

TYPE I

1. PRODUCT NAME

A/D Type I

2. PRODUCT DESCRIPTION

Basic Use: A/D Type I is a spray applied insulation intended for structural steel, concrete and other substrates. It provides excellent condensation control, thermal insulation and acoustic properties in one, high quality, 100% asbestos-free product.

Composition and Materials: A/D Type I is a noncombustible blend of mineral wool and Portland cement. It is factory blended and requires only the addition of water at the job site.

Limitations: A/D Type I is not intended for direct exposure to weather or excessive physical abuse. Contact your A/D Representative for alternative product recommendations.

Packaging: A/D Type I is packaged in 18.6-kg (41 lb.) polyethylene bags.

Color: Off-white to yellow. Natural color of product varies with mineral content of parent material and may vary within batches. Where a more uniform color is desired we recommend sealing or top coating the insulation with TYPE TC-55 Sealer - refer to TC-55 data sheet.

3. TECHNICAL DATA

Insulation: As insulation, A/D Type I provides a R value of R4 per inch ("K" value 0.25). This eliminates cold floors – for a much more comfortable environment – and also reduces energy costs. Being noncombustible, it needs no flame retardant additives and remains, permanently fire resistive. A/D Type I satisfies National Building Code requirements (residential, commercial, institutional). It is Canadian Coast Guard approved and has a wide variety of uses – from bulkheads in ships to underground parking garages and pre-engineered buildings. Because of its sprayed joint-free application, it provides a continuous blanket of insulation, without thermal bridging through gaps and metal pins. And because it does not support fungus growth it is ideal for food storage. In tests by the ORTECH International (O.R.F), it maintained 97% of its thermal resistance in an environment with R.H. of 95%.

Sound Isolation Data: A/D Type I is a highly efficient and low cost sound barrier. 1 inch (25 mm) of A/D Type I can provide an STC up to 52. Cutouts for electrical boxes and joints are completely sealed by the spraying operation. The following STC values (See Table 2) resulted when A/D Type I was applied to the interior face of a

PHYSICAL PROPERTIES –TABLE 1	
Property/Test	A/D Type I
Density, ASTM E605	10.1 lbs/ft ³ (162 kg/m ³)
Combustibility, ASTM E136	Passed, noncombustible
Combustibility, CAN4-S114	Passed, noncombustible
Compressive Strength, ASTM E761	113lbf/ft ² (5.4 kPa)
Cohesion Adhesion, ASTM E736	203lbf/ft. ² (9.7 kPa)
Impact, ASTM E760	Passed, No delamination, spalling or cracking
Deflection, ASTM E759	Passed, No delamination, spalling or cracking
Acoustic Values ASTM C423	NRC= 100 @ ¾" lath STC= 52 @ 1"
Thermal conductivity, ASTM C177	R= 4.0 (K=0.25)
Air Erosion, ASTM E859	0.02 g/ft ² (0.234 g/m ²) @ 24hr
Surface Burning, ASTM E84	Flame Spread: 0, Smoke: 0
Surface Burning, CAN/ULC-S102	Flame Spread: 0, Smoke: 0

partition consisting of a single layer of gypsum board on a metal or wood stud frame and tested in accordance with ASTM E90. Contact A/D Fire Protection Systems for sound transmission loss data at specific frequencies.

Acoustical Treatment: A/D Type I can reduce 100% of noise in the speech interference range due to its high sound absorption (NRC 1.00). It will absorb sounds penetrating suspended acoustical ceilings before they are deflected into adjacent rooms. A/D Type I makes it much quieter and safer for manufacturing plants using noisy machinery. It also dramatically reduces sound reverberation in open atriums, pools and cathedral ceilings. Normal application renders a monolithic textured finish. Normal application thickness ranges from 10 mm to 25 mm (¾ in. to 1 in.). Refer to Table 3.

Condensation Control: A/D Type I provides excellent condensation control with either natural air movement or controlled air changes. Its porosity allows it to absorb moisture and then pass it back into the atmosphere at a controlled rate. In tests by ORTECH International, A/D Type I was shown to hold three times its own weight of moisture. This ability makes it ideal for use in many buildings where condensation and dripping can become serious problems.

4. INSTALLATION

Surface Preparation: Surfaces to receive A/D Type I must be free of dirt, oil, grease, loose scale or other substances that may impair adhesion. Hangers, clips or other attachments must be in place prior to application.

Method: A/D Type I is applied only by authorized applicators using specific "dry-mix" type fireproofing equipment.

5. FINISHES

A/D Type I finishes vary according to particular end use requirements. Normal insulation is sprayed to the required density and water tamped. Areas subject to damage may be and sealed with TYPE TC-55 Sealer and for more severe service conditions may be board tamped.

Color: Off-white to yellow. Natural color of product varies with mineral content of parent material and may vary within batches. Where a more uniform color is desired we recommend sealing or top coating the insulation with TYPE TC-55 Sealer - refer to TC-55 data sheet.

6. AVAILABILITY AND COST

Availability: A/D sales offices and technical representatives are located throughout North America.

7. MAINTENANCE

No maintenance should be required. Damaged caused by other trades should be patched at the expense of trade causing damage.

8. TECHNICAL SERVICE

Please contact your nearest A/D representative or office.

SOUND TRANSMISSION – TABLE 2		
Gypsum Board Thickness	A/D Type I Thickness	STC
2-1/2" (63 mm) metal studs, 24 " (610 mm) O.C.		
1/2" (13mm)	1/2" (13 mm)	45
1/2" (13mm)	7/8" (22 mm)	48
5/8" (16 mm)	3/4" (19 mm)	48
5/8" (16 mm)	1" (25 mm)	51
2" x 4" (50x100 mm) wood studs, 16" (406 mm) O.C.		
5/8" (16 mm)	1" (25 mm)	52

SOUND ABSORPTION DATA - TABLE 3								
A/D Type I Thickness	Mounting Method	Coefficient of Sound Absorption						NRC
		Frequency (Hertz)						
		125	250	500	1000	2000	4000	
3/8 in. (10 mm)	Solid	.28	.18	.28	.48	.74	.94	.45
1/2 in. (13 mm)	Solid	.28	.21	.42	.72	.92	1.04	.55
1 in. (25 mm)	Solid	.25	.37	.81	1.01	1.02	1.05	.80
1 in. (25 mm)	Metal Lath	.35	.96	1.03	.95	.96	1.05	1.00

Tests carried out by the National Research Council of Canada in Ottawa, Nov. 8, 1989

A/D FIRE PROTECTION SYSTEMS

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