

Reynolds Corporation

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REYNOLDS METALLATION*

Metallation* is bright, polished, genuine sheet aluminum, cemented to one or both sides of heavy, tough kraft paper. Properly installed, it serves as effective heat insulation for dwellings and buildings, reducing heat losses through walls and roof during winter, and maintaining more comfortable conditions in hot weather.

Metallation because of its light weight, has negligible heat storage capacity. In summer very little heat is stored in the insulation, to be released into the rooms after sundown and in winter very little heat is absorbed from within the room. Buildings which are intermittently heated or cooled can be heated or cooled quickly and economically.

Type A—Genuine sheet aluminum cemented to both sides of heavy, tough kraft paper with 1 1/4 in. plain paper margins exposed. Type A is especially designed and scored for installation between studs, joists or rafters, with paper edges nailed inside framing members to form a curtain of insulation between two dead-air spaces.

Type B—Genuine sheet aluminum cemented to both sides of heavy, tough kraft paper. Type B is especially designed for application horizontally or vertically over studs, rafters or joists, in a way that provides an air space on each side of the Metallation.

Type C—Genuine sheet aluminum cemented to one side of heavy, tough kraft paper. Type C is especially designed for use as building paper, under sheathing or roof boards and in types of construction in which only one surface can face an air space.

Type	Width of Roll	Length of Roll	Weight of Roll	Area of Roll
A	17 in	175 ft 5 in	18 lb	250 sq ft
B	32 in	93 ft 9 in	16 lb	250 sq ft
B	25 in	120 ft	16 lb	250 sq ft
C	32 in	93 ft 9 in	13 lb	250 sq ft

*Metallation, Metallated Ecod and Ecod are trade-marks of Reynolds Corporation, duly registered in the U. S. Pat. Off.

See SWEETS Architectural Catalog for complete details or write the nearest Reynolds Corporation sales office. Metallation is sold by leading lumber and building material dealers throughout the U. S. Used by U. S. Government, leading architects and engineers.

ADVANTAGES OF METALLATION

High, lasting, insulating efficiency which remains unimpaired by moisture absorption. Non-corrosive. Low weight and bulk. Wind-proof, vermin-proof and odorless. Low cost. Easy to apply. Saves fuel; reduces heating and air-conditioning requirements.

NOTES FOR HEAT TRANSFERENCE

TABLE on opposite page

aComputed by standard methods from data in AMERICAN SOCIETY OF HEATING AND VENTILATING ENGINEERS GUIDE, Vol. 12 pp. 71-92, 1934, and from "Thermal Insulation of Buildings," American Architect, May, 1934, pp. 89-100

bOutside film resistances (f_o) are based on a 15 mph wind velocity; inside film resistances (f_i) are based on still air.

cAll air spaces are at least 3/4 in. wide.

dThe thicknesses of 1 in. yellow pine sheathing and flooring is approximately 3/4 in.

ePlaster 3/4 in. to 1 in. thick is applied to ECOD or expanded metal plaster base.

fWall insulated as in Column IV with added 1 in. air space between brick and sheathing faced with Type C Metallation on outside of sheathing.

gFour inches of face brick and four inches of common brick.

hCurtain of either Type A or Type B Metallation in furred space, having one side facing masonry and the other side facing Type C or ECOD Metallation.

iThe thickness of oak flooring is approximately 1 1/4 in.

jType A of Type B Metallation is so applied to joists or rafters, or flanged between them as to form an air space. One side of the Metallation faces the building material and the other side faces still air.

kType A or Type B Metallation is so applied to joists or flanged between them as to form an air space. One side of Metallation faces Type C or ECOD Metallation, the other faces still air.

lSpace insulated as in Column IV except that Metallation nearest still air is Type A or Type B.

mNailing strips measure approximately 3/8 by 3 1/2 in. and are spaced 2 in. apart.

nType A or Type B Metallation is applied between rafters and nailing strips to form one air space facing Metallation and a series of small air spaces facing shingles.

oRoof insulated as in Column IV except that Type A or Type B Metallation is applied as in Note N

pType A or Type B Metallation is applied between nailing strips and rafters and also to under side of rafters.

qType A or Type B Metallation is applied as in Note P and also as a central sheet parallel with the roof.

PERCENTAGE OF HEAT TRANSFER STOPPED BY REYNOLDS METALLATION*

Coefficients (U) are expressed in Btu per hour per square foot per degree Fahrenheit difference in temperature between the air on the two sides of the construction. Columns (%) show the percentage of heat which REYNOLDS METALLATION stops from flowing through the respective constructions.

ILLUSTRATION	Construction Number	CONSTRUCTION	I II III IV							
			Uninsulated	Type C or Ecod Metallation on one side of air space. (Except where noted)	Type C or Ecod Metallation on both sides of air space. (Except where noted)	Type A or Type B Metallation forming curtain between two air spaces. (Except where noted)	Type A or Type B Metallation forming curtain between two air spaces, faced on opposite sides with Type C or Ecod Metallation (Except where noted)			
			U %	U %	U %	U %	U %	U %	U %	
	1	FRAME OR VENEER WALL Shingles or Clapboards, Sheathing, ^d Stud Space, Ecod Plaster, ^e	.26 0	.19 27	.18 31	.14 46	.13 50			
	2	Drop Siding, no Sheathing, Stud Space, Plaster	.37 0	.25 32	.24 35	.16 57	.15 59			
	3	1-In. Stucco with Ecod Base, Stud Space, Plaster	.50 0	.31 38	.28 44	.18 64	.17 66			
	4	1-In. Stucco with Ecod Base, Sheathing, Stud Space, Plaster	.33 0	.24 27	.22 33	.16 56	.14 58			
	5	4-In. Face Brick Veneer, Sheathing, Stud Space, Plaster	.30 0	.22 27	.21 30	.15 50	.11 (f) 63			
	6	MASONRY WALL 8-In. Solid Brick, ^e Furred Space, Plaster	.32 0	.23 28		.15 53	.15 (h) 53			
	7	4-In. Face Brick on 8-In. Hollow Clay Tile, Furred Space, Plaster	.25 0	.19 24		.13 48	.13 (h) 48			
	8	1-In. Stucco on 12-In. Hollow Clay Tile, Furred Space, Plaster	.22 0	.17 23		.13 41	.12 (h) 46			
	9	12-In. Hollow Concrete Blocks, Furred Space, Plaster	.32 0	.23 28		.15 53	.15 (h) 53			
	10	FRAME MIDDLE STORY FLOOR Single Yellow Pine Floor, ^d Joist Space, Plaster	.30 0	.22 27	.21 30	.15 50	.14 53			
	11	Oak Floor, Yellow Pine Sub-Floor, Joist Space, Plaster	.25 0	.19 24	.18 28	.13 48	.13 48			
	12	FRAME ATTIC FLOOR No Floor, Joist Space, Plaster	.69 0	.26 (i) 62	.24 (k) 65	.26 (i) 62	.15 (i) 78			
	13	Single Yellow Pine Floor, Joist Space, Plaster	.30 0	.22 27	.21 30	.15 50	.14 53			
	14	FRAME FIRST STORY FLOOR Single Yellow Pine Floor, Joist Space, no Ceiling	.46 0	.22 (j) 52	.21 (k) 54	.22 (j) 52	.14 (j) 70			
	15	Oak Floor, Yellow Pine Sub-Floor, Joist Space, no Ceiling	.35 0	.19 (j) 46	.18 (k) 49	.19 (j) 46	.12 (j) 66			
	16	MASONRY FLOOR—SUSPENDED CEILING 4-In. Reinforced Concrete, Furred Space, Plaster	.37 0	.25 32		.16 57	.16 (h) 57			
	17	6-In. Reinforced Concrete, Furred Space, Plaster	.35 0	.24 31		.16 54	.15 (h) 57			
	18	4-In. Concrete, 4-In. Hollow Tile, Furred Space, Plaster	.27 0	.20 26		.14 48	.14 (h) 43			
	19	4-In. Concrete, 8-In. Hollow Tile, Furred Space, Plaster	.23 0	.18 22		.13 43	.12 (h) 48			
	20	FRAME ROOF Wood Shingles, Nailing Strips, ^m Rafter Space, Plaster	.30 0	.22 27	.18 (n) 40	.15 50	.12 (o) 60			
	21	Wood Shingles, Nailing Strips, Rafter Space, no Ceiling	.46 0	.22 (i) 52	.18 (p) 61	.22 (i) 52	.12 (q) 74			
	22	Composition or Asphalt Shingles, Nailing Strips, Rafter Space, Plaster	.37 0	.25 32	.20 (n) 46	.16 57	.13 (o) 65			
	23	Composition or Asphalt Shingles, Nailing Strips, Rafter Space, no Ceiling	.64 0	.25 (i) 61	.20 (p) 69	.25 (i) 61	.14 (q) 78			
	24	FRAME ROOF Wood Shingles, Sheathing, Rafter Space, Plaster	.27 0	.20 26	.19 30	.14 48	.13 52			
	25	Wood Shingles, Sheathing, Rafter Space, no Ceiling	.40 0	.20 (i) 50	.19 (k) 53	.20 (i) 50	.13 (l) 68			
	26	Slate or Cement Shingles, Sheathing, Rafter Space, Plaster	.34 0	.24 29	.22 35	.16 53	.14 59			
	27	Slate or Cement Shingles, Sheathing, Rafter Space, no Ceiling	.56 0	.24 (j) 57	.22 (k) 61	.24 (j) 57	.14 (l) 75			