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DEPARTMENT OF COMMERCE
BUREAU OF STANDARDS
WASHINGTON
February 17, 1933.

Letter Circular
LC-359
(Superseding #341)

SOUND ABSORPTION COEFFICIENTS OF THE MORE COMMON MATERIALS.

The following figures have been obtained at the Bureau of Standards for the sound absorption coefficients of a number of materials now on the market as acoustic correctives. The inclusion of a material in this letter circular is not to be construed as a general approval. Each material should be judged on its merits in any particular case as there are other requirements such as fire resisting qualities, light reflection, appearance, etc. Figures are also given for the absorption of an audience seated in chairs of different kinds. All the results have been obtained by the reverberation method. Unless otherwise mentioned, all samples were laid directly on the floor of the reverberation room.

The sound absorption coefficient of a material is defined as the fractional part of the energy of a sound wave which is absorbed at each reflection. Experimental figures such as are given here must be regarded as approximate only. This branch of applied science is new and in a state of development. The methods and formulas used in obtaining these figures are those which, while not entirely satisfactory, are open to the least objection. The uncertainty involved is such that all the coefficients are probably somewhat too large.

Fibrous materials and acoustic tiles may exhibit large variation in coefficient arising from different methods of mounting. The figures here given apply only to cases where the materials are mounted in the same manner as when tested.

Acoustic plasters require special skill in their application, as improper manipulation may reduce the coefficient. Moreover, the figures given for plasters without a base coat will be considerably reduced if a base coat is used.

It is not necessarily the case that the materials of highest coefficient are the most advantageous. When there is room enough to apply the requisite quantity, a material of low coefficient will give better results than one of higher absorption, because of the more uniform distribution of material.

For the foregoing reasons it is advisable in drawing up specifications for auditoriums to lay emphasis upon the reverberation time desired rather than upon coefficients of material. See Bureau of Standards Circular No. 396 entitled "Architectural Acoustics", which may be obtained of the Superintendent of Documents, Government Printing Office, Washington, D.C., at 5¢ per copy. Additional details regarding any of the materials mentioned in this letter circular will be furnished on application.

Material	Absorption coefficients for Frequencies 128	256	512	1024	2048	Date
ABSORBEX(Thermax)Type A(36 gauge) 1" thick painted by mfgr.	-	-	.46	-	-	1932
Ditto, cemented to sheet rock.	-	.22	.45	.92	.97	1932
" laid on 1" Thermax	-	.37	.85	1.00	.95	1932
" on 13/16"x2"furring 9" o.c.	-	.27	.66	.99	.81	1932
" on 13/16"x2" " 9" o.c. which were on 2x4's	-	.58	.90	.62	.88	1932
ABSORBEX(Thermax)Type B(veneered) 1" thick laid on 1" Thermax	-	-	.88	-	-	1932
ABSORBEX Type B 1" thick,spray painted 4 coats lithoppne paint on 13/16"x2" furring 9" o.c.	-	.23	.61	.84	.79	1932
Ditto cemented to sheet rock	-	.18	.37	.74	.97	1932
ABSORBEX(Thermax)Type C(14 gauge)	.14	.19	.34	.76	.63	1932
Ditto on 13/16"x2" furring 20" o.c.	.14	.21	.69	.71	.59	1932
ACOUSTEX 1" thick #60	.11	.21	.53	.81	.81	1931
Ditto 1 1/2" thick.#70	.16	.34	.75	.85	.84	1931
Ditto, 6 coats spray paint	.14	.30	.74	.90	.85	1931
ACOUSTEX 1 1/4" thick #W-80	.08	.34	.88	1.00	.85	1932
" 1 1/2" " #W-90	.14	.46	.99	1.00	.82	1932
" 2" " #W-100	.28	.67	1.00	1.00	.92	1932
ACOUSTI-CELOTEX Single B, 5/8" thk.	.08	.18	.48	.63	.75	1931
Ditto brush painted 4 coats	.07	.20	.46	.72	.87	1931
ACOUSTI-CELOTEX Double B, 13/16"thk.	.15	.24	.62	.76	.73	1931
Ditto brush painted 4 coats	.13	.26	.62	.82	.91	1931
Ditto on furring strips 13/16"x2", 12" o.c.	.09	.56	.81	.96	.83	1933
ACOUSTI-CELOTEX Triple B, 1¼" thk.	.12	.41	.96	.99	.68	1932
ACOUSTI-CELOTEX Mineral Fiber Double X, 13/16" thick	.04	.16	.61	.86	.84	1933
ACOUSTI-CELOTEX Mineral Fiber Triple X, 1¼" thick	.22	.32	.84	.80	.87	1931
Ditto brush painted 2 coats	.19	.45	.92	.81	.63	1931
ACOUSTIC LIME PLASTER, Finishing Lime Assoc.of Ohio 3/4" thk.on base coat lime plaster	.17	.23	.28	.36	.64	1930
ACOUSTOLIC (Maftex) nailed on 2x4's, spaced 2 ft. on centers; Without surface treatment	.44	.24	.31	.44	.48	1930
Tinted with water soluble aniline color	-	.29	.28	.41	-	1930
Tinted with water color paint	.40	.33	.31	.38	.37	1930
ACOUSTONE 1/2" thick	.09	.20	.48	.64	.66	1931
3/4" "	.13	.28	.61	.73	.73	1930
1" "	.18	.38	.64	.73	.73	1930

Material	Absorption coefficients for Frequencies 128	256	512	1024	2048	Date
AKOUSTOLITH TILE, Grade D, 1"	.08	.13	.25	.54	.67	1930
Grade D, 2"	.15	.26	.59	.74	.52	1930
Grade B, 1"	.10	.14	.28	.65	.73	1929
Grade C, 1 1/2"	.12	.19	.44	.61	.66	1930
Grade C, 2"	.19	.26	.53	.64	.70	1930
Grade B, 2"	.21	.50	.90	.86	.72	1931
Grade B, 1 1/2"	.14	.30	.69	.92	.87	1932
Grade B, 1"	.09	.17	.46	.81	.81	1932
AKOUSTOLITH PLASTER, 1/4" thick on base coat gypsum plaster	.13	.21	.19	.23	.33	1931
AKOUSTOLITH PLASTER, 1/2" thick on base coat gypsum plaster	.20	.26	.35	.56	.59	1932
ARBORITE, 1/2" thick on 13/16"x2" furring strips, spaced 12" o.c. Low density material, sanded surface	.21	.48	.34	.31	.41	1930
ARBORITE, 1/2" thick Regular material, sanded surface, same furring strips	.16	.40	.27	.29	.39	1930
BALSAM WOOL, 1" thick, scrim facing	.18	.36	.55	.65	.67	1928
BALSAM WOOL Krex-Tone Tile 1" thk.	.12	.24	.63	.76	.76	1931
CALICEL ACOUSTIC TILE, 1" thick cemented to plaster board	.26	.38	.74	.91	.78	1932
CALICEL ACOUSTIC TILE, 1 1/4" thk. cemented to plaster board	.11	.34	.86	.93	.75	1932
CER-MACOUSTIC TILE 1 1/8" thick cemented to Sheetrock	.34	.48	.64	.67	.66	1932
Ditto Spray painted 4 coats	.28	.49	.62	.63	.68	1932
CORKOUSTIC, Type C, 1 1/2" thick	.08	.14	.61	.56	.64	1931
" " B, 1 1/2" "	.09	.10	.61	.56	.49	1931
EK-O-LESS TILE, 3/4" thick on 1" backing	.22	.31	.67	.87	.78	1932
EK-O-LESS TILE, 1 7/16" thick on 1/2" backing	.18	.32	.90	.99	.81	1932
FLAXLINUM, 1" thick	.09	.31	.62	.77	.69	1930
FLAXLINUM in TMB Tile, on 13/16" x 2" furrin strips, spaced 16" o.c. thicknesses as below:						
1/2" Flaxlinum	.11	.19	.58	.68	.69	1930
1" "	.17	.34	.61	.72	.68	1930
1/2" and 1"	.32	.46	.67	.69	.71	1930
2 1" layers Flaxlinum	.41	.59	.70	.72	.74	1930
HACHMEISTER-LIND ACOUSTIC PLASTER on base coat gypsum plaster, stippled with pins 1/2" deep	.16	.19	.25	.36	.44	1930

Materials	Absorption coefficients for Frequencies 128	256	512	1024	2048	Date
INSULITE ACOUSTILE TYPE 44, 1 3/4" thick	.26	.42	.50	.57	.61	1931
KALITE ACOUSTIC PLASTER H, 1/2" thick on base coat gypsum plaster	.25	.31	.46	.61	.62	1932
KALITE ACOUSTIC PLASTER A-2, 1/2" thick on base coat gypsum plaster	.24	.23	.28	.48	.70	1932
KALITE ACOUSTIC CEMENT, 3/4" thk. on metal lath with wood studs, no base coat	.34	.46	.49	.52	.73	1931
KALITE TILE, 1 1/2" thick, 1" backing	.15	.32	.50	.52	.40	1931
MACOUSTIC PLASTER, 1/2" thick on base coat gypsum plaster stippled with large pins, perforations 1/2" deep	.06	.17	.33	.56	.58	1931
MACOUSTIC PLASTER 47W, 1/2" thick stippled with small nails, perforations 1/2" deep	.41	.34	.43	.54	.58	1932
MAIZEWOOD TILE, 1 1/2" thick, saw cuts in surface	.23	.41	.64	.84	.73	1932
Ditto, 1 coat size, 2 coats lead and oil paint	.21	.42	.64	.76	.73	1932
MUTETILE, 2" Rockwool	.53	.74	.85	.83	.80	1932
NASHKOTE A, 1/2" thick cemented to sheetrock	.05	.13	.25	.26	.20	1929
NASHKOTE A, 3/4" " " " sheetrock	.09	.16	.27	.30	.23	1929
NASHKOTE A, 1" " " " sheetrock	.12	.20	.33	.33	.28	1929
NASHKOTE B-332, 1/2" " " sheetrock	.09	.15	.31	.52	.74	1929
NASHKOTE B-332, 3/4" " " sheetrock	.12	.21	.40	.63	.81	1929
NASHKOTE B-332, 1" " " sheetrock	.19	.26	.51	.73	.89	1929
NASHKOTE A, 1/2" thick, perforated	.08	.15	.43	.62	.65	1929
NASHKOTE A, 3/4" " "	.11	.21	.51	.68	.71	1929
NASHKOTE A, 1" " "	.13	.26	.58	.73	.77	1929
NEPHI PLASTER 3/4" thick on metal lath, no base coat	.34	.34	.40	.44	.49	1932
NUWOOD BEVEL LAP TILE, 1/2" thick cemented to floor	.12	.19	.30	.40	.40	1931
NUWOOD BEVEL LAP TILE, 1" thick cemented to floor	.14	.19	.37	.37	.41	1931
PLASTACOUSTIC 1/2" thick applied on 1/4" scratch coat gypsum plaster on metal lath	.49	.33	.38	.61	.92	1932
PLASTACOUSTIC 5/8" thick applied on metal lath no base coat	.19	.63	.92	.70	.74	1932

Materials	Absorption coefficients for Frequencies 128	256	512	1024	2048	Date
POROLITH	.10	.23	.56	.84	.87	1931
QUIETILE Type 80 (U.S.Gypsum Co.)	.06	.47	.80	.78	.75	1932
REVERBOLITH PLASTER, stippled with large pins, 1/2" thick on base coat gypsum plaster	.07	.15	.34	.47	.65	1930
ROCKOUSTILE (Improved) 1" thick on 13/16" x 2" furring strips 12"o.c.	.08	.64	.79	.82	.81	1932
ROCKOUSTILE TYPE A 1" thick unpainted on 13/16"x2" furring strips 12" o.c.	.05	.39	.86	.73	.62	1932
Ditto painted 1 spray coat and 3 brush coats	.11	.45	.85	.64	.55	1932
ROCKOUSTILE Type A 3/4" thick unpainted on 13/16"x2" furring strips 12" o.c.	.04	.23	.83	.76	.73	1932
Ditto painted 1 spray coat and 3 brush coats	.07	.33	.85	.67	.52	1932
ROCKWALL ACOUSTICAL PLASTER 1/2" thk. on base coat of gypsum plaster	.27	.24	.47	.77	.91	1932
Ditto 3/4" thick	.34	.32	.61	.81	.73	1932
SABINITE PLASTER, Hydraulic, 1/2" thick on base coat gypsum plaster	.14	.24	.27	.38	.49	1931
SABINITE PLASTER A 1/2" thick on base coat gypsum plaster	.19	.20	.37	.60	.61	1932
SANACOUSTIC TILE, Rock Wool Filler 1 1/4" thick	.17	.41	.82	.94	.85	1930
Ditto, on furrin strips 13/16" thick, unpainted	.19	.64	.87	.87	.80	1931
Ditto, painted 3 brush coats	.17	.49	.84	.79	.86	1931
SPHINXSTONE 2" thick	.10	.33	.82	.93	.74	1932
SOUND ISOLATION BLANKET, wt. 1 1/2 lbs. per sq.ft.	.11	.58	.90	.88	.86	1932
STUCCOUSTIC PLASTER, formula XB, 3/4" thick on base coat gypsum plaster	.29	.53	.59	.73	.72	1932
Ditto, spray painted, 3 coats Coustilac	-	-	.59	-	-	1932
STUCCOUSTIC PLASTER, formula XB 11/16" thick on base coat gypsum plaster	-	.36	.56	-	-	1932
STUCCOUSTIC PLASTER " " BB 1/2" thick on base coat gypsum plaster			.51			1932
Ditto, formula BB, 1/2" thick, spray painted 5 coats cold water paint	.14	.16	.49	.59	.61	1932
TEMLOCK, 1/2" thick nailed on 2x4's spaced 16" o.c.	.24	.31	.27	.27	.36	1931
THERMATEX, on 13/16" x 2" furring strips, spaced 12" o.c.	.30	.39	.34	.43	.53	1930

Materials	Absorption coefficients for Frequencies 128	256	512	1024	2048	Date
THERMAX 1" (10 gauge) coated 3/8" Sprayo-Flake on 13/16"x2" furring 16" o.c.	.12	.25	.66	.70	.64	1932
THERMAX 10 gauge, 2" no furring	-	-	.61	-	-	1932
THERMOFIL 3" thick	.43	.39	.68	.83	.86	1932
TMB FIBRE TILE 1" unpainted on 13/16" x 2" furring 16" o.c.	.12	.22	.56	.79	.80	1931
TMB FIBRE TILE 1" spray painted with lacquer by mfgr. on 13/16" x 2" furring 16" o.c.	.11	.25	.62	.81	.73	1931
TMB METAL TILE on 13/16" x 2" furring 16" o.c. filled with Gimco Rock Wool Pad, weight 1/6 lb. per sq. ft.	.39	.50	.86	.90	.81	1931
TMB SOUNDEX TILE, 3/4" thick, cemented to sheetrock with semi-plastic cement	.04	.22	.45	.72	.75	1931
TMB SOUNDEX same as above, brush painted 3 coats lacquer	.14	.21	.43	.68	.77	1932
TMB SOUNDEX same as above, brush painted 6 coats lacquer	.19	-	.46	-	-	1932
TMB SOUNDEX 3/4" thick on 13/16" x 2" furring 12" o.c.	-	-	.49	-	-	1933
TMB SOUNDEX 1 1/2" thick on 13/16" x 2" furring 12" o.c.	.19	.35	.82	.86	.74	1932
TRANSITE ACOUSTICAL TILE	.19	.39	.81	.77	.72	1931
WYOLITE ACOUSTICAL PLASTER 1/2" thick on base coat gypsum plaster	.58	.34	.41	.53	.65	1933

Audience seated in chairs of various types.

A = cane seat chairs, open back
B = theatre chairs, box spring seat, heavily padded back
C = same as B, but single layer of padding on back
D = Church pews, seating five.

Absorption per person[1]		Frequencies 128	256	512	1024	2048
Women without coats,	A	0.7	1.3	2.3	3.6	4.6
Women with coats,	A	1.3	2.4	4.0	5.8	6.7
Men without overcoats,	A	1.3	2.1	4.1	5.5	7.4
Men with overcoats,	A	2.3	3.2	4.8	6.2	7.6
Mixed audience,	B			3.9	4.7	
Empty seat,	B		3.4	3.0	3.3	3.6
Mixed audience,	C		3.5	4.1	4.9	4.2
Empty seat,	C		3.0	2.5	2.9	3.1
Mixed audience,	D		2.7	3.3	3.8	3.6

(1) These figures are numerically equal to the number of square feet of a material having unit absorption, which would absorb the same amount of sound energy.

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Ditto, cemented to sheet rock	-	.22	.45	.92	.97	1932
" laid on 1" Thermax	-	.37	.85	1.00	.95	1932
" on 13/16" x 2" furring 9" o.c.	-	.27	.66	.99	.81	1932
" on 13/16" x 2" " 9" o.c. which were on 2 x 4's	-	.58	.90	.62	.88	1932
ABSORBEX(Thermax) Type B(veneered) 1" thick laid on 1" Thermax	-	-	.88	-	-	1932
ABSORBEX Type B 1" thick, spray painted 4 coats lithopone paint on 13/16" x 2" furring 9" o.c.	-	.23	.61	.84	.79	1932
Ditto cemented to sheet rock	-	.18	.37	.74	.97	1932
ABSORBEX(Thermax) Type C(14 gauge)	.14	.19	.34	.76	.63	1932
Ditto on 13/16" x 2" furring 20" o.c.	.14	.21	.69	.71	.59	1932
ACOUSTEX 1" thick #60	.11	.21	.53	.81	.81	1931
Ditto 1 1/2" thick #70	.16	.34	.75	.85	.84	1931
Ditto, 6 coats spray paint	.14	.30	.74	.90	.85	1931
ACOUSTEX 1 1/4" thick #W-80	.08	.34	.88	1.00	.85	1932
" 1 1/2" " #W-90	.14	.46	.99	1.00	.82	1932
" 2" " #W-100	.28	.67	1.00	1.00	.92	1932
ACOUSTI-CELOTEX Single B, 5/8" thick	.08	.18	.48	.63	.75	1931
Ditto brush painted 4 coats	.07	.20	.46	.72	.87	1931
ACOUSTI-CELOTEX B 5/8" thick on 1" x 2" furring 12" o.c.	.05	.65	.64	.90	.89	1933
ACOUSTI-CELOTEX Double B, 13/16"thick	.15	.24	.62	.76	.73	1931
Ditto brush painted 4 coats	.13	.26	.62	.82	.91	1931
Ditto on furring strips 13/16" x 2", 12" o.c.	.09	.56	.81	.96	.83	1933
ACOUSTI-CELOTEX Triple B, 1 1/4"thick	.12	.41	.96	.99	.68	1932
ACOUSTI-CELOTEX Mineral Fiber Double X, 13/16" thick	.04	.16	.61	.86	.84	1933
ACOUSTI-CELOTEX Mineral Fiber Triple X, 1 1/4" thick	.22	.32	.84	.80	.87	1931
Ditto brush painted 2 coats	.19	.45	.92	.81	.63	1931
ACOUSTIC LIME PLASTER, Finishing Lime Association of Ohio 3/4" thick on base coat lime plaster	.17	.23	.28	.36	.64	1930
ACOUSTOLIC (Maftex) nailed on 2 x 4's, spaced 2 ft. on centers; Without surface treatment	.44	.24	.31	.44	.48	1930
Tinted with water soluble aniline color	-	.29	.28	.41	-	1930
Tinted with water color paint	.40	.33	.31	.38	.37	1930
ACOUSTONE 1/2" thick	.09	.20	.48	.64	.66	1931
3/4" "	.13	.28	.61	.73	.73	1930
1" "	.18	.38	.64	.73	.73	1930

Material	Absorption coefficients for Frequencies 128	256	512	1024	2048	Date
AKOUSTOLITH TILE, Grade D, 1"	.08	.13	.25	.54	.67	1930
Grade D, 2"	.15	.26	.59	.74	.52	1930
Grade B, 1"	.10	.14	.28	.65	.73	1929
Grade C, 1 1/2"	.12	.19	.44	.61	.66	1930
Grade C, 2"	.19	.26	.53	.64	.70	1930
Grade B, 2"	.21	.50	.90	.86	.72	1931
Grade B, 1 1/2"	.14	.30	.69	.92	.87	1932
Grade B, 1"	.09	.17	.46	.81	.81	1932
AKOUSTOLITH PLASTER, 1/4" thick on base coat gypsum plaster	.13	.21	.19	.23	.33	1931
AKOUSTOLITH PLASTER, 1/2" thick on base coat gypsum plaster	.20	.26	.35	.56	.59	1932
ARBORITE, 1/2" thick on 13/16" x 2" furring strips, spaced 12" o.c. Low density material, sanded surface.	.21	.48	.34	.31	.41	1930
ARBORITE, 1/2" thick Regular material, sanded surface, same furring strips	.16	.40	.27	.29	.39	1930
BALSAM WOOL, 1" thick, scrim facing	.18	.36	.55	.65	.67	1928
BALSAM WOOL Krex-Tone Tile 1" thick	.12	.24	.63	.76	.76	1931
CALICEL ACOUSTIC TILE, 1" thick cemented to plaster board	.26	.38	.74	.91	.78	1932
CALICEL ACOUSTIC TILE, 1 1/4" thick cemented to plaster board	.11	.34	.86	.93	.75	1932
CERAMACOUSTIC TILE 1 1/8" thick cemented to Sheetrock	.34	.48	.64	.67	.66	1932
Ditto Spray painted 4 coats	.28	.49	.62	.63	.68	1932
CORKOUSTIC, Type C, 1 1/2" thick	.08	.14	.61	.56	.64	1931
" " B, 1 1/2" "	.09	.10	.61	.56	.49	1931
EK-O-LESS TILE, 3/4" thick on 1" backing	.22	.31	.67	.87	.78	1932
EK-O-LESS TILE, 1 7/16" thick on 1/2" backing	.18	.32	.90	.99	.81	1932
FLAXLINUM, 1" thick	.09	.31	.62	.77	.69	1930
FLAXLINUM in TMB Tile, on 13/16" x 2" furring strips, spaced 16" o.c. thicknesses as below:						
1/2" Flaxlinum	.11	.19	.58	.68	.69	1930
1" "	.17	.34	.61	.72	.68	1930
1/2" and 1"	.32	.46	.67	.69	.71	1930
2 1" layers Flaxlinum	.41	.59	.70	.72	.74	1930
HACHMEISTER-LIND ACOUSTIC PLASTER on base coat gypsum plaster, stippled with pins 1/2" deep	.16	.19	.25	.36	.44	1930
HAWAIIAN CANE TILE 1" thick cemented to plaster board	.10	.40	.71	.83	.81	1933

Material	Absorption coefficients for Frequencies 128	256	512	1024	2048	Date
INSULITE ACOUSTILE TYPE 44, 1 3/4" thick.	.26	.42	.50	.57	.61	1931
KALITE ACOUSTIC PLASTER H, 1/2" thick on base coat gypsum plaster	.25	.31	.46	.61	.62	1932
KALITE ACOUSTIC PLASTER A-2, 1/2" thick on base coat gypsum plaster	.24	.23	.28	.48	.70	1932
KALITE ACOUSTIC CEMENT, 3/4" thick on metal lath with wood studs, no base coat	.34	.46	.49	.52	.73	1931
KALITE TILE, 1 1/2" thick, 1" backing	.15	.32	.50	.52	.40	1931
MACOUSTIC PLASTER, 1/2" thick on base coat gypsum plaster stippled with large pins, perforations 1/2" deep	.06	.17	.33	.56	.58	1931
MACOUSTIC PLASTER 47W, 1/2" thick stippled with small nails, perforations 1/2" deep	.41	.34	.43	.54	.58	1932
MAIZEWOOD TILE, 1 1/2" thick, saw cuts in surface	.23	.41	.64	.84	.73	1932
Ditto, 1 coat size, 2 coats lead and oil paint	.21	.42	.64	.76	.73	1932
MUTETILE, 2" Rockwool	.53	.74	.85	.83	.80	1932
NASHKOTE A, 1/2" thick cemented to sheetrock	.05	.13	.25	.26	.20	1929
NASHKOTE A, 3/4" " " " sheetrock	.09	.16	.27	.30	.23	1929
NASHKOTE A, 1" " " " sheetrock	.12	.20	.33	.33	.28	1929
NASHKOTE B-332, 1/2" thick " " sheetrock	.09	.15	.31	.52	.74	1929
NASHKOTE B-332, 3/4" " " " sheetrock	.12	.21	.40	.63	.81	1929
NASHKOTE B-332, 1" " " " sheetrock	.19	.26	.51	.73	.89	1929
NASHKOTE A, 1/2" thick, perforated	.08	.15	.43	.62	.65	1929
NASHKOTE A, 3/4" " " "	.11	.21	.51	.68	.71	1929
NASHKOTE A, 1" " " "	.13	.26	.58	.73	.77	1929
NEPHI PLASTER 3/4" thick on metal lath, no base coat	.34	.34	.40	.44	.49	1932
NUWOOD BEVEL LAP TILE, 1/2" thick cemented to floor	.12	.19	.30	.40	.40	1931
NUWOOD BEVEL LAP TILE, 1" thick cemented to floor	.14	.19	.37	.37	.41	1931

Materials	Absorption coefficients for Frequencies 128	256	512	1024	2048	Date
PLASTACOUSTIC 1/2" thick applied on 1/4" scratch coat gypsum plaster on metal lath	.49	.33	.38	.61	.92	1932
PLASTACOUSTIC 5/8" thick applied on metal lath no base coat	.19	.63	.92	.70	.74	1932
POROLITH	.10	.23	.56	.84	.87	1931
QUIETILE Type 80 (U.S. Gypsum Co.)	.06	.47	.80	.78	.75	1932
QUIETILE M 1" thick nailed to 13/16" x 2" furring 12" o.c.	.21	.79	.59	.66	.44	1933
QUIETILE M 1" thick cemented to gypsum wall board	.11	.52	.72	.69	.45	1933
RED TOP ACOUSTICAL TILE cemented to gypsum wall board	.14	.22	.40	.48	.52	1933
REVERBOLITH PLASTER, stippled with large pins, 1/2" thick on base coat gypsum plaster	.07	.15	.34	.47	.65	1930
ROCKOUSTILE (Improved) 1" thick on 13/16" x 2" furring strips 12" o.c.	.08	.64	.79	.82	.81	1932
ROCKOUSTILE TYPE A 1" thick unpainted on 13/16" x 2" furring strips 12" o.c.	.05	.39	.86	.73	.62	1932
Ditto painted 1 spray coat and 3 brush coats	.11	.45	.85	.64	.55	1932
ROCKOUSTILE Type A 3/4" thick unpainted on 13/16" x 2" furring strips 12" o.c.	.04	.23	.83	.76	.73	1932
Ditto painted 1 spray coat and 3 brush coats	.07	.33	.85	.67	.52	1932
ROCKWALL ACOUSTICAL PLASTER 1/2" thick on base coat of gypsum plaster	.27	.24	.47	.77	.91	1932
Ditto 3/4" thick	.34	.32	.61	.81	.73	1932
SABINITE PLASTER, Hydraulic, 1/2" thick on base coat gypsum plaster	.14	.24	.27	.38	.49	1931
SABINITE PLASTER A 1/2" thick on base coat gypsum plaster	.19	.20	.37	.60	.61	1932
SANACOUSTIC TILE, Rock Wool Filler 1 1/4" thick	.17	.41	.82	.94	.85	1930
Ditto, on furring strips 13/16" thick, unpainted	.19	.64	.87	.87	.80	1931
Ditto, painted 3 brush coats	.17	.49	.84	.79	.86	1931
SPHINXSTONE 2" thick	.10	.33	.82	.93	.74	1932
SOUND ISOLATION BLANKET, wt. 1 1/2 lbs. per sq.ft.	.11	.58	.90	.88	.86	1932
STUCCOUSTIC PLASTER, formula XB, 3/4" thick on base coat gypsum plaster	.29	.53	.59	.73	.72	1932
Ditto, spray painted, 3 coats Coustilac	-	-	.59	-	-	1932
STUCCOUSTIC PLASTER, formula XB 11/16" thick on base coat gypsum plaster	-	.36	.56	-	-	1932

Materials	Absorption coefficients for Frequencies 128	256	512	1024	2048	Date
STUCCOUSTIC PLASTER, formula BB 1/2" thick on base coat gypsum plaster	-	-	.51	-	-	1932
Ditto, formula BB, 1/2" thick, spray painted 5 coats cold water paint	.14	.16	.49	.59	.61	1932
TEMLOCK, 1/2" thick nailed on 2 x 4's spaced 16" o.c.	.24	.31	.27	.27	.36	1931
THERMATEX, on 13/16" x 2" furring strips, spaced 12" o.c.	.30	.39	.34	.43	.53	1930
THERMAX 1" (10 gauge) coated 3/8" Sprayo-Flake on 13/16" x 2" furring 16" o.c.	.12	.25	.66	.70	.64	1932
THERMAX 10 gauge, 2" no furring	-	-	.61	-	-	1932
THERMOFIL 3" thick	.43	.39	.68	.83	.86	1932
TMB FIBRE TILE 1" unpainted on 13/16" x 2" furring 16" o.c.	.12	.22	.56	.79	.80	1931
TMB FIBRE TILE 1" spray painted with lacquer by mfgr. on 13/16" x 2" furring 16" o.c.	.11	.25	.62	.81	.73	1931
TMB METAL TILE on 13/16" x 2" furring 16" o.c. filled with Gimco Rock Wool Pad, weight 1/6 lb. per sq.ft.	.39	.50	.86	.90	.81	1931
TMB SOUNDEX TILE, 3/4" thick, cemented to sheetrock with semi-plastic cement	.04	.22	.45	.72	.75	1931
TMB SOUNDEX same as above, brush painted 3 coats lacquer	.14	.21	.43	.68	.77	1932
TMB SOUNDEX same as above, brush painted 6 coats lacquer	.19	-	.46	-	-	1932
TMB SOUNDEX 3/4" thick on 13/16" x 2" furring 12" o.c.	-	-	.49	-	-	1933
TMB SOUNDEX 1 1/2" thick on 13/16" x 2" furring 12" o.c.	.19	.35	.82	.86	.74	1932
TRANSITE ACOUSTICAL TILE	.19	.39	.81	.77	.72	1931
TRUTONE TILE 7/8" thick cast on 1/4" gypsum wall board. Spray painted by manufacturer.	.16	.17	.48	.87	.66	1932
U.S. GYPSUM METAL TILE Rock Wool Pad	.12	.56	.97	.92	.83	1933
WYOLITE ACOUSTICAL PLASTER 1/2" thick on base coat gypsum plaster	.58	.34	.41	.53	.65	1933

Audience seated in chairs of various types.

A = cane seat chairs, open back.
B = theatre chairs, box spring seat, heavily padded back
C = same as B, but single layer of padding on back
D = Church pews, seating five.

Absorption per person[1]		Frequencies 128	256	512	1024	2048
Women without coats,	A	0.7	1.3	2.3	3.6	4.6
Women with coats,	A	1.3	2.4	4.0	5.8	6.7
Men without overcoats,	A	1.3	2.1	4.1	5.5	7.4
Men with overcoats,	A	2.3	3.2	4.8	6.2	7.6
Mixed audience,	B			3.9	4.7	
Empty seat,	B		3.4	3.0	3.3	3.6
Mixed audience,	C		3.5	4.1	4.9	4.2
Empty seat,	C		3.0	2.5	2.9	3.1
Mixed audience,	D		2.7	3.3	3.8	3.6

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(1) These figures are numerically equal to the number of square feet of a material having unit absorption, which would absorb the same amount of sound energy.