



Appendix B

Acoustical Calculations & Partition Details

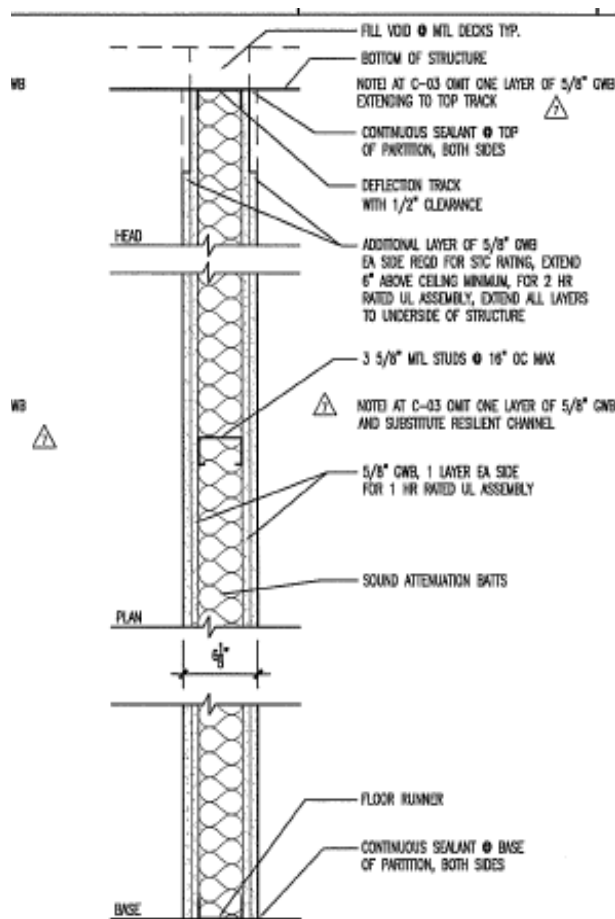
Receiving Classroom 156	Area (SF)	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz
Ceiling, Acoustical Panels	1655	Absorption Coefficient (α)					
		0.76	0.93	0.83	0.99	0.94	0.95
		Absorption(sabins,a_2)					
		1257.8	1539.15	1373.65	1638.45	1555.7	1572.25
Floor, VCT	1655	Absorption Coefficient (α)					
		0.02	0.03	0.03	0.03	0.03	0.02
		Absorption(sabins,a_2)					
		33.1	49.65	49.65	49.65	49.65	33.1
Walls, GWB on Metal Studs	1467	Absorption Coefficient (α)					
		0.28	0.12	0.1	0.07	0.13	0.09
		Absorption(sabins,a_2)					
		410.76	176.04	146.7	102.69	190.71	132.03
Total Absorption (sabins)		1702	1765	1570	1791	1796	1737
Transmitted Noise from Bathroom		85	79	78	77	72	65
Ambient Classroom Noise (NC-30)		52	45	40	36	34	33
Required Noise Reduction		33	34	38	41	38	32
10 Log (a_2/S)		-4	-4	-5	-4	-4	-4
Required Transmission Loss (dB)		29	30	33	37	34	28
Existing Construction TL (STC-52)		38	52	59	60	56	62

Receiving Classroom 151	Area (SF)	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz
Ceiling, Acoustical Panels	947	Absorption Coefficient (α)					
		0.76	0.93	0.83	0.99	0.94	0.95
		Absorption(sabins,a_2)					
		719.72	880.71	786.01	937.53	890.18	899.65
Floor, VCT	947	Absorption Coefficient (α)					
		0.02	0.03	0.03	0.03	0.03	0.02
		Absorption(sabins,a_2)					
		18.94	28.41	28.41	28.41	28.41	18.94
Walls, GWB on Metal Studs	1110	Absorption Coefficient (α)					
		0.28	0.12	0.1	0.07	0.13	0.09
		Absorption(sabins,a_2)					
		310.8	133.2	111	77.7	144.3	99.9
Total Absorption (sabins)		1049.46	1042.32	925.42	1043.64	1062.89	1018.49
Transmitted Noise from Classroom 152		66	72	77	74	68	60
Classroom Noise (Per ANSI Standard S12.60)		35	35	35	35	35	35
Required Noise Reduction		31	37	42	39	33	25
10 Log (a_2/S)		-5	-5	-5	-5	-5	-5
Required Transmission Loss (dB)		26	32	37	34	28	20
Existing Construction TL (STC-52)		38	52	59	60	56	62



Receiving Classroom 129	Area (SF)	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz
Ceiling, Acoustical Panels	870	Absorption Coefficient (α)					
		0.76	0.93	0.83	0.99	0.94	0.95
		Absorption(sabins, a_2)					
		661.2	809.1	722.1	861.3	817.8	826.5
Floor, VCT	870	Absorption Coefficient (α)					
		0.02	0.03	0.03	0.03	0.03	0.02
		Absorption(sabins, a_2)					
		17.4	26.1	26.1	26.1	26.1	17.4
Walls, GWB on Metal Studs	1062	Absorption Coefficient (α)					
		0.28	0.12	0.1	0.07	0.13	0.09
		Absorption(sabins, a_2)					
		297.36	127.44	106.2	74.34	138.06	95.58
Total Absorption (sabins)		975.96	962.64	854.4	961.74	981.96	939.48
Transmitted Noise from Mech. Room		86	85	84	83	82	80
Classroom Noise (Per ANSI Standard S12.60)		35	35	35	35	35	35
Required Noise Reduction		51	50	49	48	47	45
10 Log (a_2/S)		-5	-5	-5	-5	-5	-5
Required Transmission Loss (dB)		46	45	44	43	42	40
Existing Construction (STC-)		79					

Receiving Classroom 184	Area (SF)	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz
Ceiling, Acoustical Panels	822	Absorption Coefficient (α)					
		0.76	0.93	0.83	0.99	0.94	0.95
		Absorption(sabins, a_2)					
		624.72	764.46	682.26	813.78	772.68	780.9
Floor, VCT	822	Absorption Coefficient (α)					
		0.02	0.03	0.03	0.03	0.03	0.02
		Absorption(sabins, a_2)					
		16.44	24.66	24.66	24.66	24.66	16.44
Walls, GWB on Metal Studs	1017	Absorption Coefficient (α)					
		0.28	0.12	0.1	0.07	0.13	0.09
		Absorption(sabins, a_2)					
		284.76	122.04	101.7	71.19	132.21	91.53
Total Absorption (sabins)		925.92	911.16	808.62	909.63	929.55	888.87
Transmitted Noise from Laboratory 185		70	73	75	72	69	65
Classroom Noise (Per ANSI Standard S12.60)		35	35	35	35	35	35
Required Noise Reduction		35	38	40	37	34	30
10 Log (a_2/S)		-5	-5	-5	-5	-5	-5
Required Transmission Loss (dB)		30	33	35	32	29	25
Existing Construction TL (STC-52)		38	52	59	60	56	62

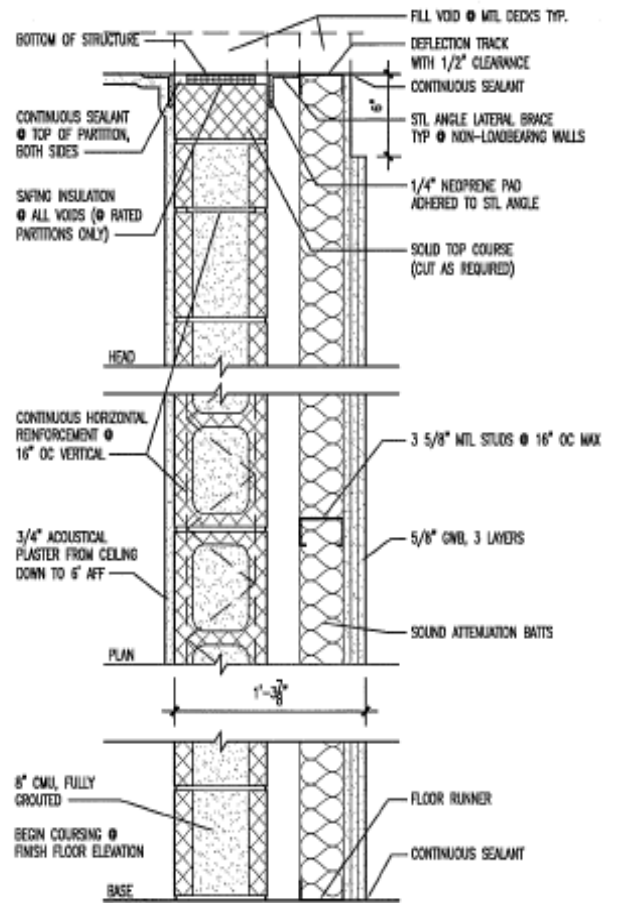


C-03
C-13
C-23

PARTITION TYPE
 SCALE 1 1/2" = 1'-0"

SIC 53

TYPE C-13 IS 1 HR RATED
TYPE C-23 IS 2 HR RATED
PER UL DESIGN #J465.



4-18

PARTITION TYPE
 SCALE 1 1/2" = 1'-0"

2 HOUR FIRE RATED PER
UL DESIGN #J465. SEE
CODE COMPLIANCE PLANS FOR
EXTENT OF RATED PARTITIONS.

Partition for Receiving Rooms 156, 151, & 184

Partition for Receiving Room 129