



Reynolds Corporation

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Offices in Principal Cities

REYNOLDS *METALLATION

Description

Metallation consists of bright sheet aluminum cemented to one or both sides of tough kraft paper. Available in roll form; in the form of Metallated *Ecod (a reinforced plaster base); and with heavy Sisalkraft paper base. These forms facilitate installation according to construction conditions and amount of insulation required.

Metallation is primarily insulation material for building construction involving hollow wall, floor or roof sections. Data on special applications on request. Its insulating effectiveness depends upon its influence on the enclosed air spaces it bounds or forms, not upon its thickness. Hence, it must always face or divide an air space to have insulating value. Because it is windproof and moisture-proof, it always serves as an effective weather-proofing barrier in any building section where used.

How It Insulates

Metallation insulates by repelling practically all radiant heat which strikes its surface. This portion of the total heat loss ordinarily flows unimpeded across air spaces. Type A or B Metallation dividing an ordinary air space reduces heat loss by convection, by dividing the air space into two air spaces and stops 95 per cent of the radiant heat loss across such air spaces. Metallation has equal effectiveness on either side of an air space, in vertical walls regardless of the direction of the heat flow.

Characteristics

Metallation is waterproof, windproof, vermin-proof and non-absorptive. It is light in weight and flexible, yet stiff enough to conform to angles and curves when not under tension or suspended. Its

Type	Width of Roll	Length of Roll	Weight of Roll	Area of Roll
A	17 in.	176 ft 5 in.	12 1/4 lb net	250 sq ft
B	25 in.	120 ft	14 lb net	250 sq ft
B	33 in.	90 ft 11 in.	14 lb net	250 sq ft
B	36 in.	83 ft 4 in.	14 lb net	250 sq ft
C	25 in.	120 ft	10 1/2 lb net	250 sq ft
C	33 in.	90 ft 11 in.	10 1/2 lb net	250 sq ft
C	36 in.	83 ft 4 in.	10 1/2 lb net	250 sq ft

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

heat storage capacity is negligible, due to its light weight and limited mass. The aluminum used retains its reflectivity under all normal conditions, as the surface is protected by a transparent oxide which forms immediately on exposure. Tests recently conducted by Gordon B. Wilkes, Massachusetts Institute of Technology, show that visual brightness is not essential to good performance.

The value of Metallation as an insulator is unlikely to be impaired by internal condensation within the building section. Some external walls and roofs standing between cold exterior air and warm humidified air indoors develop a "dew-point" temperature within them where condensation forms. Any insulating material that absorbs this moisture loses a part of its insulating value until it dries out again. Metallation being non-absorptive and unaffected by moisture, retains its full value.

Type A—Bright sheet aluminum cemented to both sides of tough kraft paper with 1 1/4 in. plain paper margins exposed for nailing inside framing members. Applications: curtains between framing members 16 in. o. c. **Type B**—Bright sheet aluminum cemented edge to edge to both sides of tough kraft paper. Application: curtains in air spaces. Also one surface as insulation; the other as moisture-proof membrane. **Type C**—Bright sheet aluminum cemented edge to edge to one side of tough kraft paper. Application: one side as insulation, the other in contact with building materials. **Metallated Ecod**—Bright sheet aluminum cemented to back of reinforcing plaster base.

See Sweet's Catalog for complete details. Used by U. S. Government and leading architects and engineers. Stocked by leading dealers throughout U. S.

NOTES FOR HEAT TRANSFERENCE TABLE on opposite page

^aComputed by standard methods from data in THE A.S.H.V.E. GUIDE, Vol. 14, pp. 104-111, 1936.
^bAll air spaces are at least 3/4 in. wide.
^cThe thickness of 1 in. yellow pine sheathing or flooring is approximately 3/8 in.
^dPlaster 3/8 in. to 1/2 in. thick is applied to Ecod or expanded metal plaster base.
^eFour inches of face brick and four inches of common brick.
^fNailing strips measure approximately 3/8 in. by 3 1/2 in. and are spaced 2 in. apart.
^gFurring wide enough to permit 3/4 in. air spaces between layers.

COEFFICIENTS OF TRANSMISSION OF VARIOUS TYPES OF CONSTRUCTION INSULATED WITH REYNOLDS METALLATED ECOD AND TYPE A OR B METALLATION

Coefficients (U) are expressed in Btu per hour per square foot per degree Fahrenheit difference in temperature between air on the two sides of the construction.

ILLUSTRATION	Construction Nos.	CONSTRUCTION	I II III			
			Uninsulated	Metallated Ecod plaster base, 1/4 in. plaster	1 layer Type A or B Metallation dividing air space into 2 air spaces. Metallated Ecod plaster base	2 layer Type A or B Metallation dividing air space into 3 air spaces. Metallated Ecod plaster base
	1 2 3 4	FRAME OR VENEER WALL 1 Shingles or clapboards, sheathing, stud space, plaster 2 1 in. Stucco with Ecod base, stud space, plaster 3 1 in. Stucco with Ecod base, sheathing, stud space, plaster 4 4 in. Face brick veneer, sheathing, stud space, plaster	U	U	U	U
			0.26	0.20	0.13	0.10
			0.50	0.31	0.18	0.12
			0.32	0.23	0.15	0.11
	5 6	MASONRY WALLS 5 8 in. Solid brick, furred space, plaster 6 12 in. Hollow concrete blocks, furred space, plaster	0.32	0.23	0.15 ^g	0.11 ^g
			0.32	0.23	0.15 ^g	0.11 ^g
	7 8	ATTIC FLOOR (Frame Structure) 7 Plaster ceiling-joist space no flooring 8 Plaster ceiling-joist space-rough flooring	0.69	0.59	0.24	0.15
			0.30	0.22	0.14	0.11
	9 10	MASONRY FLOORS (Suspended Ceiling) 9 4 in. Concrete metal lath and plaster ceiling 10 6 in. Concrete metal lath and plaster ceiling	0.37	0.25	0.16	0.11
			0.35	0.24	0.15	0.11
	11 12	CONCRETE ROOF DECK { 1/4 in. B/U Roofing Suspended Ceiling Metal lath and plaster 11 4 in. Concrete 12 6 in. Concrete	0.40	0.26	0.16	0.12
			0.37	0.25	0.16	0.11
	13 14 15 16	FRAME ROOFS 13 Wood shingles, nailing strips ^f rafter space no ceiling; exposed rafters 14 Wood shingles, nailing strips ^f rafter space, metal lath and plaster 15 Asphalt shingles, rigid asbestos shingles, composition roofing or slate or tile roofing on wood sheathing; no ceiling 16 Same as No. 15 plus metal lath and plaster ceiling	0.46	0.22	0.14	0.11
			0.30	0.22	0.14	0.11
			0.56	0.24	0.15	0.11
			0.34	0.24	0.15	0.11