	Ff	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.3	0.4	0.5	0.6	0.8
f4	Fd	24.8	25.1	25.5	25.9	26.2	26.5	26.8	27.2	27.5	27.9	28.3	28.6	29.0	29.4	29.7	30.1	30.5	30.9	31.3	31.7	32.1
f4	Df	24.7	25.1	25.5	25.8	26.1	26.5	26.8	27.2	27.5	27.9	28.2	28.6	29.0	29.3	29.7	30.1	30.5	30.9	31.2	31.6	32.1

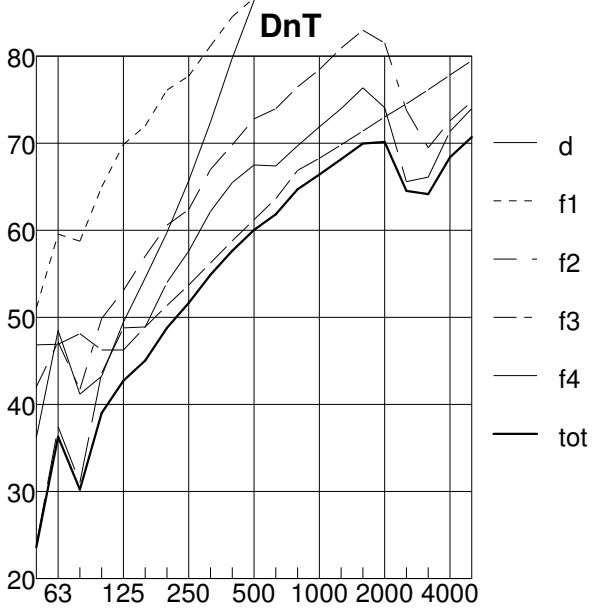
Sound Reduction per Path

Path	50	63	80	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000	DnT,w (0.5
Dd	24.0	37.5	31.1	43.7	48.9	49.0	54.1	57.7	62.3	65.6	67.6	67.5	69.8	72.0	74.1	76.5	74.2	65.7	66.2	71.5	74.1	67.3
1d	52.1	61.6	59.5	67.0	71.9	73.5	77.7	79.8	83.4	86.7	88.7	89.6	91.6	93.5	95.4	97.5	96.3	92.1	91.6	94.3	96.5	90.3
2d	47.6	60.8	54.0	66.3	71.2	70.9	75.7	79.0	83.2	86.2	87.9	87.5	89.4	91.3	93.1	95.1	92.5	83.7	83.8	88.8	91.1	87.9
3d	60.2	67.3	65.1	70.8	73.7	75.4	79.5	82.9	86.8	90.0	92.6	94.1	97.3	99.4	101.6	103.9	103.9	100.8	102.1	106.0	108.4	94.0
4d	54.8	68.1	61.6	69.3	75.3	78.2	83.7	88.9	94.9	100.5	105.2	108.8	113.3	117.0	119.5	122.6	122.1	118.0	119.0	123.5	126.3	98.4
d	24.0	37.4	31.1	43.6	48.8	48.9	54.0	57.6	62.2	65.5	67.5	67.4	69.7	71.9	74.0	76.4	74.1	65.6	66.1	71.4	74.0	67.2
11	58.0	63.9	66.6	69.3	74.1	77.5	81.3	82.0	85.1	88.7	91.0	93.2	95.3	97.2	99.1	101.3	101.7	101.9	100.8	101.4	103.3	93.6
D1	52.1	61.6	59.5	67.0	71.9	73.5	77.7	79.8	83.4	86.7	88.7	89.6	91.6	93.5	95.4	97.5	96.3	92.1	91.6	94.3	96.5	90.3
f1	51.1	59.6	58.8	65.0	69.9	72.0	76.1	77.7	81.2	84.6	86.7	88.0	90.0	91.9	93.8	95.9	95.2	91.6	91.1	93.6	95.7	88.7
22	45.9	51.0	45.5	53.7	56.9	60.9	64.4	66.2	70.8	73.6	76.6	77.8	80.3	82.3	84.8	86.8	85.3	77.6	73.3	76.4	78.8	76.8
D2	44.4	49.5	44.1	52.2	55.4	59.4	62.9	64.7	69.3	72.2	75.1	76.3	78.8	80.8	83.3	85.3	83.8	76.1	71.8	74.9	77.0	75.3
f2	42.1	47.2	41.7	49.9	53.1	57.0	60.6	62.4	67.0	69.8	72.8	74.0	76.5	78.5	80.9	83.0	81.5	73.8	69.5	72.6	74.8	72.9
33	47.0	47.0	48.2	46.3	46.3	48.9	51.4	53.7	56.3	58.8	61.2	63.7	66.9	68.3	69.9	71.4	73.0	74.5	76.2	77.9	79.5	65.2
D3	60.3	67.4	65.2	70.9	73.8	75.5	79.6	82.9	86.9	90.1	92.7	94.2	97.4	99.5	101.7	104.0	104.0	100.8	102.2	106.1	108.5	94.1
f3	46.8	46.9	48.1	46.3	46.3	48.9	51.4	53.7	56.3	58.8	61.2	63.7	66.9	68.3	69.8	71.4	73.0	74.5	76.1	77.8	79.5	65.2
44	36.2	48.6	41.2	43.3	49.5	54.5	59.8	65.7	72.5	79.8	86.4	93.1	98.9	103.5	105.7	108.8	109.4	108.9	110.0	112.9	115.3	73.9
D4	54.9	68.2	61.7	69.4	75.4	78.3	83.8	88.9	95.0	100.6	105.3	108.9	113.4	117.1	119.6	122.7	122.2	118.0	119.1	123.6	126.4	98.5
f4	36.2	48.5	41.2	43.3	49.5	54.5	59.8	65.7	72.5	79.8	86.4	93.0	98.7	103.3	105.5	108.6	109.2	108.4	109.5	112.5	115.0	73.9
tot	23.6	36.3	30.3	39.0	42.8	45.1	48.8	51.7	54.9	57.7	60.1	61.8	64.7	66.4	68.2	70.0	70.2	64.5	64.2	68.4	70.7	62.1

Airborne Sound per Element

tau	50	63	80	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000	DnT,w (0.5
d	24.0	37.4	31.1	43.6	48.8	48.9	54.0	57.6	62.2	65.5	67.5	67.4	69.7	71.9	74.0	76.4	74.1	65.6	66.1	71.4	74.0	67.2
f1	51.1	59.6	58.8	65.0	69.9	72.0	76.1	77.7	81.2	84.6	86.7	88.0	90.0	91.9	93.8	95.9	95.2	91.6	91.1	93.6	95.7	88.7
f2	42.1	47.2	41.7	49.9	53.1	57.0	60.6	62.4	67.0	69.8	72.8	74.0	76.5	78.5	80.9	83.0	81.5	73.8	69.5	72.6	74.8	72.9
f3	46.8	46.9	48.1	46.3	46.3	48.9	51.4	53.7	56.3	58.8	61.2	63.7	66.9	68.3	69.8	71.4	73.0	74.5	76.1	77.8	79.5	65.2
f4	36.2	48.5	41.2	43.3	49.5	54.5	59.8	65.7	72.5	79.8	86.4	93.0	98.7	103.3	105.5	108.6	109.2	108.4	109.5	112.5	115.0	73.9
tot	23.6	36.3	30.3	39.0	42.8	45.1	48.8	51.7	54.9	57.7	60.1	61.8	64.7	66.4	68.2	70.0	70.2	64.5	64.2	68.4	70.7	62.1

Resulting Diagram



DnT,w = 62
DnT,w + C = 60
DnT,w + Ctr = 55
DnT,w + C100-5000 = 61
DnT,w + Ctr,100-5000 = 55
DnT,w + C50-5000 = 58
DnT,w + Ctr,50-5000 = 46
DnT,w + C50-3150 = 57
DnT,w + Ctr,50-3150 = 46

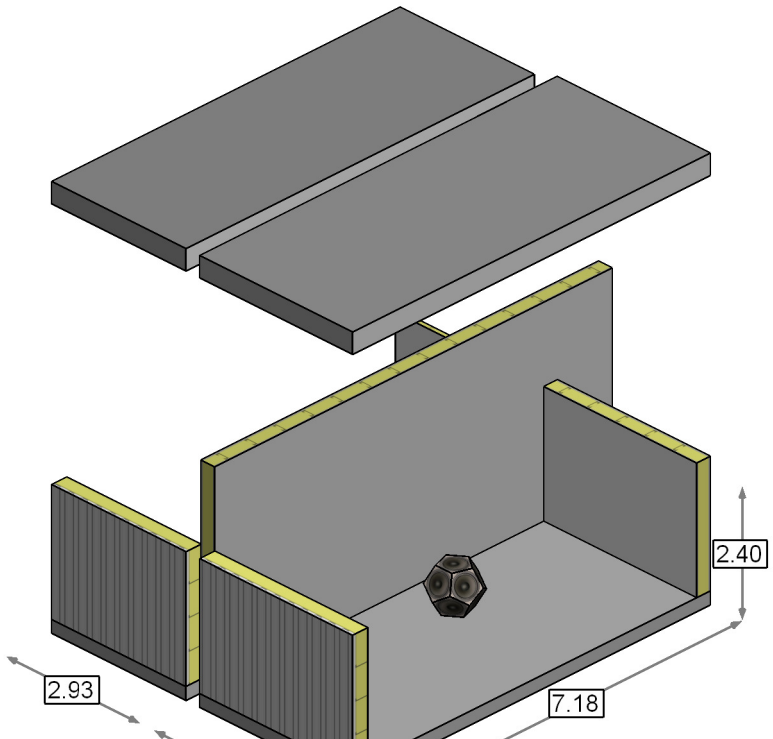
Project Info

Project Name:	Blyth Road
Client:	Bellway
Project No.:	4371
Remarks:	F33 KLD to F27 Bed 1
Editor:	PJS
Worksheet:	Copy of Copy of Worksheet 5 [DM Ts (1)]
Program:	BASTIAN V 2.3

Worksheet Configuration

Calculation Model:	DM Ts (1)
Perf. Param. Airborne Sound Transm. in Buildings:	DnT,w + Ctr
Perf. Param. Impact Sound Transm. in Buildings:	L'nT,w + Ctr
Perf. Param. Outdoor Sound Transmission:	D2m,nT,w + Ctr
Reference Reverberation Time T0 (s):	0.5
f1: Surface mass m"4 (kg/m²):	200
f1: Outer leaf interrupted:	no
f2: Surface mass m"4 (kg/m²):	200
f2: Outer leaf interrupted:	no
f3: Surface mass m"4 (kg/m²):	200
f4: Surface mass m"4 (kg/m²):	200
Correction Sigma_free/Sigma_forced for Monolithic Flanking Elements:	off
Correction Sigma_free/Sigma_forced for Lightweight Flanking Elements:	off
Alpha_k-Limit, MIN (-):	-
Alpha_k-Limit, MAX (-):	-
Ts-Limit for Elements, MIN (dB):	-
Ts-Limit for Elements, MAX (dB):	-
R'45° - R' (dB):	1.0
R'tr,s - R' (dB):	0.0
Level Difference DeltaL_fs (dB):	-

Room View



Worksheet-Table

		Sending Room		Jur	Receiving Room		DnT,w		L'nT,	
I	t	Basic Element	Additional Layer	Typ	Basic Element	Additional Layer	dB	%	dB	%
X	d	Siniat RSP 038 Twin Frame Wall					59.3	42		
X	f1	Siniat RSP 038 Twin Frame Wall		19	British Gypsum Gypwall Classic B		54.8	12		
X	f2	100mm Brick, 100mm Void, 10mr		20	100mm Brick, 100mm Void, 10mr		30.6	0		
X	f3	250mm In-situ Concrete (Insul 7.0		2	250mm In-situ Concrete (Insul 7.0		61.6	25		
X	f4	250mm In-situ Concrete (Insul 7.0	15mm Plasterboard, 150m	17	250mm In-situ Concrete (Insul 7.0	15mm Plasterboard, 150m	52.2	21		
						Total:	55.6	100		

Elements / Constructions

tau	Room	Element	Construction
d	SR	lightweight double wall, metal frar	Siniat RSP 038 Twin Frame Wall (corrected for 150mm Absorber)
f1	SR	lightweight double wall, metal frar	Siniat RSP 038 Twin Frame Wall (corrected for 150mm Absorber)
f1	RR	lightweight double wall, metal frar	British Gypsum Gypwall Classic BTC12227A
f2	SR	facade, steel panel sections	100mm Brick, 100mm Void, 10mm CPB, 100mm METSEC, 2 x 12.5mm Wallboard, 100mm R
f2	RR	facade, steel panel sections	100mm Brick, 100mm Void, 10mm CPB, 100mm METSEC, 2 x 12.5mm Wallboard, 100mm R
f3	SR	monolithic floor	250mm In-situ Concrete (Insul 7.0.13)
f3	RR	monolithic floor	250mm In-situ Concrete (Insul 7.0.13)
f4	SR	monolithic floor	250mm In-situ Concrete (Insul 7.0.13)
f4	SR	suspended ceiling	15mm Plasterboard, 150mm MF, 250mm Concrete - no absorber (Insul v7.0.13)
f4	RR	monolithic floor	250mm In-situ Concrete (Insul 7.0.13)
f4	RR	suspended ceiling	15mm Plasterboard, 150mm MF, 250mm Concrete - no absorber (Insul v7.0.13)

Geometry Data

Volume sending room (m³): 57.55
Volume receiving room (m³): 50.49

t	Room	Basic Element	a	b	S	lij
			(m)	(m)	(m²)	(m)
d		Siniat RSP 038 Twin Frame Wall (corrected for 150mm Absorber)	7.18	2.40	17.23	
f1	SR	Siniat RSP 038 Twin Frame Wall (corrected for 150mm Absorber)	3.34	2.40	8.02	2.40
f1	RR	British Gypsum Gypwall Classic BTC12227A	2.93	2.40	7.03	2.40
f2	SR	100mm Brick, 100mm Void, 10mm CPB, 100mm METSEC, 2 x 12.5mm Wallboard, 100mm Rockwo	3.34	2.40	8.02	2.40
f2	RR	100mm Brick, 100mm Void, 10mm CPB, 100mm METSEC, 2 x 12.5mm Wallboard, 100mm Rockwo	2.93	2.40	7.03	2.40
f3	SR	250mm In-situ Concrete (Insul 7.0.13)	3.34	7.18	23.98	7.18
f3	RR	250mm In-situ Concrete (Insul 7.0.13)	2.93	7.18	21.04	7.18
f4	SR	250mm In-situ Concrete (Insul 7.0.13)	3.34	7.18	23.98	7.18
f4	RR	250mm In-situ Concrete (Insul 7.0.13)	2.93	7.18	21.04	7.18

Input Data Elements

tau	Roor	X	50	63	80	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000	Xw
d	SR	R	23.4	36.9	30.5	43.1	48.3	48.4	53.5	57.1	61.7	65.0	67.0	66.9	69.2	71.4	73.5	75.9	73.6	65.1	65.6	70.9	73.5	66
f1	SR	R	23.4	36.9	30.5	43.1	48.3	48.4	53.5	57.1	61.7	65.0	67.0	66.9	69.2	71.4	73.5	75.9	73.6	65.1	65.6	70.9	73.5	66
f1	RR	R	17.0	14.4	10.6	14.9	16.8	25.3	28.0	28.6	33.9	36.9	41.5	44.6	48.0	50.4	53.9	56.3	56.3	50.0	41.6	43.1	45.3	40
f2	SR	R	31.4	37.6	40.6	43.6	48.8	52.5	56.6	57.7	61.1	65.0	67.7	70.2	72.6	74.8	77.1	79.6	80.3	80.9	80.1	81.0	83.3	69
f2	RR	R	31.4	37.6	40.6	43.6	48.8	52.5	56.6	57.7	61.1	65.0	67.7	70.2	72.6	74.8	77.1	79.6	80.3	80.9	80.1	81.0	83.3	69
f3	SR	R	44.2	44.2	45.6	43.7	43.6	46.3	48.8	51.2	53.8	56.4	58.9	61.4	64.7	66.2	67.8	69.4	71.0	72.5	74.1	75.8	77.4	62
f3	RR	R	44.2	44.2	45.6	43.7	43.6	46.3	48.8	51.2	53.8	56.4	58.9	61.4	64.7	66.2	67.8	69.4	71.0	72.5	74.1	75.8	77.4	62
f4	SR	R	44.2	44.2	45.6	43.7	43.6	46.3	48.8	51.2	53.8	56.4	58.9	61.4	64.7	66.2	67.8	69.4	71.0	72.5	74.1	75.8	77.4	62
f4	SR	Delta	-5.4	0.8	-3.5	-1.5	1.6	2.8	4.2	6.0	8.1	10.5	12.6	14.7	16.0	17.6	17.9	18.7	18.2	17.2	16.9	17.5	17.9	15
f4	RR	R	44.2	44.2	45.6	43.7	43.6	46.3	48.8	51.2	53.8	56.4	58.9	61.4	64.7	66.2	67.8	69.4	71.0	72.5	74.1	75.8	77.4	62
f4	RR	Delta	-5.4	0.8	-3.5	-1.5	1.6	2.8	4.2	6.0	8.1	10.5	12.6	14.7	16.0	17.6	17.9	18.7	18.2	17.2	16.9	17.5	17.9	15

Structural Reverb. Time, lab (s)

tau	Room	50	63	80	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000
f3	SR	0.838	0.727	0.617	0.534	0.495	0.435	0.381	0.332	0.289	0.251	0.217	0.187	0.161	0.138	0.118	0.100	0.085	0.072	0.060	0.051	0.042
f3	RR	0.838	0.727	0.617	0.534	0.495	0.435	0.381	0.332	0.289	0.251	0.217	0.187	0.161	0.138	0.118	0.100	0.085	0.072	0.060	0.051	0.042
f4	SR	0.838	0.727	0.617	0.534	0.495	0.435	0.381	0.332	0.289	0.251	0.217	0.187	0.161	0.138	0.118	0.100	0.085	0.072	0.060	0.051	0.042
f4	RR	0.838	0.727	0.617	0.534	0.495	0.435	0.381	0.332	0.289	0.251	0.217	0.187	0.161	0.138	0.118	0.100	0.085	0.072	0.060	0.051	0.042

Structural Reverb. Time, situ (s)

tau	Room	50	63	80	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000
f3	SR	0.305	0.269	0.236	0.208	0.188	0.167	0.147	0.130	0.115	0.101	0.089	0.079	0.069	0.060	0.053	0.046	0.040	0.035	0.030	0.026	0.022
f3	RR	0.280	0.247	0.216	0.191	0.173	0.153	0.136	0.120	0.106	0.094	0.082	0.073	0.064	0.056	0.049	0.043	0.037	0.032	0.028	0.024	0.021
f4	SR	0.305	0.269	0.236	0.208	0.188	0.167	0.147	0.130	0.115	0.101	0.089	0.079	0.069	0.060	0.053	0.046	0.040	0.035	0.030	0.026	0.022
f4	RR	0.280	0.247	0.216	0.191	0.173	0.153	0.136	0.120	0.106	0.094	0.082	0.073	0.064	0.056	0.049	0.043	0.037	0.032	0.028	0.024	0.021

In-Situ-Data Elements

tau	Room	X	50	63	80	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000	Xw
d	SR	R	23.4	36.9	30.5	43.1	48.3	48.4	53.5	57.1	61.7	65.0	67.0	66.9	69.2	71.4	73.5	75.9	73.6	65.1	65.6	70.9	73.5	66
f1	SR	R	23.4	36.9	30.5	43.1	48.3	48.4	53.5	57.1	61.7	65.0	67.0	66.9	69.2	71.4	73.5	75.9	73.6	65.1	65.6	70.9	73.5	66
f1	RR	R	17.0	14.4	10.6	14.9	16.8	25.3	28.0	28.6	33.9	36.9	41.5	44.6	48.0	50.4	53.9	56.3	56.3	50.0	41.6	43.1	45.3	40
f2	SR	R	31.4	37.6	40.6	43.6	48.8	52.5	56.6	57.7	61.1	65.0	67.7	70.2	72.6	74.8	77.1	79.6	80.3	80.9	80.1	81.0	83.3	69
f2	RR	R	31.4	37.6	40.6	43.6	48.8	52.5	56.6	57.7	61.1	65.0	67.7	70.2	72.6	74.8	77.1	79.6	80.3	80.9	80.1	81.0	83.3	69
f3	SR	R	48.6	48.5	49.8	47.8	47.8	50.5	52.9	55.3	57.8	60.3	62.8	65.2	68.4	69.8	71.3	72.8	74.3	75.6	77.1	78.7	80.1	66
f3	RR	R	49.0	48.9	50.2	48.2	48.2	50.8	53.3	55.6	58.2	60.7	63.1	65.5	68.7	70.1	71.6	73.1	74.6	75.9	77.4	79.0	80.4	67
f4	SR	R	48.6	48.5	49.8	47.8	47.8	50.5	52.9	55.3	57.8	60.3	62.8	65.2	68.4	69.8	71.3	72.8	74.3	75.6	77.1	78.7	80.1	66
f4	SR	Delta	-5.4	0.8	-3.5	-1.5	1.6	2.8	4.2	6.0	8.1	10.5	12.6	14.7	16.0	17.6	17.9	18.7	18.2	17.2	16.9	17.5	17.9	15
f4	RR	R	49.0	48.9	50.2	48.2	48.2	50.8	53.3	55.6	58.2	60.7	63.1	65.5	68.7	70.1	71.6	73.1	74.6	75.9	77.4	79.0	80.4	67
f4	RR	Delta	-5.4	0.8	-3.5	-1.5	1.6	2.8	4.2	6.0	8.1	10.5	12.6	14.7	16.0	17.6	17.9	18.7	18.2	17.2	16.9	17.5	17.9	15

Junction Type

Flank	Junction	mi	mi_	M	E1	t1	f1	a
f1	Type 19 (Cross-junction, double leaf lightweight elements, continuous separating element)	18	25	0.15				
f2	Type 20 (T-junction, double leaf lightweight elements, continuous separating element)	16	25	0.20				
f3	Type 2 (Rigid T-junction)	585	25	-1.37				
f4	Type 17 (Cross-junction, double leaf lightweight separat. / single leaf flank. element, continuous	585	25	-1.37				

Vibration Reduction Index Kij

Flank	Path	50	63	80	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000
f1	Ff	16.3	15.9	15.6	15.3	15.0	14.6	14.3	14.0	13.6	13.3	13.0	12.6	12.3	12.0	11.7	11.3	11.0	10.7	10.3	10.0	10.0
f1	Fd	14.8	14.5	14.1	13.8	13.5	13.1	12.8	12.5	12.1	11.8	11.5	11.2	10.8	10.5	10.2	9.8	9.5	9.2	8.8	8.5	8.2
f1	Df	14.8	14.5	14.1	13.8	13.5	13.1	12.8	12.5	12.1	11.8	11.5	11.2	10.8	10.5	10.2	9.8	9.5	9.2	8.8	8.5	8.2
f2	Ff	17.2	16.9	16.6	16.3	15.9	15.6	15.3	14.9	14.6	14.3	13.9	13.6	13.3	13.0	12.6	12.3	12.0	11.6	11.3	11.0	10.6
f2	Fd	15.3	14.9	14.6	14.3	14.0	13.6	13.3	13.0	12.6	12.3	12.0	11.6	11.3	11.0	10.7	10.3	10.0	9.7	9.3	9.0	8.7
f2	Df	15.3	14.9	14.6	14.3	14.0	13.6	13.3	13.0	12.6	12.3	12.0	11.6	11.3	11.0	10.7	10.3	10.0	9.7	9.3	9.0	8.7
f3	Ff	-2.9	-2.9	-2.9	-2.9	-2.9	-2.9	-2.9	-2.9	-2.9	-2.9	-2.9	-2.9	-2.9	-2.9	-2.9	-2.9	-2.9	-2.9	-2.9	-2.9	-2.9
f3	Fd	16.3	16.3	16.3	16.3	16.3	16.3	16.3	16.3	16.3	16.3	16.3	16.3	16.3	16.3	16.3	16.3	16.3	16.3	16.3	16.3	16.3
f3	Df	16.3	16.3	16.3	16.3	16.3	16.3	16.3	16.3	16.3	16.3	16.3	16.3	16.3	16.3	16.3	16.3	16.3	16.3	16.3	16.3	16.3
f4	Ff	-5.6	-5.6	-5.6	-5.6	-5.6	-5.6	-5.6	-5.6	-5.6	-5.6	-5.6	-5.6	-5.6	-5.6	-5.6	-5.6	-5.6	-5.6	-5.6	-5.6	-5.6
f4	Fd	20.4	20.7	21.0	21.4	21.7	22.0	22.3	22.7	23.0	23.3	23.7	24.0	24.3	24.7	25.0	25.3	25.6	26.0	26.3	26.6	27.0
f4	Df	20.4	20.7	21.0	21.4	21.7	22.0	22.3	22.7	23.0	23.3	23.7	24.0	24.3	24.7	25.0	25.3	25.6	26.0	26.3	26.6	27.0

Velocity Level Difference Dv,ij,situ

Flank	Path	50	63	80	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000
f1	Ff	21.2	20.9	20.6	20.2	19.9	19.6	19.2	18.9	18.6	18.2	17.9	17.6	17.3	16.9	16.6	16.3	15.9	15.6	15.3	15.0	15.0
f1	Fd	21.7	21.4	21.0	20.7	20.4	20.0	19.7	19.4	19.0	18.7	18.4	18.1	17.7	17.4	17.1	16.7	16.4	16.1	15.7	15.4	15.1
f1	Df	21.4	21.1	20.7	20.4	20.1	19.7	19.4	19.1	18.8	18.4	18.1	17.8	17.4	17.1	16.8	16.4	16.1	15.8	15.5	15.1	14.8
f2	Ff	22.2	21.9	21.5	21.2	20.9	20.5	20.2	19.9	19.6	19.2	18.9	18.6	18.2	17.9	17.6	17.2	16.9	16.6	16.3	15.9	15.6
f2	Fd	22.2	21.8	21.5	21.2	20.9	20.5	20.2	19.9	19.5	19.2	18.9	18.5	18.2	17.9	17.6	17.2	16.9	16.6	16.2	15.9	15.6
f2	Df	21.9	21.6	21.2	20.9	20.6	20.2	19.9	19.6	19.2	18.9	18.6	18.3	17.9	17.6	17.3	16.9	16.6	16.3	15.9	15.6	15.3
f3	Ff	1.9	2.0	2.0	2.1	2.0	2.0	2.1	2.1	2.2	2.2	2.2	2.3	2.4	2.4	2.5	2.6	2.7	2.8	2.9	3.1	3.2
f3	Fd	20.7	20.7	20.8	20.8	20.8	20.8	20.8	20.8	20.8	20.8	20.9	20.9	20.9	21.0	21.0	21.1	21.1	21.2	21.2	21.3	21.4
f3	Df	20.6	20.6	20.7	20.7	20.7	20.7	20.7	20.7	20.7	20.7	20.8	20.8	20.8	20.9	20.9	20.9	21.0	21.0	21.1	21.2	21.2
f4	Ff	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.4	0.5
f4	Fd	24.7	25.1	25.5	25.8	26.1	26.5	26.8	27.1	27.5	27.8	28.2	28.6	28.9	29.3	29.7	30.0	30.4	30.8	31.2	31.6	32.0
f4	Df	24.6	25.0	25.4	25.7	26.0	26.3	26.7	27.0	27.4	27.7	28.1	28.4	28.8	29.2	29.5	29.9	30.3	30.7	31.1	31.5	31.9

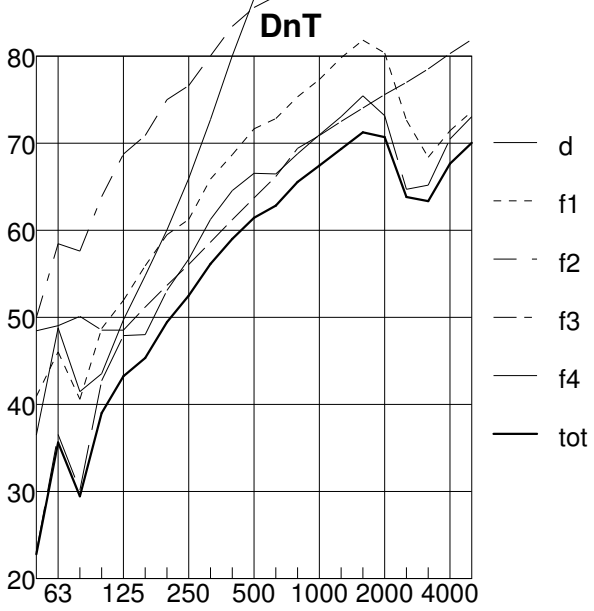
Sound Reduction per Path

Path	50	63	80	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000	DnT,w (0.5 s) +
Dd	23.1	36.6	30.2	42.8	48.0	48.1	53.2	56.8	61.4	64.7	66.7	66.6	68.9	71.1	73.2	75.6	73.3	64.8	65.3	70.6	73.2	59.4
1d	46.5	59.6	52.9	65.2	70.1	69.8	74.6	77.9	82.1	85.1	86.8	86.3	88.3	90.2	92.0	94.0	91.4	82.6	82.7	87.7	90.0	80.8
2d	51.0	60.5	58.4	65.9	70.8	72.3	76.6	78.6	82.3	85.6	87.6	88.5	90.5	92.4	94.2	96.3	95.2	90.9	90.5	93.2	95.4	82.2
3d	55.7	62.4	59.9	65.2	67.8	69.2	73.0	76.0	79.6	82.5	84.8	85.9	88.7	90.6	92.4	94.4	94.0	90.5	91.6	95.1	97.2	80.1
4d	54.3	67.6	61.1	68.8	74.8	77.7	83.2	88.3	94.3	100.0	104.7	108.3	112.7	116.5	119.0	122.1	121.6	117.4	118.5	122.9	125.7	86.9
d	23.1	36.6	30.2	42.7	47.9	48.0	53.1	56.7	61.3	64.6	66.6	66.5	68.8	71.0	73.1	75.5	73.2	64.7	65.2	70.5	73.1	59.3
11	44.8	49.9	44.4	52.6	55.8	59.7	63.3	65.1	69.7	72.5	75.5	76.7	79.2	81.2	83.6	85.7	84.2	76.5	72.2	75.3	77.7	68.6
D1	43.3	48.4	42.9	51.1	54.3	58.2	61.8	63.6	68.2	71.0	74.0	75.2	77.7	79.7	82.2	84.2	82.7	75.0	70.7	73.8	75.9	67.2
f1	40.9	46.1	40.6	48.7	52.0	55.9	59.5	61.3	65.9	68.7	71.7	72.9	75.4	77.3	79.8	81.9	80.4	72.7	68.4	71.5	73.7	64.8
22	56.9	62.8	65.5	68.1	73.0	76.4	80.1	80.9	84.0	87.5	89.9	92.1	94.2	96.0	98.0	100.2	100.5	100.8	99.7	100.2	102.2	84.5
D2	51.0	60.5	58.4	65.9	70.8	72.3	76.6	78.6	82.3	85.6	87.6	88.5	90.5	92.4	94.2	96.3	95.2	90.9	90.5	93.2	95.4	82.2
f2	50.0	58.5	57.6	63.9	68.8	70.9	75.0	76.6	80.1	83.4	85.6	86.9	88.9	90.8	92.7	94.8	94.1	90.5	90.0	92.4	94.5	80.6
33	49.3	49.2	50.6	48.6	48.6	51.2	53.7	56.1	58.7	61.3	63.7	66.2	69.5	71.0	72.5	74.1	75.7	77.2	78.8	80.4	82.1	61.6
D3	56.1	62.8	60.3	65.6	68.2	69.6	73.4	76.3	79.9	82.9	85.1	86.3	89.1	90.9	92.7	94.7	94.4	90.8	91.9	95.4	97.5	80.4
f3	48.5	49.1	50.1	48.6	48.5	51.2	53.7	56.1	58.7	61.2	63.7	66.2	69.4	70.9	72.5	74.1	75.6	77.0	78.6	80.3	81.9	61.6
44	36.5	48.9	41.5	43.6	49.8	54.8	60.1	66.0	72.8	80.1	86.7	93.3	99.1	103.7	105.8	108.9	109.4	108.9	109.9	112.7	115.2	62.2
D4	54.7	68.0	61.5	69.1	75.1	78.0	83.6	88.7	94.7	100.4	105.0	108.6	113.1	116.8	119.3	122.4	121.9	117.7	118.8	123.2	126.0	87.3
f4	36.5	48.8	41.5	43.5	49.7	54.8	60.0	66.0	72.7	80.0	86.6	93.2	98.9	103.5	105.6	108.7	109.1	108.3	109.3	112.4	114.8	62.2
tot	22.8	35.7	29.5	39.0	43.3	45.3	49.5	52.5	56.2	59.0	61.4	62.8	65.6	67.4	69.3	71.3	70.7	63.9	63.4	67.7	70.1	55.6

Airborne Sound per Element

tau	50	63	80	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000	DnT,w (0.5 s) +
d	23.1	36.6	30.2	42.7	47.9	48.0	53.1	56.7	61.3	64.6	66.6	66.5	68.8	71.0	73.1	75.5	73.2	64.7	65.2	70.5	73.1	59.3
f1	40.9	46.1	40.6	48.7	52.0	55.9	59.5	61.3	65.9	68.7	71.7	72.9	75.4	77.3	79.8	81.9	80.4	72.7	68.4	71.5	73.7	64.8
f2	50.0	58.5	57.6	63.9	68.8	70.9	75.0	76.6	80.1	83.4	85.6	86.9	88.9	90.8	92.7	94.8	94.1	90.5	90.0	92.4	94.5	80.6
f3	48.5	49.1	50.1	48.6	48.5	51.2	53.7	56.1	58.7	61.2	63.7	66.2	69.4	70.9	72.5	74.1	75.6	77.0	78.6	80.3	81.9	61.6
f4	36.5	48.8	41.5	43.5	49.7	54.8	60.0	66.0	72.7	80.0	86.6	93.2	98.9	103.5	105.6	108.7	109.1	108.3	109.3	112.4	114.8	62.2
tot	22.8	35.7	29.5	39.0	43.3	45.3	49.5	52.5	56.2	59.0	61.4	62.8	65.6	67.4	69.3	71.3	70.7	63.9	63.4	67.7	70.1	55.6

Resulting Diagram



DnT,w = 62
DnT,w + C = 60
DnT,w + Ctr = 55
DnT,w + C100-5000 = 61
DnT,w + Ctr,100-5000 = 55
DnT,w + C50-5000 = 58
DnT,w + Ctr,50-5000 = 45
DnT,w + C50-3150 = 57
DnT,w + Ctr,50-3150 = 45

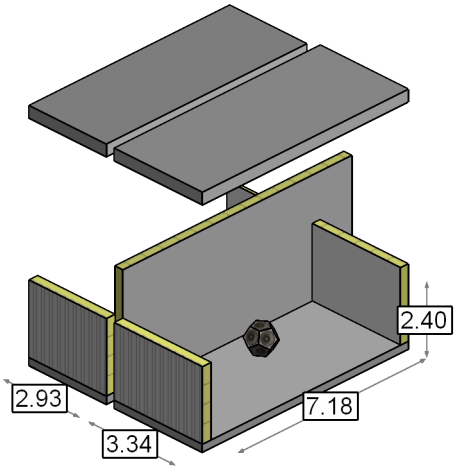
Project Info

Project Name:	Blyth Road
Client:	Bellway
Project No.:	4371
Remarks:	F33 KLD to F27 Bed 1
Editor:	PJS
Worksheet:	Copy of Worksheet 5 [DM Ts (1)]
Program:	BASTIAN V 2.3

Worksheet Configuration

Calculation Model:	DM Ts (1)
Perf. Param. Airborne Sound Transm. in Buildings:	DnT,w
Perf. Param. Impact Sound Transm. in Buildings:	L'nT,w + Ctr
Perf. Param. Outdoor Sound Transmission:	D2m,nT,w + Ctr
Reference Reverberation Time T0 (s):	0.5
f1: Surface mass m"4 (kg/m²):	200
f1: Outer leaf interrupted:	no
f2: Surface mass m"4 (kg/m²):	200
f2: Outer leaf interrupted:	no
f3: Surface mass m"4 (kg/m²):	200
f4: Surface mass m"4 (kg/m²):	200
Correction Sigma_free/Sigma_forced for Monolithic Flanking Elements:	off
Correction Sigma_free/Sigma_forced for Lightweight Flanking Elements:	off
Alpha_k-Limit, MIN (-):	-
Alpha_k-Limit, MAX (-):	-
Ts-Limit for Elements, MIN (dB):	-
Ts-Limit for Elements, MAX (dB):	-
R'45° - R' (dB):	1.0
R'tr,s - R' (dB):	0.0
Level Difference DeltaL_fs (dB):	-

Room View



Worksheet-Table

		Sending Room		Jur	Receiving Room		DnT,		L'nT,	
f	t	Basic Element	Additional Layer	Typ	Basic Element	Additional Layer	dB	%	dB	%
X	d	Siniat RSP 038 Twin Frame Wall (					6.	46		
X	1	Siniat RSP 038 Twin Frame Wall (		19	British Gypsum Gypwall Classic B		1.	13		
X	2	100mm Brick, 100mm Void, 10mn		20	100mm Brick, 100mm Void, 10mn		7.	0		
X	3	250mm In-situ Concrete (Insul 7.0		2	250mm In-situ Concrete (Insul 7.0		7.	34		
X	4	250mm In-situ Concrete (Insul 7.0	15mm Plasterboard, 150m	17	250mm In-situ Concrete (Insul 7.0	15mm Plasterboard, 150m	4.	7		
						Total:	2.	00		

Elements / Constructions

tau	Room	Element	Construction
d	SR	lightweight double wall, metal frar	Siniat RSP 038 Twin Frame Wall (corrected for 150mm Absorber)
f1	SR	lightweight double wall, metal frar	Siniat RSP 038 Twin Frame Wall (corrected for 150mm Absorber)
f1	RR	lightweight double wall, metal frar	British Gypsum Gypwall Classic BTC12227A
f2	SR	facade, steel panel sections	100mm Brick, 100mm Void, 10mm CPB, 100mm METSEC, 2 x 12.5mm Wallboard, 100mm R
f2	RR	facade, steel panel sections	100mm Brick, 100mm Void, 10mm CPB, 100mm METSEC, 2 x 12.5mm Wallboard, 100mm R
f3	SR	monolithic floor	250mm In-situ Concrete (Insul 7.0.13)
f3	RR	monolithic floor	250mm In-situ Concrete (Insul 7.0.13)
f4	SR	monolithic floor	250mm In-situ Concrete (Insul 7.0.13)
f4	SR	suspended ceiling	15mm Plasterboard, 150mm MF, 250mm Concrete - no absorber (Insul v7.0.13)
f4	RR	monolithic floor	250mm In-situ Concrete (Insul 7.0.13)
f4	RR	suspended ceiling	15mm Plasterboard, 150mm MF, 250mm Concrete - no absorber (Insul v7.0.13)

Geometry Data

Volume sending room (m³): 57.55
Volume receiving room (m³): 50.49

t	Room	Basic Element	a	b	S	lij
			(m)	(m)	(m²)	(m)
d		Siniat RSP 038 Twin Frame Wall (corrected for 150mm Absorber)	7.18	2.40	17.23	
f1	SR	Siniat RSP 038 Twin Frame Wall (corrected for 150mm Absorber)	3.34	2.40	8.02	2.40
f1	RR	British Gypsum Gypwall Classic BTC12227A	2.93	2.40	7.03	2.40
f2	SR	100mm Brick, 100mm Void, 10mm CPB, 100mm METSEC, 2 x 12.5mm Wallboard, 100mm Rockwo	3.34	2.40	8.02	2.40
f2	RR	100mm Brick, 100mm Void, 10mm CPB, 100mm METSEC, 2 x 12.5mm Wallboard, 100mm Rockwo	2.93	2.40	7.03	2.40
f3	SR	250mm In-situ Concrete (Insul 7.0.13)	3.34	7.18	23.98	7.18
f3	RR	250mm In-situ Concrete (Insul 7.0.13)	2.93	7.18	21.04	7.18
f4	SR	250mm In-situ Concrete (Insul 7.0.13)	3.34	7.18	23.98	7.18
f4	RR	250mm In-situ Concrete (Insul 7.0.13)	2.93	7.18	21.04	7.18

Input Data Elements

tau	Roor	X	50	63	80	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000	Xw
d	SR	R	23.4	36.9	30.5	43.1	48.3	48.4	53.5	57.1	61.7	65.0	67.0	66.9	69.2	71.4	73.5	75.9	73.6	65.1	65.6	70.9	73.5	66
f1	SR	R	23.4	36.9	30.5	43.1	48.3	48.4	53.5	57.1	61.7	65.0	67.0	66.9	69.2	71.4	73.5	75.9	73.6	65.1	65.6	70.9	73.5	66
f1	RR	R	17.0	14.4	10.6	14.9	16.8	25.3	28.0	28.6	33.9	36.9	41.5	44.6	48.0	50.4	53.9	56.3	56.3	50.0	41.6	43.1	45.3	40
f2	SR	R	31.4	37.6	40.6	43.6	48.8	52.5	56.6	57.7	61.1	65.0	67.7	70.2	72.6	74.8	77.1	79.6	80.3	80.9	80.1	81.0	83.3	69
f2	RR	R	31.4	37.6	40.6	43.6	48.8	52.5	56.6	57.7	61.1	65.0	67.7	70.2	72.6	74.8	77.1	79.6	80.3	80.9	80.1	81.0	83.3	69
f3	SR	R	44.2	44.2	45.6	43.7	43.6	46.3	48.8	51.2	53.8	56.4	58.9	61.4	64.7	66.2	67.8	69.4	71.0	72.5	74.1	75.8	77.4	62
f3	RR	R	44.2	44.2	45.6	43.7	43.6	46.3	48.8	51.2	53.8	56.4	58.9	61.4	64.7	66.2	67.8	69.4	71.0	72.5	74.1	75.8	77.4	62
f4	SR	R	44.2	44.2	45.6	43.7	43.6	46.3	48.8	51.2	53.8	56.4	58.9	61.4	64.7	66.2	67.8	69.4	71.0	72.5	74.1	75.8	77.4	62
f4	SR	Delta	-5.4	0.8	-3.5	-1.5	1.6	2.8	4.2	6.0	8.1	10.5	12.6	14.7	16.0	17.6	17.9	18.7	18.2	17.2	16.9	17.5	17.9	15
f4	RR	R	44.2	44.2	45.6	43.7	43.6	46.3	48.8	51.2	53.8	56.4	58.9	61.4	64.7	66.2	67.8	69.4	71.0	72.5	74.1	75.8	77.4	62
f4	RR	Delta	-5.4	0.8	-3.5	-1.5	1.6	2.8	4.2	6.0	8.1	10.5	12.6	14.7	16.0	17.6	17.9	18.7	18.2	17.2	16.9	17.5	17.9	15

Structural Reverb. Time, lab (s)

tau	Room	50	63	80	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000
f3	SR	0.838	0.727	0.617	0.534	0.495	0.435	0.381	0.332	0.289	0.251	0.217	0.187	0.161	0.138	0.118	0.100	0.085	0.072	0.060	0.051	0.042
f3	RR	0.838	0.727	0.617	0.534	0.495	0.435	0.381	0.332	0.289	0.251	0.217	0.187	0.161	0.138	0.118	0.100	0.085	0.072	0.060	0.051	0.042
f4	SR	0.838	0.727	0.617	0.534	0.495	0.435	0.381	0.332	0.289	0.251	0.217	0.187	0.161	0.138	0.118	0.100	0.085	0.072	0.060	0.051	0.042
f4	RR	0.838	0.727	0.617	0.534	0.495	0.435	0.381	0.332	0.289	0.251	0.217	0.187	0.161	0.138	0.118	0.100	0.085	0.072	0.060	0.051	0.042

Structural Reverb. Time, situ (s)

tau	Room	50	63	80	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000
f3	SR	0.305	0.269	0.236	0.208	0.188	0.167	0.147	0.130	0.115	0.101	0.089	0.079	0.069	0.060	0.053	0.046	0.040	0.035	0.030	0.026	0.022
f3	RR	0.280	0.247	0.216	0.191	0.173	0.153	0.136	0.120	0.106	0.094	0.082	0.073	0.064	0.056	0.049	0.043	0.037	0.032	0.028	0.024	0.021
f4	SR	0.305	0.269	0.236	0.208	0.188	0.167	0.147	0.130	0.115	0.101	0.089	0.079	0.069	0.060	0.053	0.046	0.040	0.035	0.030	0.026	0.022
f4	RR	0.280	0.247	0.216	0.191	0.173	0.153	0.136	0.120	0.106	0.094	0.082	0.073	0.064	0.056	0.049	0.043	0.037	0.032	0.028	0.024	0.021

In-Situ-Data Elements

tau	Room	X	50	63	80	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000	Xw
d	SR	R	23.4	36.9	30.5	43.1	48.3	48.4	53.5	57.1	61.7	65.0	67.0	66.9	69.2	71.4	73.5	75.9	73.6	65.1	65.6	70.9	73.5	66
f1	SR	R	23.4	36.9	30.5	43.1	48.3	48.4	53.5	57.1	61.7	65.0	67.0	66.9	69.2	71.4	73.5	75.9	73.6	65.1	65.6	70.9	73.5	66
f1	RR	R	17.0	14.4	10.6	14.9	16.8	25.3	28.0	28.6	33.9	36.9	41.5	44.6	48.0	50.4	53.9	56.3	56.3	50.0	41.6	43.1	45.3	40
f2	SR	R	31.4	37.6	40.6	43.6	48.8	52.5	56.6	57.7	61.1	65.0	67.7	70.2	72.6	74.8	77.1	79.6	80.3	80.9	80.1	81.0	83.3	69
f2	RR	R	31.4	37.6	40.6	43.6	48.8	52.5	56.6	57.7	61.1	65.0	67.7	70.2	72.6	74.8	77.1	79.6	80.3	80.9	80.1	81.0	83.3	69
f3	SR	R	48.6	48.5	49.8	47.8	47.8	50.5	52.9	55.3	57.8	60.3	62.8	65.2	68.4	69.8	71.3	72.8	74.3	75.6	77.1	78.7	80.1	66
f3	RR	R	49.0	48.9	50.2	48.2	48.2	50.8	53.3	55.6	58.2	60.7	63.1	65.5	68.7	70.1	71.6	73.1	74.6	75.9	77.4	79.0	80.4	67
f4	SR	R	48.6	48.5	49.8	47.8	47.8	50.5	52.9	55.3	57.8	60.3	62.8	65.2	68.4	69.8	71.3	72.8	74.3	75.6	77.1	78.7	80.1	66
f4	SR	Delta	-5.4	0.8	-3.5	-1.5	1.6	2.8	4.2	6.0	8.1	10.5	12.6	14.7	16.0	17.6	17.9	18.7	18.2	17.2	16.9	17.5	17.9	15
f4	RR	R	49.0	48.9	50.2	48.2	48.2	50.8	53.3	55.6	58.2	60.7	63.1	65.5	68.7	70.1	71.6	73.1	74.6	75.9	77.4	79.0	80.4	67
f4	RR	Delta	-5.4	0.8	-3.5	-1.5	1.6	2.8	4.2	6.0	8.1	10.5	12.6	14.7	16.0	17.6	17.9	18.7	18.2	17.2	16.9	17.5	17.9	15

Junction Type

Flank	Junction	mi	mi_	M	E1	t1	f1	a
f1	Type 19 (Cross-junction, double leaf lightweight elements, continuous separating element)	18	25	0.15				
f2	Type 20 (T-junction, double leaf lightweight elements, continuous separating element)	16	25	0.20				
f3	Type 2 (Rigid T-junction)	585	25	-1.37				
f4	Type 17 (Cross-junction, double leaf lightweight separat. / single leaf flank. element, continuous	585	25	-1.37				

Vibration Reduction Index Kij

Flank	Path	50	63	80	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000
f1	Ff	16.3	15.9	15.6	15.3	15.0	14.6	14.3	14.0	13.6	13.3	13.0	12.6	12.3	12.0	11.7	11.3	11.0	10.7	10.3	10.0	10.0
f1	Fd	14.8	14.5	14.1	13.8	13.5	13.1	12.8	12.5	12.1	11.8	11.5	11.2	10.8	10.5	10.2	9.8	9.5	9.2	8.8	8.5	8.2
f1	Df	14.8	14.5	14.1	13.8	13.5	13.1	12.8	12.5	12.1	11.8	11.5	11.2	10.8	10.5	10.2	9.8	9.5	9.2	8.8	8.5	8.2
f2	Ff	17.2	16.9	16.6	16.3	15.9	15.6	15.3	14.9	14.6	14.3	13.9	13.6	13.3	13.0	12.6	12.3	12.0	11.6	11.3	11.0	10.6
f2	Fd	15.3	14.9	14.6	14.3	14.0	13.6	13.3	13.0	12.6	12.3	12.0	11.6	11.3	11.0	10.7	10.3	10.0	9.7	9.3	9.0	8.7
f2	Df	15.3	14.9	14.6	14.3	14.0	13.6	13.3	13.0	12.6	12.3	12.0	11.6	11.3	11.0	10.7	10.3	10.0	9.7	9.3	9.0	8.7
f3	Ff	-2.9	-2.9	-2.9	-2.9	-2.9	-2.9	-2.9	-2.9	-2.9	-2.9	-2.9	-2.9	-2.9	-2.9	-2.9	-2.9	-2.9	-2.9	-2.9	-2.9	-2.9
f3	Fd	16.3	16.3	16.3	16.3	16.3	16.3	16.3	16.3	16.3	16.3	16.3	16.3	16.3	16.3	16.3	16.3	16.3	16.3	16.3	16.3	16.3
f3	Df	16.3	16.3	16.3	16.3	16.3	16.3	16.3	16.3	16.3	16.3	16.3	16.3	16.3	16.3	16.3	16.3	16.3	16.3	16.3	16.3	16.3
f4	Ff	-5.6	-5.6	-5.6	-5.6	-5.6	-5.6	-5.6	-5.6	-5.6	-5.6	-5.6	-5.6	-5.6	-5.6	-5.6	-5.6	-5.6	-5.6	-5.6	-5.6	-5.6
f4	Fd	20.4	20.7	21.0	21.4	21.7	22.0	22.3	22.7	23.0	23.3	23.7	24.0	24.3	24.7	25.0	25.3	25.6	26.0	26.3	26.6	27.0
f4	Df	20.4	20.7	21.0	21.4	21.7	22.0	22.3	22.7	23.0	23.3	23.7	24.0	24.3	24.7	25.0	25.3	25.6	26.0	26.3	26.6	27.0

Velocity Level Difference Dv,ij,situ

Flank	Path	50	63	80	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000
f1	Ff	21.2	20.9	20.6	20.2	19.9	19.6	19.2	18.9	18.6	18.2	17.9	17.6	17.3	16.9	16.6	16.3	15.9	15.6	15.3	15.0	15.0
f1	Fd	21.7	21.4	21.0	20.7	20.4	20.0	19.7	19.4	19.0	18.7	18.4	18.1	17.7	17.4	17.1	16.7	16.4	16.1	15.7	15.4	15.1
f1	Df	21.4	21.1	20.7	20.4	20.1	19.7	19.4	19.1	18.8	18.4	18.1	17.8	17.4	17.1	16.8	16.4	16.1	15.8	15.5	15.1	14.8
f2	Ff	22.2	21.9	21.5	21.2	20.9	20.5	20.2	19.9	19.6	19.2	18.9	18.6	18.2	17.9	17.6	17.2	16.9	16.6	16.3	15.9	15.6
f2	Fd	22.2	21.8	21.5	21.2	20.9	20.5	20.2	19.9	19.5	19.2	18.9	18.5	18.2	17.9	17.6	17.2	16.9	16.6	16.2	15.9	15.6
f2	Df	21.9	21.6	21.2	20.9	20.6	20.2	19.9	19.6	19.2	18.9	18.6	18.3	17.9	17.6	17.3	16.9	16.6	16.3	15.9	15.6	15.3
f3	Ff	1.9	2.0	2.0	2.1	2.0	2.0	2.1	2.1	2.2	2.2	2.2	2.3	2.4	2.4	2.5	2.6	2.7	2.8	2.9	3.1	3.2
f3	Fd	20.7	20.7	20.8	20.8	20.8	20.8	20.8	20.8	20.8	20.8	20.9	20.9	20.9	21.0	21.0	21.1	21.1	21.2	21.2	21.3	21.4
f3	Df	20.6	20.6	20.7	20.7	20.7	20.7	20.7	20.7	20.7	20.7	20.8	20.8	20.8	20.9	20.9	20.9	21.0	21.0	21.1	21.2	21.2
f4	Ff	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.4	0.5
f4	Fd	24.7	25.1	25.5	25.8	26.1	26.5	26.8	27.1	27.5	27.8	28.2	28.6	28.9	29.3	29.7	30.0	30.4	30.8	31.2	31.6	32.0
f4	Df	24.6	25.0	25.4	25.7	26.0	26.3	26.7	27.0	27.4	27.7	28.1	28.4	28.8	29.2	29.5	29.9	30.3	30.7	31.1	31.5	31.9

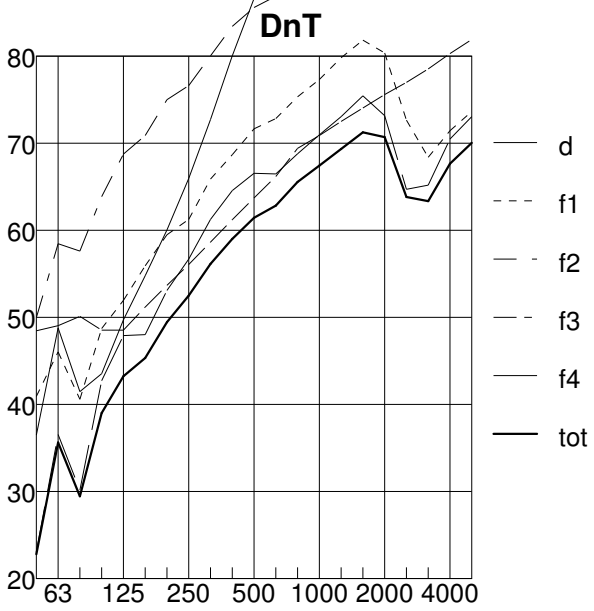
Sound Reduction per Path

Path	50	63	80	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000	DnT,w (0.5
Dd	23.1	36.6	30.2	42.8	48.0	48.1	53.2	56.8	61.4	64.7	66.7	66.6	68.9	71.1	73.2	75.6	73.3	64.8	65.3	70.6	73.2	66.4
1d	46.5	59.6	52.9	65.2	70.1	69.8	74.6	77.9	82.1	85.1	86.8	86.3	88.3	90.2	92.0	94.0	91.4	82.6	82.7	87.7	90.0	86.8
2d	51.0	60.5	58.4	65.9	70.8	72.3	76.6	78.6	82.3	85.6	87.6	88.5	90.5	92.4	94.2	96.3	95.2	90.9	90.5	93.2	95.4	89.2
3d	55.7	62.4	59.9	65.2	67.8	69.2	73.0	76.0	79.6	82.5	84.8	85.9	88.7	90.6	92.4	94.4	94.0	90.5	91.6	95.1	97.2	87.1
4d	54.3	67.6	61.1	68.8	74.8	77.7	83.2	88.3	94.3	100.0	104.7	108.3	112.7	116.5	119.0	122.1	121.6	117.4	118.5	122.9	125.7	97.9
d	23.1	36.6	30.2	42.7	47.9	48.0	53.1	56.7	61.3	64.6	66.6	66.5	68.8	71.0	73.1	75.5	73.2	64.7	65.2	70.5	73.1	66.3
11	44.8	49.9	44.4	52.6	55.8	59.7	63.3	65.1	69.7	72.5	75.5	76.7	79.2	81.2	83.6	85.7	84.2	76.5	72.2	75.3	77.7	75.6
D1	43.3	48.4	42.9	51.1	54.3	58.2	61.8	63.6	68.2	71.0	74.0	75.2	77.7	79.7	82.2	84.2	82.7	75.0	70.7	73.8	75.9	74.2
f1	40.9	46.1	40.6	48.7	52.0	55.9	59.5	61.3	65.9	68.7	71.7	72.9	75.4	77.3	79.8	81.9	80.4	72.7	68.4	71.5	73.7	71.8
22	56.9	62.8	65.5	68.1	73.0	76.4	80.1	80.9	84.0	87.5	89.9	92.1	94.2	96.0	98.0	100.2	100.5	100.8	99.7	100.2	102.2	92.5
D2	51.0	60.5	58.4	65.9	70.8	72.3	76.6	78.6	82.3	85.6	87.6	88.5	90.5	92.4	94.2	96.3	95.2	90.9	90.5	93.2	95.4	89.2
f2	50.0	58.5	57.6	63.9	68.8	70.9	75.0	76.6	80.1	83.4	85.6	86.9	88.9	90.8	92.7	94.8	94.1	90.5	90.0	92.4	94.5	87.6
33	49.3	49.2	50.6	48.6	48.6	51.2	53.7	56.1	58.7	61.3	63.7	66.2	69.5	71.0	72.5	74.1	75.7	77.2	78.8	80.4	82.1	67.6
D3	56.1	62.8	60.3	65.6	68.2	69.6	73.4	76.3	79.9	82.9	85.1	86.3	89.1	90.9	92.7	94.7	94.4	90.8	91.9	95.4	97.5	87.4
f3	48.5	49.1	50.1	48.6	48.5	51.2	53.7	56.1	58.7	61.2	63.7	66.2	69.4	70.9	72.5	74.1	75.6	77.0	78.6	80.3	81.9	67.6
44	36.5	48.9	41.5	43.6	49.8	54.8	60.1	66.0	72.8	80.1	86.7	93.3	99.1	103.7	105.8	108.9	109.4	108.9	109.9	112.7	115.2	74.2
D4	54.7	68.0	61.5	69.1	75.1	78.0	83.6	88.7	94.7	100.4	105.0	108.6	113.1	116.8	119.3	122.4	121.9	117.7	118.8	123.2	126.0	98.3
f4	36.5	48.8	41.5	43.5	49.7	54.8	60.0	66.0	72.7	80.0	86.6	93.2	98.9	103.5	105.6	108.7	109.1	108.3	109.3	112.4	114.8	74.2
tot	22.8	35.7	29.5	39.0	43.3	45.3	49.5	52.5	56.2	59.0	61.4	62.8	65.6	67.4	69.3	71.3	70.7	63.9	63.4	67.7	70.1	62.6

Airborne Sound per Element

tau	50	63	80	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000	DnT,w (0.5
d	23.1	36.6	30.2	42.7	47.9	48.0	53.1	56.7	61.3	64.6	66.6	66.5	68.8	71.0	73.1	75.5	73.2	64.7	65.2	70.5	73.1	66.3
f1	40.9	46.1	40.6	48.7	52.0	55.9	59.5	61.3	65.9	68.7	71.7	72.9	75.4	77.3	79.8	81.9	80.4	72.7	68.4	71.5	73.7	71.8
f2	50.0	58.5	57.6	63.9	68.8	70.9	75.0	76.6	80.1	83.4	85.6	86.9	88.9	90.8	92.7	94.8	94.1	90.5	90.0	92.4	94.5	87.6
f3	48.5	49.1	50.1	48.6	48.5	51.2	53.7	56.1	58.7	61.2	63.7	66.2	69.4	70.9	72.5	74.1	75.6	77.0	78.6	80.3	81.9	67.6
f4	36.5	48.8	41.5	43.5	49.7	54.8	60.0	66.0	72.7	80.0	86.6	93.2	98.9	103.5	105.6	108.7	109.1	108.3	109.3	112.4	114.8	74.2
tot	22.8	35.7	29.5	39.0	43.3	45.3	49.5	52.5	56.2	59.0	61.4	62.8	65.6	67.4	69.3	71.3	70.7	63.9	63.4	67.7	70.1	62.6

Resulting Diagram



DnT,w = 62
DnT,w + C = 60
DnT,w + Ctr = 55
DnT,w + C100-5000 = 61
DnT,w + Ctr,100-5000 = 55
DnT,w + C50-5000 = 58
DnT,w + Ctr,50-5000 = 45
DnT,w + C50-3150 = 57
DnT,w + Ctr,50-3150 = 45

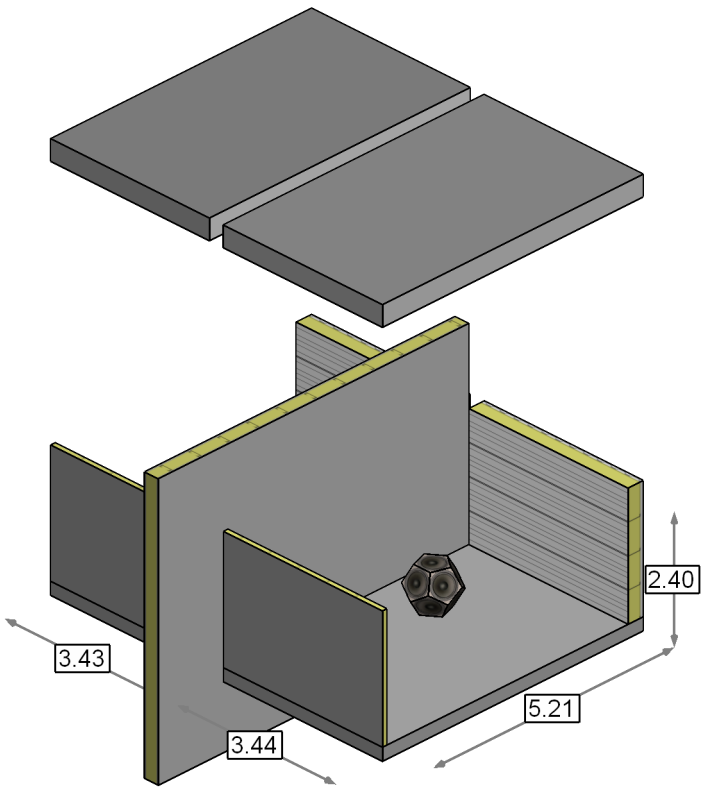
Project Info

Project Name:	Blyth Road
Client:	Bellway
Project No.:	4371
Remarks:	F36 Bed to F35 Bed 1
Editor:	PJS
Worksheet:	Copy of Worksheet 6 [DM Ts (1)]
Program:	BASTIAN V 2.3

Worksheet Configuration

Calculation Model:	DM Ts (1)
Perf. Param. Airborne Sound Transm. in Buildings:	DnT,w
Perf. Param. Impact Sound Transm. in Buildings:	L'nT,w + Ctr
Perf. Param. Outdoor Sound Transmission:	D2m,nT,w + Ctr
Reference Reverberation Time T0 (s):	0.5
f1: Surface mass m"4 (kg/m²):	200
f1: Outer leaf interrupted:	no
f2: Surface mass m"4 (kg/m²):	200
f2: Outer leaf interrupted:	no
f3: Surface mass m"4 (kg/m²):	200
f4: Surface mass m"4 (kg/m²):	200
Correction Sigma_free/Sigma_forced for Monolithic Flanking Elements:	off
Correction Sigma_free/Sigma_forced for Lightweight Flanking Elements:	off
Alpha_k-Limit, MIN (-):	-
Alpha_k-Limit, MAX (-):	-
Ts-Limit for Elements, MIN (dB):	-
Ts-Limit for Elements, MAX (dB):	-
R'45° - R' (dB):	1.0
R'tr,s - R' (dB):	0.0
Level Difference DeltaL_fs (dB):	-

Room View



Worksheet-Table

		Sending Room		Jur	Receiving Room		DnT,		L'nT,	
f	t	Basic Element	Additional Layer	Typ	Basic Element	Additional Layer	dB	%	dB	%
X	d	Siniat RSP 038 Twin Frame Wall (					6.	29		
X	1	100mm Brick, 100mm Void, 10mn		20	100mm Brick, 100mm Void, 10mn		6.	0		
X	2	British Gypsum Gypwall Classic B		19	British Gypsum Gypwall Classic B		5.	33		
X	3	250mm In-situ Concrete (Insul 7.0		17	250mm In-situ Concrete (Insul 7.0		6.	33		
X	4	250mm In-situ Concrete (Insul 7.0	15mm Plasterboard, 150m	17	250mm In-situ Concrete (Insul 7.0	15mm Plasterboard, 150m	4.	4		
						Total:	0.	00		

Elements / Constructions

tau	Room	Element	Construction
d	SR	lightweight double wall, metal frar	Siniat RSP 038 Twin Frame Wall (corrected for 150mm Absorber)
f1	SR	facade, steel panel sections	100mm Brick, 100mm Void, 10mm CPB, 100mm METSEC, 2 x 12.5mm Wallboard, 100mm R
f1	RR	facade, steel panel sections	100mm Brick, 100mm Void, 10mm CPB, 100mm METSEC, 2 x 12.5mm Wallboard, 100mm R
f2	SR	lightweight double wall, metal frar	British Gypsum Gypwall Classic BTC12227A
f2	RR	lightweight double wall, metal frar	British Gypsum Gypwall Classic BTC12227A
f3	SR	monolithic floor	250mm In-situ Concrete (Insul 7.0.13)
f3	RR	monolithic floor	250mm In-situ Concrete (Insul 7.0.13)
f4	SR	monolithic floor	250mm In-situ Concrete (Insul 7.0.13)
f4	SR	suspended ceiling	15mm Plasterboard, 150mm MF, 250mm Concrete - no absorber (Insul v7.0.13)
f4	RR	monolithic floor	250mm In-situ Concrete (Insul 7.0.13)
f4	RR	suspended ceiling	15mm Plasterboard, 150mm MF, 250mm Concrete - no absorber (Insul v7.0.13)

Geometry Data

Volume sending room (m³): 43.01
Volume receiving room (m³): 42.89

t	Room	Basic Element	a	b	S	lij
			(m)	(m)	(m²)	(m)
d		Siniat RSP 038 Twin Frame Wall (corrected for 150mm Absorber)	5.21	2.40	12.50	
f1	SR	100mm Brick, 100mm Void, 10mm CPB, 100mm METSEC, 2 x 12.5mm Wallboard, 100mm Rockwo	3.44	2.40	8.26	2.40
f1	RR	100mm Brick, 100mm Void, 10mm CPB, 100mm METSEC, 2 x 12.5mm Wallboard, 100mm Rockwo	3.43	2.40	8.23	2.40
f2	SR	British Gypsum Gypwall Classic BTC12227A	3.44	2.40	8.26	2.40
f2	RR	British Gypsum Gypwall Classic BTC12227A	3.43	2.40	8.23	2.40
f3	SR	250mm In-situ Concrete (Insul 7.0.13)	3.44	5.21	17.92	5.21
f3	RR	250mm In-situ Concrete (Insul 7.0.13)	3.43	5.21	17.87	5.21
f4	SR	250mm In-situ Concrete (Insul 7.0.13)	3.44	5.21	17.92	5.21
f4	RR	250mm In-situ Concrete (Insul 7.0.13)	3.43	5.21	17.87	5.21

Input Data Elements

tau	Roor	X	50	63	80	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000	Xw
d	SR	R	23.4	36.9	30.5	43.1	48.3	48.4	53.5	57.1	61.7	65.0	67.0	66.9	69.2	71.4	73.5	75.9	73.6	65.1	65.6	70.9	73.5	66
f1	SR	R	31.4	37.6	40.6	43.6	48.8	52.5	56.6	57.7	61.1	65.0	67.7	70.2	72.6	74.8	77.1	79.6	80.3	80.9	80.1	81.0	83.3	69
f1	RR	R	31.4	37.6	40.6	43.6	48.8	52.5	56.6	57.7	61.1	65.0	67.7	70.2	72.6	74.8	77.1	79.6	80.3	80.9	80.1	81.0	83.3	69
f2	SR	R	17.0	14.4	10.6	14.9	16.8	25.3	28.0	28.6	33.9	36.9	41.5	44.6	48.0	50.4	53.9	56.3	56.3	50.0	41.6	43.1	45.3	40
f2	RR	R	17.0	14.4	10.6	14.9	16.8	25.3	28.0	28.6	33.9	36.9	41.5	44.6	48.0	50.4	53.9	56.3	56.3	50.0	41.6	43.1	45.3	40
f3	SR	R	44.2	44.2	45.6	43.7	43.6	46.3	48.8	51.2	53.8	56.4	58.9	61.4	64.7	66.2	67.8	69.4	71.0	72.5	74.1	75.8	77.4	62
f3	RR	R	44.2	44.2	45.6	43.7	43.6	46.3	48.8	51.2	53.8	56.4	58.9	61.4	64.7	66.2	67.8	69.4	71.0	72.5	74.1	75.8	77.4	62
f4	SR	R	44.2	44.2	45.6	43.7	43.6	46.3	48.8	51.2	53.8	56.4	58.9	61.4	64.7	66.2	67.8	69.4	71.0	72.5	74.1	75.8	77.4	62
f4	SR	Delta	-5.4	0.8	-3.5	-1.5	1.6	2.8	4.2	6.0	8.1	10.5	12.6	14.7	16.0	17.6	17.9	18.7	18.2	17.2	16.9	17.5	17.9	15
f4	RR	R	44.2	44.2	45.6	43.7	43.6	46.3	48.8	51.2	53.8	56.4	58.9	61.4	64.7	66.2	67.8	69.4	71.0	72.5	74.1	75.8	77.4	62
f4	RR	Delta	-5.4	0.8	-3.5	-1.5	1.6	2.8	4.2	6.0	8.1	10.5	12.6	14.7	16.0	17.6	17.9	18.7	18.2	17.2	16.9	17.5	17.9	15

Structural Reverb. Time, lab (s)

tau	Room	50	63	80	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000
f3	SR	0.838	0.727	0.617	0.534	0.495	0.435	0.381	0.332	0.289	0.251	0.217	0.187	0.161	0.138	0.118	0.100	0.085	0.072	0.060	0.051	0.042
f3	RR	0.838	0.727	0.617	0.534	0.495	0.435	0.381	0.332	0.289	0.251	0.217	0.187	0.161	0.138	0.118	0.100	0.085	0.072	0.060	0.051	0.042
f4	SR	0.838	0.727	0.617	0.534	0.495	0.435	0.381	0.332	0.289	0.251	0.217	0.187	0.161	0.138	0.118	0.100	0.085	0.072	0.060	0.051	0.042
f4	RR	0.838	0.727	0.617	0.534	0.495	0.435	0.381	0.332	0.289	0.251	0.217	0.187	0.161	0.138	0.118	0.100	0.085	0.072	0.060	0.051	0.042

Structural Reverb. Time, situ (s)

tau	Room	50	63	80	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000
f3	SR	0.278	0.246	0.215	0.190	0.172	0.153	0.135	0.120	0.106	0.093	0.082	0.072	0.064	0.056	0.049	0.043	0.037	0.032	0.028	0.024	0.021
f3	RR	0.278	0.245	0.215	0.190	0.172	0.152	0.135	0.119	0.106	0.093	0.082	0.072	0.063	0.056	0.049	0.043	0.037	0.032	0.028	0.024	0.021
f4	SR	0.278	0.246	0.215	0.190	0.172	0.153	0.135	0.120	0.106	0.093	0.082	0.072	0.064	0.056	0.049	0.043	0.037	0.032	0.028	0.024	0.021
f4	RR	0.278	0.245	0.215	0.190	0.172	0.152	0.135	0.119	0.106	0.093	0.082	0.072	0.063	0.056	0.049	0.043	0.037	0.032	0.028	0.024	0.021

In-Situ-Data Elements

tau	Room	X	50	63	80	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000	Xw
d	SR	R	23.4	36.9	30.5	43.1	48.3	48.4	53.5	57.1	61.7	65.0	67.0	66.9	69.2	71.4	73.5	75.9	73.6	65.1	65.6	70.9	73.5	66
f1	SR	R	31.4	37.6	40.6	43.6	48.8	52.5	56.6	57.7	61.1	65.0	67.7	70.2	72.6	74.8	77.1	79.6	80.3	80.9	80.1	81.0	83.3	69
f1	RR	R	31.4	37.6	40.6	43.6	48.8	52.5	56.6	57.7	61.1	65.0	67.7	70.2	72.6	74.8	77.1	79.6	80.3	80.9	80.1	81.0	83.3	69
f2	SR	R	17.0	14.4	10.6	14.9	16.8	25.3	28.0	28.6	33.9	36.9	41.5	44.6	48.0	50.4	53.9	56.3	56.3	50.0	41.6	43.1	45.3	40
f2	RR	R	17.0	14.4	10.6	14.9	16.8	25.3	28.0	28.6	33.9	36.9	41.5	44.6	48.0	50.4	53.9	56.3	56.3	50.0	41.6	43.1	45.3	40
f3	SR	R	49.0	48.9	50.2	48.2	48.2	50.8	53.3	55.6	58.2	60.7	63.1	65.5	68.7	70.1	71.6	73.1	74.6	76.0	77.4	79.0	80.4	67
f3	RR	R	49.0	48.9	50.2	48.2	48.2	50.9	53.3	55.6	58.2	60.7	63.1	65.5	68.7	70.1	71.6	73.1	74.6	76.0	77.4	79.0	80.4	67
f4	SR	R	49.0	48.9	50.2	48.2	48.2	50.8	53.3	55.6	58.2	60.7	63.1	65.5	68.7	70.1	71.6	73.1	74.6	76.0	77.4	79.0	80.4	67
f4	SR	Delta	-5.4	0.8	-3.5	-1.5	1.6	2.8	4.2	6.0	8.1	10.5	12.6	14.7	16.0	17.6	17.9	18.7	18.2	17.2	16.9	17.5	17.9	15
f4	RR	R	49.0	48.9	50.2	48.2	48.2	50.9	53.3	55.6	58.2	60.7	63.1	65.5	68.7	70.1	71.6	73.1	74.6	76.0	77.4	79.0	80.4	67
f4	RR	Delta	-5.4	0.8	-3.5	-1.5	1.6	2.8	4.2	6.0	8.1	10.5	12.6	14.7	16.0	17.6	17.9	18.7	18.2	17.2	16.9	17.5	17.9	15

Junction Type

Flank	Junction	mi	mi_	M	E1	t1	f1	a
f1	Type 20 (T-junction, double leaf lightweight elements, continuous separating element)	16	25	0.20				
f2	Type 19 (Cross-junction, double leaf lightweight elements, continuous separating element)	11	25	0.38				
f3	Type 17 (Cross-junction, double leaf lightweight separat. / single leaf flank. element, continuous	585	25	-1.37				
f4	Type 17 (Cross-junction, double leaf lightweight separat. / single leaf flank. element, continuous	585	25	-1.37				

Vibration Reduction Index Kij

Flank	Path	50	63	80	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000
f1	Ff	17.2	16.9	16.6	16.3	15.9	15.6	15.3	14.9	14.6	14.3	13.9	13.6	13.3	13.0	12.6	12.3	12.0	11.6	11.3	11.0	10.6
f1	Fd	15.3	14.9	14.6	14.3	14.0	13.6	13.3	13.0	12.6	12.3	12.0	11.6	11.3	11.0	10.7	10.3	10.0	9.7	9.3	9.0	8.7
f1	Df	15.3	14.9	14.6	14.3	14.0	13.6	13.3	13.0	12.6	12.3	12.0	11.6	11.3	11.0	10.7	10.3	10.0	9.7	9.3	9.0	8.7
f2	Ff	20.8	20.5	20.1	19.8	19.5	19.2	18.8	18.5	18.2	17.8	17.5	17.2	16.8	16.5	16.2	15.9	15.5	15.2	14.9	14.5	14.2
f2	Fd	17.1	16.7	16.4	16.1	15.7	15.4	15.1	14.8	14.4	14.1	13.8	13.4	13.1	12.8	12.4	12.1	11.8	11.5	11.1	10.8	10.5
f2	Df	17.1	16.7	16.4	16.1	15.7	15.4	15.1	14.8	14.4	14.1	13.8	13.4	13.1	12.8	12.4	12.1	11.8	11.5	11.1	10.8	10.5
f3	Ff	-5.6	-5.6	-5.6	-5.6	-5.6	-5.6	-5.6	-5.6	-5.6	-5.6	-5.6	-5.6	-5.6	-5.6	-5.6	-5.6	-5.6	-5.6	-5.6	-5.6	-5.6
f3	Fd	20.4	20.7	21.0	21.4	21.7	22.0	22.3	22.7	23.0	23.3	23.7	24.0	24.3	24.7	25.0	25.3	25.6	26.0	26.3	26.6	27.0
f3	Df	20.4	20.7	21.0	21.4	21.7	22.0	22.3	22.7	23.0	23.3	23.7	24.0	24.3	24.7	25.0	25.3	25.6	26.0	26.3	26.6	27.0
f4	Ff	-5.6	-5.6	-5.6	-5.6	-5.6	-5.6	-5.6	-5.6	-5.6	-5.6	-5.6	-5.6	-5.6	-5.6	-5.6	-5.6	-5.6	-5.6	-5.6	-5.6	-5.6
f4	Fd	20.4	20.7	21.0	21.4	21.7	22.0	22.3	22.7	23.0	23.3	23.7	24.0	24.3	24.7	25.0	25.3	25.6	26.0	26.3	26.6	27.0
f4	Df	20.4	20.7	21.0	21.4	21.7	22.0	22.3	22.7	23.0	23.3	23.7	24.0	24.3	24.7	25.0	25.3	25.6	26.0	26.3	26.6	27.0

Velocity Level Difference Dv,ij,situ

Flank	Path	50	63	80	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000
f1	Ff	22.6	22.3	21.9	21.6	21.3	20.9	20.6	20.3	20.0	19.6	19.3	19.0	18.6	18.3	18.0	17.6	17.3	17.0	16.7	16.3	16.0
f1	Fd	21.5	21.2	20.9	20.5	20.2	19.9	19.6	19.2	18.9	18.6	18.2	17.9	17.6	17.2	16.9	16.6	16.3	15.9	15.6	15.3	14.9
f1	Df	21.5	21.2	20.9	20.5	20.2	19.9	19.5	19.2	18.9	18.6	18.2	17.9	17.6	17.2	16.9	16.6	16.2	15.9	15.6	15.3	14.9
f2	Ff	26.2	25.8	25.5	25.2	24.9	24.5	24.2	23.9	23.5	23.2	22.9	22.5	22.2	21.9	21.6	21.2	20.9	20.6	20.2	19.9	19.6
f2	Fd	23.3	23.0	22.7	22.3	22.0	21.7	21.3	21.0	20.7	20.3	20.0	19.7	19.4	19.0	18.7	18.4	18.0	17.7	17.4	17.0	16.7
f2	Df	23.3	23.0	22.6	22.3	22.0	21.7	21.3	21.0	20.7	20.3	20.0	19.7	19.3	19.0	18.7	18.4	18.0	17.7	17.4	17.0	16.7
f3	Ff	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.2	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.1
f3	Fd	25.0	25.3	25.7	26.1	26.4	26.7	27.0	27.4	27.7	28.1	28.4	28.8	29.2	29.5	29.9	30.3	30.7	31.0	31.4	31.8	32.2
f3	Df	25.0	25.3	25.7	26.1	26.4	26.7	27.0	27.4	27.7	28.1	28.4	28.8	29.2	29.5	29.9	30.3	30.6	31.0	31.4	31.8	32.2
f4	Ff	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.2	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.1
f4	Fd	25.0	25.3	25.7	26.1	26.4	26.7	27.0	27.4	27.7	28.1	28.4	28.8	29.2	29.5	29.9	30.3	30.7	31.0	31.4	31.8	32.2
f4	Df	25.0	25.3	25.7	26.1	26.4	26.7	27.0	27.4	27.7	28.1	28.4	28.8	29.2	29.5	29.9	30.3	30.6	31.0	31.4	31.8	32.2

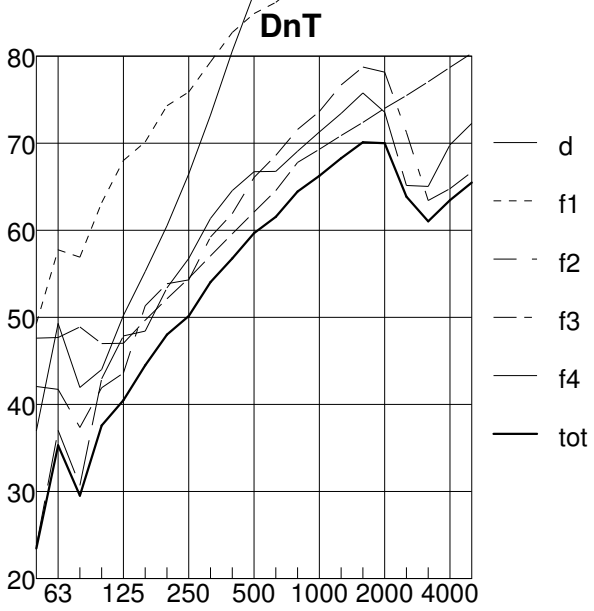
Sound Reduction per Path

Path	50	63	80	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000	DnT,w (0.5
Dd	23.8	37.3	30.9	43.5	48.7	48.8	53.9	57.5	62.1	65.4	67.4	67.3	69.6	71.8	73.9	76.3	74.0	65.5	66.0	71.3	73.9	67.1
1d	50.2	59.8	57.7	65.2	70.1	71.6	75.9	77.9	81.6	84.9	86.9	87.8	89.8	91.7	93.5	95.6	94.5	90.2	89.8	92.5	94.6	88.5
2d	44.8	50.0	44.5	52.6	55.9	59.8	63.4	65.2	69.8	72.6	75.6	76.8	79.3	81.2	83.7	85.8	84.3	76.6	72.3	75.4	77.4	75.7
3d	60.8	67.9	65.7	71.3	74.2	76.0	80.1	83.4	87.3	90.6	93.1	94.6	97.8	99.9	102.1	104.4	104.4	101.2	102.5	106.4	108.8	94.6
4d	55.4	68.7	62.2	69.8	75.8	78.8	84.3	89.4	95.4	101.1	105.7	109.3	113.8	117.5	120.0	123.1	122.6	118.4	119.4	123.9	126.7	99.0
d	23.8	37.0	30.7	43.0	47.9	48.4	53.4	56.8	61.4	64.6	66.7	66.8	69.1	71.3	73.4	75.8	73.6	65.2	65.1	69.8	72.3	66.5
11	56.2	62.1	64.7	67.4	72.3	75.7	79.4	80.2	83.3	86.8	89.2	91.4	93.4	95.3	97.3	99.5	99.8	100.1	99.0	99.5	101.5	91.8
D1	50.2	59.8	57.7	65.2	70.1	71.6	75.9	77.9	81.6	84.9	86.9	87.8	89.8	91.7	93.5	95.6	94.5	90.2	89.8	92.5	94.6	88.5
f1	49.3	57.8	56.9	63.2	68.0	70.2	74.3	75.9	79.4	82.7	84.9	86.2	88.2	90.1	92.0	94.1	93.4	89.8	89.3	91.7	93.8	86.9
22	45.4	42.5	38.3	42.3	43.9	52.0	54.4	54.7	59.7	62.3	66.6	69.4	72.4	74.5	77.7	79.7	79.4	72.8	64.1	65.2	67.1	66.4
D2	44.8	50.0	44.5	52.6	55.9	59.8	63.4	65.2	69.8	72.6	75.6	76.8	79.3	81.2	83.7	85.8	84.3	76.6	72.3	75.4	77.4	75.7
f2	42.1	41.8	37.4	41.9	43.6	51.4	53.9	54.3	59.3	61.9	66.1	68.6	71.6	73.7	76.7	78.8	78.2	71.3	63.4	64.8	66.7	65.9
33	47.8	47.8	49.0	47.0	47.0	49.7	52.1	54.5	57.1	59.6	62.1	64.6	67.8	69.3	70.9	72.4	74.0	75.5	77.1	78.7	80.4	66.0
D3	60.8	67.9	65.7	71.3	74.2	76.0	80.1	83.4	87.3	90.6	93.1	94.6	97.8	99.9	102.1	104.4	104.4	101.2	102.6	106.4	108.8	94.6
f3	47.6	47.7	48.9	47.0	47.0	49.7	52.1	54.5	57.1	59.6	62.1	64.6	67.8	69.3	70.9	72.4	74.0	75.5	77.1	78.7	80.4	66.0
44	37.0	49.4	42.0	44.0	50.2	55.3	60.5	66.5	73.3	80.6	87.3	94.0	99.8	104.5	106.7	109.8	110.4	109.9	110.9	113.7	116.2	74.7
D4	55.4	68.7	62.2	69.8	75.8	78.8	84.3	89.4	95.4	101.1	105.7	109.3	113.8	117.5	120.0	123.1	122.6	118.4	119.5	123.9	126.7	99.0
f4	37.0	49.3	42.0	44.0	50.2	55.3	60.5	66.5	73.3	80.6	87.3	93.9	99.7	104.3	106.5	109.6	110.2	109.3	110.3	113.3	115.8	74.7
tot	23.5	35.3	29.5	37.6	40.5	44.5	48.0	50.2	54.1	56.8	59.7	61.6	64.5	66.3	68.3	70.1	70.0	63.9	61.1	63.5	65.5	60.9

Airborne Sound per Element

tau	50	63	80	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000	DnT,w (0.5
d	23.8	37.0	30.7	43.0	47.9	48.4	53.4	56.8	61.4	64.6	66.7	66.8	69.1	71.3	73.4	75.8	73.6	65.2	65.1	69.8	72.3	66.5
f1	49.3	57.8	56.9	63.2	68.0	70.2	74.3	75.9	79.4	82.7	84.9	86.2	88.2	90.1	92.0	94.1	93.4	89.8	89.3	91.7	93.8	86.9
f2	42.1	41.8	37.4	41.9	43.6	51.4	53.9	54.3	59.3	61.9	66.1	68.6	71.6	73.7	76.7	78.8	78.2	71.3	63.4	64.8	66.7	65.9
f3	47.6	47.7	48.9	47.0	47.0	49.7	52.1	54.5	57.1	59.6	62.1	64.6	67.8	69.3	70.9	72.4	74.0	75.5	77.1	78.7	80.4	66.0
f4	37.0	49.3	42.0	44.0	50.2	55.3	60.5	66.5	73.3	80.6	87.3	93.9	99.7	104.3	106.5	109.6	110.2	109.3	110.3	113.3	115.8	74.7
tot	23.5	35.3	29.5	37.6	40.5	44.5	48.0	50.2	54.1	56.8	59.7	61.6	64.5	66.3	68.3	70.1	70.0	63.9	61.1	63.5	65.5	60.9

Resulting Diagram



DnT,w = 60
DnT,w + C = 59
DnT,w + Ctr = 54
DnT,w + C100-5000 = 59
DnT,w + Ctr,100-5000 = 54
DnT,w + C50-5000 = 57
DnT,w + Ctr,50-5000 = 45
DnT,w + C50-3150 = 56
DnT,w + Ctr,50-3150 = 45

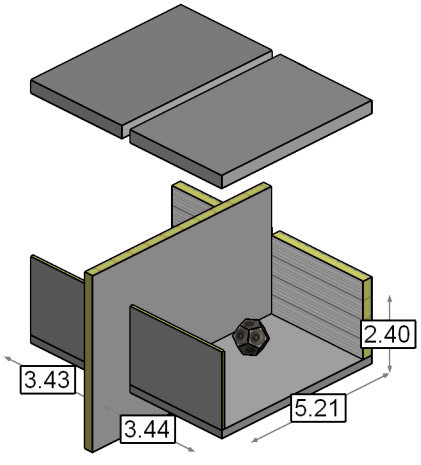
Project Info

Project Name:	Blyth Road
Client:	Bellway
Project No.:	4371
Remarks:	F36 Bed to F35 Bed 1
Editor:	PJS
Worksheet:	Worksheet 6 [DM Ts (1)]
Program:	BASTIAN V 2.3

Worksheet Configuration

Calculation Model:	DM Ts (1)
Perf. Param. Airborne Sound Transm. in Buildings:	DnT,w + Ctr
Perf. Param. Impact Sound Transm. in Buildings:	L'nT,w + Ctr
Perf. Param. Outdoor Sound Transmission:	D2m,nT,w + Ctr
Reference Reverberation Time T0 (s):	0.5
f1: Surface mass m"4 (kg/m²):	200
f1: Outer leaf interrupted:	no
f2: Surface mass m"4 (kg/m²):	200
f2: Outer leaf interrupted:	no
f3: Surface mass m"4 (kg/m²):	200
f4: Surface mass m"4 (kg/m²):	200
Correction Sigma_free/Sigma_forced for Monolithic Flanking Elements:	off
Correction Sigma_free/Sigma_forced for Lightweight Flanking Elements:	off
Alpha_k-Limit, MIN (-):	-
Alpha_k-Limit, MAX (-):	-
Ts-Limit for Elements, MIN (dB):	-
Ts-Limit for Elements, MAX (dB):	-
R'45° - R' (dB):	1.0
R'tr,s - R' (dB):	0.0
Level Difference DeltaL_fs (dB):	-

Room View



Worksheet-Table

		Sending Room		Jur	Receiving Room		DnT,w		L'nT,	
I	t	Basic Element	Additional Layer	Typ	Basic Element	Additional Layer	dB	%	dB	%
X	d	Siniat RSP 038 Twin Frame Wall					59.5	26		
X	1	100mm Brick, 100mm Void, 10mr		20	100mm Brick, 100mm Void, 10mr		79.9	0		
X	2	British Gypsum Gypwall Classic E		19	British Gypsum Gypwall Classic E		57.9	38		
X	3	250mm In-situ Concrete (Insul 7.0		17	250mm In-situ Concrete (Insul 7.0		60.0	23		
X	4	250mm In-situ Concrete (Insul 7.0	15mm Plasterboard, 150m	17	250mm In-situ Concrete (Insul 7.0	15mm Plasterboard, 150m	62.7	13		
						Total:	53.9	100		

Elements / Constructions

tau	Room	Element	Construction
d	SR	lightweight double wall, metal frar	Siniat RSP 038 Twin Frame Wall (corrected for 150mm Absorber)
f1	SR	facade, steel panel sections	100mm Brick, 100mm Void, 10mm CPB, 100mm METSEC, 2 x 12.5mm Wallboard, 100mm R
f1	RR	facade, steel panel sections	100mm Brick, 100mm Void, 10mm CPB, 100mm METSEC, 2 x 12.5mm Wallboard, 100mm R
f2	SR	lightweight double wall, metal frar	British Gypsum Gypwall Classic BTC12227A
f2	RR	lightweight double wall, metal frar	British Gypsum Gypwall Classic BTC12227A
f3	SR	monolithic floor	250mm In-situ Concrete (Insul 7.0.13)
f3	RR	monolithic floor	250mm In-situ Concrete (Insul 7.0.13)
f4	SR	monolithic floor	250mm In-situ Concrete (Insul 7.0.13)
f4	SR	suspended ceiling	15mm Plasterboard, 150mm MF, 250mm Concrete - no absorber (Insul v7.0.13)
f4	RR	monolithic floor	250mm In-situ Concrete (Insul 7.0.13)
f4	RR	suspended ceiling	15mm Plasterboard, 150mm MF, 250mm Concrete - no absorber (Insul v7.0.13)

Geometry Data

Volume sending room (m³): 43.01
Volume receiving room (m³): 42.89

t	Room	Basic Element	a	b	S	lij
			(m)	(m)	(m²)	(m)
d		Siniat RSP 038 Twin Frame Wall (corrected for 150mm Absorber)	5.21	2.40	12.50	
f1	SR	100mm Brick, 100mm Void, 10mm CPB, 100mm METSEC, 2 x 12.5mm Wallboard, 100mm Rockwo	3.44	2.40	8.26	2.40
f1	RR	100mm Brick, 100mm Void, 10mm CPB, 100mm METSEC, 2 x 12.5mm Wallboard, 100mm Rockwo	3.43	2.40	8.23	2.40
f2	SR	British Gypsum Gypwall Classic BTC12227A	3.44	2.40	8.26	2.40
f2	RR	British Gypsum Gypwall Classic BTC12227A	3.43	2.40	8.23	2.40
f3	SR	250mm In-situ Concrete (Insul 7.0.13)	3.44	5.21	17.92	5.21
f3	RR	250mm In-situ Concrete (Insul 7.0.13)	3.43	5.21	17.87	5.21
f4	SR	250mm In-situ Concrete (Insul 7.0.13)	3.44	5.21	17.92	5.21
f4	RR	250mm In-situ Concrete (Insul 7.0.13)	3.43	5.21	17.87	5.21

Input Data Elements

tau	Roor	X	50	63	80	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000	Xw
d	SR	R	23.4	36.9	30.5	43.1	48.3	48.4	53.5	57.1	61.7	65.0	67.0	66.9	69.2	71.4	73.5	75.9	73.6	65.1	65.6	70.9	73.5	66
f1	SR	R	31.4	37.6	40.6	43.6	48.8	52.5	56.6	57.7	61.1	65.0	67.7	70.2	72.6	74.8	77.1	79.6	80.3	80.9	80.1	81.0	83.3	69
f1	RR	R	31.4	37.6	40.6	43.6	48.8	52.5	56.6	57.7	61.1	65.0	67.7	70.2	72.6	74.8	77.1	79.6	80.3	80.9	80.1	81.0	83.3	69
f2	SR	R	17.0	14.4	10.6	14.9	16.8	25.3	28.0	28.6	33.9	36.9	41.5	44.6	48.0	50.4	53.9	56.3	56.3	50.0	41.6	43.1	45.3	40
f2	RR	R	17.0	14.4	10.6	14.9	16.8	25.3	28.0	28.6	33.9	36.9	41.5	44.6	48.0	50.4	53.9	56.3	56.3	50.0	41.6	43.1	45.3	40
f3	SR	R	44.2	44.2	45.6	43.7	43.6	46.3	48.8	51.2	53.8	56.4	58.9	61.4	64.7	66.2	67.8	69.4	71.0	72.5	74.1	75.8	77.4	62
f3	RR	R	44.2	44.2	45.6	43.7	43.6	46.3	48.8	51.2	53.8	56.4	58.9	61.4	64.7	66.2	67.8	69.4	71.0	72.5	74.1	75.8	77.4	62
f4	SR	R	44.2	44.2	45.6	43.7	43.6	46.3	48.8	51.2	53.8	56.4	58.9	61.4	64.7	66.2	67.8	69.4	71.0	72.5	74.1	75.8	77.4	62
f4	SR	Delta	-5.4	0.8	-3.5	-1.5	1.6	2.8	4.2	6.0	8.1	10.5	12.6	14.7	16.0	17.6	17.9	18.7	18.2	17.2	16.9	17.5	17.9	15
f4	RR	R	44.2	44.2	45.6	43.7	43.6	46.3	48.8	51.2	53.8	56.4	58.9	61.4	64.7	66.2	67.8	69.4	71.0	72.5	74.1	75.8	77.4	62
f4	RR	Delta	-5.4	0.8	-3.5	-1.5	1.6	2.8	4.2	6.0	8.1	10.5	12.6	14.7	16.0	17.6	17.9	18.7	18.2	17.2	16.9	17.5	17.9	15

Structural Reverb. Time, lab (s)

tau	Room	50	63	80	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000
f3	SR	0.838	0.727	0.617	0.534	0.495	0.435	0.381	0.332	0.289	0.251	0.217	0.187	0.161	0.138	0.118	0.100	0.085	0.072	0.060	0.051	0.042
f3	RR	0.838	0.727	0.617	0.534	0.495	0.435	0.381	0.332	0.289	0.251	0.217	0.187	0.161	0.138	0.118	0.100	0.085	0.072	0.060	0.051	0.042
f4	SR	0.838	0.727	0.617	0.534	0.495	0.435	0.381	0.332	0.289	0.251	0.217	0.187	0.161	0.138	0.118	0.100	0.085	0.072	0.060	0.051	0.042
f4	RR	0.838	0.727	0.617	0.534	0.495	0.435	0.381	0.332	0.289	0.251	0.217	0.187	0.161	0.138	0.118	0.100	0.085	0.072	0.060	0.051	0.042

Structural Reverb. Time, situ (s)

tau	Room	50	63	80	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000
f3	SR	0.278	0.246	0.215	0.190	0.172	0.153	0.135	0.120	0.106	0.093	0.082	0.072	0.064	0.056	0.049	0.043	0.037	0.032	0.028	0.024	0.021
f3	RR	0.278	0.245	0.215	0.190	0.172	0.152	0.135	0.119	0.106	0.093	0.082	0.072	0.063	0.056	0.049	0.043	0.037	0.032	0.028	0.024	0.021
f4	SR	0.278	0.246	0.215	0.190	0.172	0.153	0.135	0.120	0.106	0.093	0.082	0.072	0.064	0.056	0.049	0.043	0.037	0.032	0.028	0.024	0.021
f4	RR	0.278	0.245	0.215	0.190	0.172	0.152	0.135	0.119	0.106	0.093	0.082	0.072	0.063	0.056	0.049	0.043	0.037	0.032	0.028	0.024	0.021

In-Situ-Data Elements

tau	Room	X	50	63	80	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000	Xw
d	SR	R	23.4	36.9	30.5	43.1	48.3	48.4	53.5	57.1	61.7	65.0	67.0	66.9	69.2	71.4	73.5	75.9	73.6	65.1	65.6	70.9	73.5	66
f1	SR	R	31.4	37.6	40.6	43.6	48.8	52.5	56.6	57.7	61.1	65.0	67.7	70.2	72.6	74.8	77.1	79.6	80.3	80.9	80.1	81.0	83.3	69
f1	RR	R	31.4	37.6	40.6	43.6	48.8	52.5	56.6	57.7	61.1	65.0	67.7	70.2	72.6	74.8	77.1	79.6	80.3	80.9	80.1	81.0	83.3	69
f2	SR	R	17.0	14.4	10.6	14.9	16.8	25.3	28.0	28.6	33.9	36.9	41.5	44.6	48.0	50.4	53.9	56.3	56.3	50.0	41.6	43.1	45.3	40
f2	RR	R	17.0	14.4	10.6	14.9	16.8	25.3	28.0	28.6	33.9	36.9	41.5	44.6	48.0	50.4	53.9	56.3	56.3	50.0	41.6	43.1	45.3	40
f3	SR	R	49.0	48.9	50.2	48.2	48.2	50.8	53.3	55.6	58.2	60.7	63.1	65.5	68.7	70.1	71.6	73.1	74.6	76.0	77.4	79.0	80.4	67
f3	RR	R	49.0	48.9	50.2	48.2	48.2	50.9	53.3	55.6	58.2	60.7	63.1	65.5	68.7	70.1	71.6	73.1	74.6	76.0	77.4	79.0	80.4	67
f4	SR	R	49.0	48.9	50.2	48.2	48.2	50.8	53.3	55.6	58.2	60.7	63.1	65.5	68.7	70.1	71.6	73.1	74.6	76.0	77.4	79.0	80.4	67
f4	SR	Delta	-5.4	0.8	-3.5	-1.5	1.6	2.8	4.2	6.0	8.1	10.5	12.6	14.7	16.0	17.6	17.9	18.7	18.2	17.2	16.9	17.5	17.9	15
f4	RR	R	49.0	48.9	50.2	48.2	48.2	50.9	53.3	55.6	58.2	60.7	63.1	65.5	68.7	70.1	71.6	73.1	74.6	76.0	77.4	79.0	80.4	67
f4	RR	Delta	-5.4	0.8	-3.5	-1.5	1.6	2.8	4.2	6.0	8.1	10.5	12.6	14.7	16.0	17.6	17.9	18.7	18.2	17.2	16.9	17.5	17.9	15

Junction Type

Flank	Junction	mi	mi_	M	E1	t1	f1	a
f1	Type 20 (T-junction, double leaf lightweight elements, continuous separating element)	16	25	0.20				
f2	Type 19 (Cross-junction, double leaf lightweight elements, continuous separating element)	11	25	0.38				
f3	Type 17 (Cross-junction, double leaf lightweight separat. / single leaf flank. element, continuous	585	25	-1.37				
f4	Type 17 (Cross-junction, double leaf lightweight separat. / single leaf flank. element, continuous	585	25	-1.37				

Vibration Reduction Index Kij

Flank	Path	50	63	80	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000
f1	Ff	17.2	16.9	16.6	16.3	15.9	15.6	15.3	14.9	14.6	14.3	13.9	13.6	13.3	13.0	12.6	12.3	12.0	11.6	11.3	11.0	10.6
f1	Fd	15.3	14.9	14.6	14.3	14.0	13.6	13.3	13.0	12.6	12.3	12.0	11.6	11.3	11.0	10.7	10.3	10.0	9.7	9.3	9.0	8.7
f1	Df	15.3	14.9	14.6	14.3	14.0	13.6	13.3	13.0	12.6	12.3	12.0	11.6	11.3	11.0	10.7	10.3	10.0	9.7	9.3	9.0	8.7
f2	Ff	20.8	20.5	20.1	19.8	19.5	19.2	18.8	18.5	18.2	17.8	17.5	17.2	16.8	16.5	16.2	15.9	15.5	15.2	14.9	14.5	14.2
f2	Fd	17.1	16.7	16.4	16.1	15.7	15.4	15.1	14.8	14.4	14.1	13.8	13.4	13.1	12.8	12.4	12.1	11.8	11.5	11.1	10.8	10.5
f2	Df	17.1	16.7	16.4	16.1	15.7	15.4	15.1	14.8	14.4	14.1	13.8	13.4	13.1	12.8	12.4	12.1	11.8	11.5	11.1	10.8	10.5
f3	Ff	-5.6	-5.6	-5.6	-5.6	-5.6	-5.6	-5.6	-5.6	-5.6	-5.6	-5.6	-5.6	-5.6	-5.6	-5.6	-5.6	-5.6	-5.6	-5.6	-5.6	-5.6
f3	Fd	20.4	20.7	21.0	21.4	21.7	22.0	22.3	22.7	23.0	23.3	23.7	24.0	24.3	24.7	25.0	25.3	25.6	26.0	26.3	26.6	27.0
f3	Df	20.4	20.7	21.0	21.4	21.7	22.0	22.3	22.7	23.0	23.3	23.7	24.0	24.3	24.7	25.0	25.3	25.6	26.0	26.3	26.6	27.0
f4	Ff	-5.6	-5.6	-5.6	-5.6	-5.6	-5.6	-5.6	-5.6	-5.6	-5.6	-5.6	-5.6	-5.6	-5.6	-5.6	-5.6	-5.6	-5.6	-5.6	-5.6	-5.6
f4	Fd	20.4	20.7	21.0	21.4	21.7	22.0	22.3	22.7	23.0	23.3	23.7	24.0	24.3	24.7	25.0	25.3	25.6	26.0	26.3	26.6	27.0
f4	Df	20.4	20.7	21.0	21.4	21.7	22.0	22.3	22.7	23.0	23.3	23.7	24.0	24.3	24.7	25.0	25.3	25.6	26.0	26.3	26.6	27.0

Velocity Level Difference Dv,ij,situ

Flank	Path	50	63	80	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000
f1	Ff	22.6	22.3	21.9	21.6	21.3	20.9	20.6	20.3	20.0	19.6	19.3	19.0	18.6	18.3	18.0	17.6	17.3	17.0	16.7	16.3	16.0
f1	Fd	21.5	21.2	20.9	20.5	20.2	19.9	19.6	19.2	18.9	18.6	18.2	17.9	17.6	17.2	16.9	16.6	16.3	15.9	15.6	15.3	14.9
f1	Df	21.5	21.2	20.9	20.5	20.2	19.9	19.5	19.2	18.9	18.6	18.2	17.9	17.6	17.2	16.9	16.6	16.2	15.9	15.6	15.3	14.9
f2	Ff	26.2	25.8	25.5	25.2	24.9	24.5	24.2	23.9	23.5	23.2	22.9	22.5	22.2	21.9	21.6	21.2	20.9	20.6	20.2	19.9	19.6
f2	Fd	23.3	23.0	22.7	22.3	22.0	21.7	21.3	21.0	20.7	20.3	20.0	19.7	19.4	19.0	18.7	18.4	18.0	17.7	17.4	17.0	16.7
f2	Df	23.3	23.0	22.6	22.3	22.0	21.7	21.3	21.0	20.7	20.3	20.0	19.7	19.3	19.0	18.7	18.4	18.0	17.7	17.4	17.0	16.7
f3	Ff	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.2	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.1
f3	Fd	25.0	25.3	25.7	26.1	26.4	26.7	27.0	27.4	27.7	28.1	28.4	28.8	29.2	29.5	29.9	30.3	30.7	31.0	31.4	31.8	32.2
f3	Df	25.0	25.3	25.7	26.1	26.4	26.7	27.0	27.4	27.7	28.1	28.4	28.8	29.2	29.5	29.9	30.3	30.6	31.0	31.4	31.8	32.2
f4	Ff	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.2	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.1
f4	Fd	25.0	25.3	25.7	26.1	26.4	26.7	27.0	27.4	27.7	28.1	28.4	28.8	29.2	29.5	29.9	30.3	30.7	31.0	31.4	31.8	32.2
f4	Df	25.0	25.3	25.7	26.1	26.4	26.7	27.0	27.4	27.7	28.1	28.4	28.8	29.2	29.5	29.9	30.3	30.6	31.0	31.4	31.8	32.2

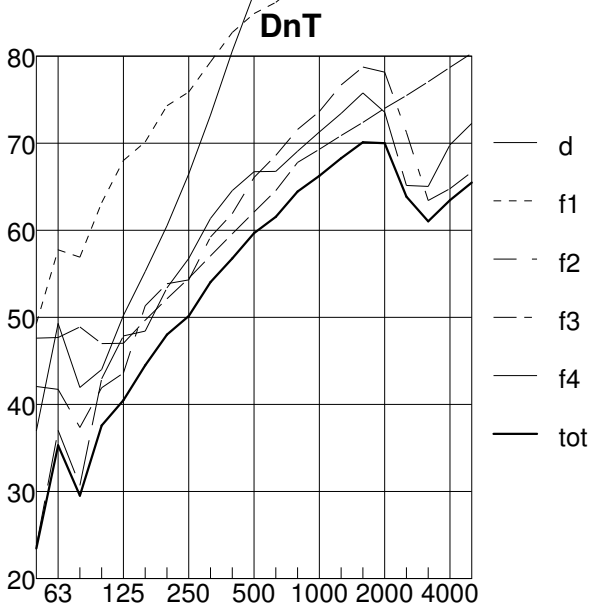
Sound Reduction per Path

Path	50	63	80	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000	DnT,w (0.5 s) +
Dd	23.8	37.3	30.9	43.5	48.7	48.8	53.9	57.5	62.1	65.4	67.4	67.3	69.6	71.8	73.9	76.3	74.0	65.5	66.0	71.3	73.9	60.1
1d	50.2	59.8	57.7	65.2	70.1	71.6	75.9	77.9	81.6	84.9	86.9	87.8	89.8	91.7	93.5	95.6	94.5	90.2	89.8	92.5	94.6	81.5
2d	44.8	50.0	44.5	52.6	55.9	59.8	63.4	65.2	69.8	72.6	75.6	76.8	79.3	81.2	83.7	85.8	84.3	76.6	72.3	75.4	77.4	68.7
3d	60.8	67.9	65.7	71.3	74.2	76.0	80.1	83.4	87.3	90.6	93.1	94.6	97.8	99.9	102.1	104.4	104.4	101.2	102.5	106.4	108.8	86.6
4d	55.4	68.7	62.2	69.8	75.8	78.8	84.3	89.4	95.4	101.1	105.7	109.3	113.8	117.5	120.0	123.1	122.6	118.4	119.4	123.9	126.7	88.0
d	23.8	37.0	30.7	43.0	47.9	48.4	53.4	56.8	61.4	64.6	66.7	66.8	69.1	71.3	73.4	75.8	73.6	65.2	65.1	69.8	72.3	59.5
11	56.2	62.1	64.7	67.4	72.3	75.7	79.4	80.2	83.3	86.8	89.2	91.4	93.4	95.3	97.3	99.5	99.8	100.1	99.0	99.5	101.5	83.8
D1	50.2	59.8	57.7	65.2	70.1	71.6	75.9	77.9	81.6	84.9	86.9	87.8	89.8	91.7	93.5	95.6	94.5	90.2	89.8	92.5	94.6	81.5
f1	49.3	57.8	56.9	63.2	68.0	70.2	74.3	75.9	79.4	82.7	84.9	86.2	88.2	90.1	92.0	94.1	93.4	89.8	89.3	91.7	93.8	79.9
22	45.4	42.5	38.3	42.3	43.9	52.0	54.4	54.7	59.7	62.3	66.6	69.4	72.4	74.5	77.7	79.7	79.4	72.8	64.1	65.2	67.1	58.4
D2	44.8	50.0	44.5	52.6	55.9	59.8	63.4	65.2	69.8	72.6	75.6	76.8	79.3	81.2	83.7	85.8	84.3	76.6	72.3	75.4	77.4	68.7
f2	42.1	41.8	37.4	41.9	43.6	51.4	53.9	54.3	59.3	61.9	66.1	68.6	71.6	73.7	76.7	78.8	78.2	71.3	63.4	64.8	66.7	57.9
33	47.8	47.8	49.0	47.0	47.0	49.7	52.1	54.5	57.1	59.6	62.1	64.6	67.8	69.3	70.9	72.4	74.0	75.5	77.1	78.7	80.4	60.0
D3	60.8	67.9	65.7	71.3	74.2	76.0	80.1	83.4	87.3	90.6	93.1	94.6	97.8	99.9	102.1	104.4	104.4	101.2	102.6	106.4	108.8	86.6
f3	47.6	47.7	48.9	47.0	47.0	49.7	52.1	54.5	57.1	59.6	62.1	64.6	67.8	69.3	70.9	72.4	74.0	75.5	77.1	78.7	80.4	60.0
44	37.0	49.4	42.0	44.0	50.2	55.3	60.5	66.5	73.3	80.6	87.3	94.0	99.8	104.5	106.7	109.8	110.4	109.9	110.9	113.7	116.2	62.7
D4	55.4	68.7	62.2	69.8	75.8	78.8	84.3	89.4	95.4	101.1	105.7	109.3	113.8	117.5	120.0	123.1	122.6	118.4	119.5	123.9	126.7	88.0
f4	37.0	49.3	42.0	44.0	50.2	55.3	60.5	66.5	73.3	80.6	87.3	93.9	99.7	104.3	106.5	109.6	110.2	109.3	110.3	113.3	115.8	62.7
tot	23.5	35.3	29.5	37.6	40.5	44.5	48.0	50.2	54.1	56.8	59.7	61.6	64.5	66.3	68.3	70.1	70.0	63.9	61.1	63.5	65.5	53.9

Airborne Sound per Element

tau	50	63	80	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000	DnT,w (0.5 s) +
d	23.8	37.0	30.7	43.0	47.9	48.4	53.4	56.8	61.4	64.6	66.7	66.8	69.1	71.3	73.4	75.8	73.6	65.2	65.1	69.8	72.3	59.5
f1	49.3	57.8	56.9	63.2	68.0	70.2	74.3	75.9	79.4	82.7	84.9	86.2	88.2	90.1	92.0	94.1	93.4	89.8	89.3	91.7	93.8	79.9
f2	42.1	41.8	37.4	41.9	43.6	51.4	53.9	54.3	59.3	61.9	66.1	68.6	71.6	73.7	76.7	78.8	78.2	71.3	63.4	64.8	66.7	57.9
f3	47.6	47.7	48.9	47.0	47.0	49.7	52.1	54.5	57.1	59.6	62.1	64.6	67.8	69.3	70.9	72.4	74.0	75.5	77.1	78.7	80.4	60.0
f4	37.0	49.3	42.0	44.0	50.2	55.3	60.5	66.5	73.3	80.6	87.3	93.9	99.7	104.3	106.5	109.6	110.2	109.3	110.3	113.3	115.8	62.7
tot	23.5	35.3	29.5	37.6	40.5	44.5	48.0	50.2	54.1	56.8	59.7	61.6	64.5	66.3	68.3	70.1	70.0	63.9	61.1	63.5	65.5	53.9

Resulting Diagram



DnT,w = 60
DnT,w + C = 59
DnT,w + Ctr = 54
DnT,w + C100-5000 = 59
DnT,w + Ctr,100-5000 = 54
DnT,w + C50-5000 = 57
DnT,w + Ctr,50-5000 = 45
DnT,w + C50-3150 = 56
DnT,w + Ctr,50-3150 = 45