

## PRODUCT DESCRIPTION

<b>Basic Use</b>	A/D Type I is a spray applied insulation intended for structural steel, concrete and other substrates. It provides thermal insulation, excellent condensation control and acoustic properties in one, high quality, 100% asbestos-free product.
<b>Description</b>	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.
<b>Colour</b>	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 A/D Type TC-55 Sealer - refer to A/D Type TC-55 data sheet.
<b>Finishes</b>	A/D Type I finishes vary according to particular end use requirements. For normal insulation, spray to the required density and water tamp all surfaces. Normal application renders a monolithic textured finish. Areas subject to damage may be sealed with Type TC-55 and for more severe service conditions may be board tamped.
<b>Limitations</b>	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. Maximum thickness to horizontal surfaces without mechanical fasteners is 75 mm (3 in) - see Installation.

## TECHNICAL DATA

<b>Insulation</b>	As an insulation, A/D Type I provides a R value of R4 per inch ("K" value 0.25). This eliminates cold floors, provides a much more comfortable environment and reduces energy costs. Being noncombustible, it needs no flame retardant additives and remains permanently resistive to fire. A/D Type I satisfies National Building Code requirements (residential, commercial, institutional). Because of its sprayed joint-free application, it provides a continuous blanket of insulation, without thermal bridging through gaps and metal pins. 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%.
<b>Sound Isolation</b>	A/D Type I is a highly efficient and low cost sound barrier. A 1 inch (25 mm) thickness 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.
<b>Limitations</b>	Not for use in exterior environments or for interior steelwork that will be exposed to freeze/thaw cycling or long-term surface temperatures over 60°C (140°F) in normal use.

## PERFORMANCE DATA

<b>Acoustical Treatment</b>	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 (3/8 in. to 1 in.).
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**SOUND ABSORPTION DATA (Table 1)**

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.

**PHYSICAL PROPERTIES (Table 2)**

Property/Test	A/D Type I
Density, ASTM E605	10.1 lbs/ft <sup>3</sup> (162 kg/m <sup>3</sup> )
Combustibility, ASTM E136	Passed, noncombustible
Combustibility, CAN4-S114	Passed, noncombustible
Compressive Strength, ASTM E761	113lb/ft <sup>2</sup> (5.4 kPa)
Cohesion Adhesion, ASTM E736	203lb/ft <sup>2</sup> (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 @ 3/4" lath STC= 52 @ 1"
Thermal conductivity, ASTM C177	R= 4.0 (K=0.25)
Air Erosion, ASTM E859	0.02 g/ft <sup>2</sup> (0.234 g/m <sup>2</sup> ) @ 24hr
Surface Burning, ASTM E84	Flame Spread: 0, Smoke: 0
Surface Burning, CAN/ULC-S102	Flame Spread: 0, Smoke: 0

**Sound Transmission Data** | The following STC values (See Table 3) resulted when A/D Type I was applied to the interior face of a 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.

**SOUND TRANSMISSION (Table 3)**

Gypsum Board Thickness	A/D Type I Thickness	STC
<b>2-1/2" (63mm) metal studs, 24" (610 mm) O.C.</b>		
1/2" (13mm)	1/2" (13mm)	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
<b>2" x 4" (50x100 mm) wood studs, 16" (406 mm) O.C.</b>		
5/8" (16 mm)	1" (25 mm)	52

**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.

**INSTALLATION**

**Surface Preparation** | Surfaces to receive A/D Type I must be free of dirt, oil, grease, loose scale, and other substances that may impair adhesion.  
A/D Type TC-55 shall be used as an adhesive on all surfaces intended to receive A/D Type I. Dilute A/D Type TC-55 with water at a 1:1 ratio and apply at a rate of not more than 400 sq. ft per 1 gal (37 sq m per 1 L). A/D Type TC-55 should be tacky to wet when A/D Type I is applied.  
Maximum thickness to approved horizontal surfaces without mechanical fasteners is 75 mm (3 in). For thickness exceeding 75 mm (3 in), provide a mechanical break by the use of minimum No. 12 gauge steel studs with minimum No. 28 gauge galvanized steel disks fastened to the substrate at not greater than 24-in. (600 mm) OC. and a minimum of one stud per 265 sq. in.  
Hangers, clips, steel studs 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. The dry-mix must be sufficiently wetted to activate the Portland cement for good cohesive and adhesive strength. When squeezed in the hands, properly wetted mix will yield just a few drops of water.

## MAINTENANCE

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

## PACKAGING, HANDLING & STORAGE

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

## WARRANTY

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