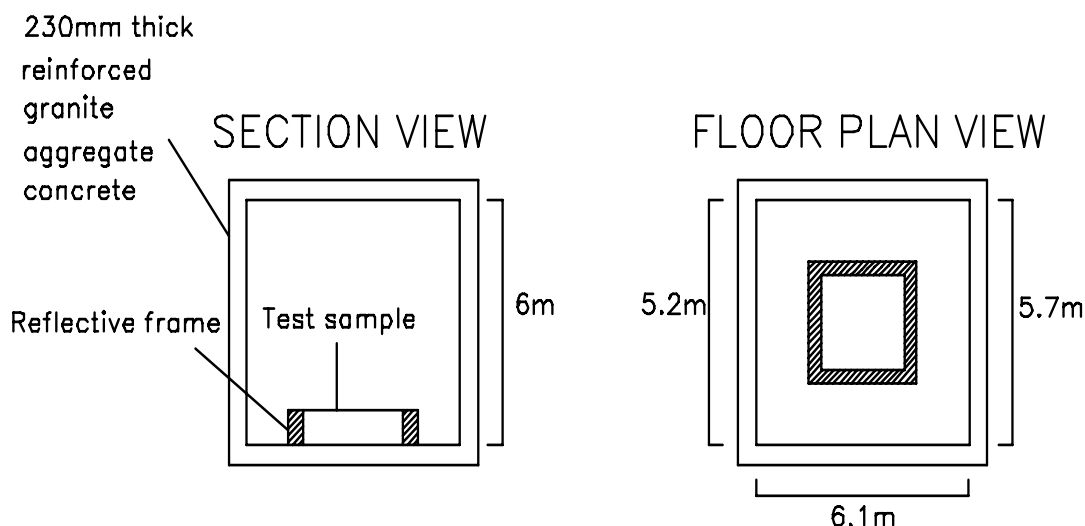


### REVERBERATION ROOM

This room has been constructed and equipped to fulfil British, American and International Standard recommendations for the measurement of random incidence sound absorption of acoustical materials.

The figure below shows the section and floor plan view of the test room although all walls are non-parallel.



### TECHNICAL DATA

**Dimensions** - 5.2m x 6m x 6m

**Volume** - 196m<sup>3</sup>

**Walls and ceiling** - 230mm thick reinforced granite aggregate concrete

**Inner surface** - Plastered with Arrow thin coat plaster and finished with hard gloss paint.

**Outer surface** - 50mm thick Gypklith wood slab permanent shuttering

**Floor** - 300mm thick reinforced concrete with grano screed.

**Diffusers** - Sixteen perspex diffusers 4mm x 1220mm x1220mm suspended from the ceiling.

**Test specimen size (for plane absorber)** - 10 m<sup>2</sup> - 12m<sup>2</sup>

**Access size** - 2.03m x 1.33m

# The Building Test Centre

## Fire Acoustics Structures

The Building Test Centre  
 British Gypsum  
 East Leake  
 Loughborough  
 Leics. LE12 6NP  
 Tel (0115) 945 1564  
 Fax (0115) 945 1562  
 email btc.testing@bpb.com

The repeatability of sound absorption coefficient ' $\alpha_s$ ' for low absorption,  $r_1$ , and high absorption,  $r_2$ , is calculated from 5 complete re-tests respectively RREPEAT1 -5 (12<sup>th</sup>-13<sup>th</sup> July 1994) & R1-5 (6<sup>th</sup> July 1991):

Freq Hz	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150
$r_1$	.035	.064	.018	.018	.035	0	.018	0	.035	.028	.028	.021	.053	.066	.033	.048
$r_2$	.056	.077	.085	.068	.146	.106	.213	.205	.2	.116	.051	.218	.109	.068	.048	.06

The repeatability of measured reverberation times for low absorption (empty room),  $r_3$ , and high absorption,  $r_4$ , is calculated as the relative standard deviation of 36 decays of  $T_{20}$  (BS EN ISO 354:2003 Section 8.2.2). R13200AA & R13200LA respectively (23<sup>rd</sup> February 2004):

Freq Hz	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150
$r_3$	.047	.042	.042	.037	.031	.027	.026	.026	.023	.020	.018	.017	.016	.015	.015	.015
$r_4$	.056	.058	.058	.055	.051	.052	.050	.049	.044	.040	.037	.033	.030	.027	.025	.023

