



VERMIDUCT®

PRODUCT INFORMATION



A fire-resistant coating for air-handling ductwork.

What Is Vermiduct®?

Vermiduct® is a spray-on coating for interior air-handling ductwork systems that provides passive fire protection for four hours. Non-combustible and easy to apply, this uniquely developed gypsum-vermiculite blend contains no asbestos or other fibres.

Vermiduct® is factory blended to ensure a quality and cost-effective product that can be applied with a spray gun.

How Does It Work?

While unprotected sheet-metal ductwork can resist the passage of smoke and decomposition products, its high thermal conductivity means fire resistance is in fact low.

Vermiduct® greatly increases fire resistance to air-handling systems, and reduces overall costs thanks to a decrease in material thickness. This translates to savings in actual ductwork construction in terms of sheet metal gauge and angles.

With Vermiduct®, the Designer or Specifier can prioritise building design requirements rather than working around those of the metal duct manufacturer.

Has It Been Tested?

Yes, and Vermiduct® has passed all tests with flying colours – even when tested with ductwork joined by conventional ‘standing slide’ joints offering minimal structural stability.

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Vermiduct® has been successfully tested for 4 hours on large and small duct sizes, access panels, ventilating/inspection grilles, variable hanging rod sizes, fan enclosures and PVC ductwork (180/180/180 FRL).

Vermiduct® has been developed in strict accordance with the well-recognised guidelines of major international ductwork Standards including AS 4254-1995, BS 5588 Part 9, and SMACNA.

Want to Know More?

For more information on Vermiduct® and our complete range of products for the construction, industrial and agricultural sectors, contact LAF Group by telephone on (02) 9642 4745, or Freecall 1800 629 305, by facsimile on (02) 9742 5164, or by email: sales@lafgroup.com.



Production

Vermiduct® is a pastel-pink plaster-based material with a monolithic finish that can be trowelled.

Vermiduct® is manufactured under factory-controlled conditions, delivered to site in 'batch' form, and mixed to the required consistency before application.

Packaging

Vermiduct® is packaged in 50-litre paper sacks, which can be stored for up to six months under good, dry conditions. They should be stored covered, off the ground, and away from wet or damp surfaces or areas of high humidity.

Application

Before application, ensure the substrate is free from rust, oil, excessive dust or any other substance that may impair adhesion.

Once mechanical reinforcement has been secured, Vermiduct® can be applied to the desired thickness in one coating if required.

The initial coat will set in two to six hours, with a required coating interval of between two and eight hours.

New coatings should only be applied over partially set coatings. If this is not possible, the last coating surface should be textured or scratched to encourage adhesion.

When applied in well-ventilated areas to a thickness of 50 mm, Vermiduct® will dry in three to four weeks. Ambient temperature should not be allowed to drop below 4° C for the week following application.

Once applied and dried, and under normal conditions, Vermiduct® will neither contribute to nor promote the corrosion of bare, galvanised or primed steel.

Vermiduct® should not be considered a rust preventative. In highly humid environments, bare steel substrate should be primed with an approved rust preventative primer.

Mechanical Reinforcement

For exhaust ducts such as kitchen exhaust, smoke spill, return air and exhaust air, mechanical reinforcement such as chicken wire (25 mm x 25 mm x 1 mm) is required.

Mechanical reinforcement should also be used for all continuous smooth horizontal and vertical surfaces – especially if subjected to continuous vibrations, thermal or construction movement. The mesh should be embedded



two-thirds of the way through the spray thickness.

Supply ducts require a primer or bond coat equal to Vermiduct® '7' as replacement for mechanical reinforcement.

Fan Enclosures

Fan enclosures, including the motor, should be fire-isolated in accordance with International Standards or AS 1668. Vermiduct® has been comprehensively tested by CSIRO, and can provide fan enclosures with FRLs up to 240/240/240 with the following dimensions: 5.2 m (l) x 2.4 m (w) x 3.5 m (h).

Penetrating Ductwork

Ductwork that penetrates fire-rated and ordinary walls is vulnerable to thermal and structural load redistribution, and should be restrained to ensure construction tolerance and to prevent the passage of fire.

Coverage

One 50-litre bag of Vermiduct® will cover approximately 1m² at a nominal thickness of 50 mm. Overspray and waste will have an effect on bag yield and it is recommended that 10 to 15 per cent waste be allowed for coverage calculations.

Density

Dry density: 280 kg/m³

Maintenance and Inspection

LAF Group's holistic approach to passive fire protection for air-handling ductwork includes the installation of access panels,



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expansion/vibration control joints, and inspection grilles.

Access panels cater for openings of 1.2 m x 1.2 m down. Control joints have been successfully tested with Vermiduct® systems. Inspection grilles feature an intumescent grill that allows uninterrupted viewing of equipment.

Testing

Vermiduct® complies with the following Standards:

- ISO 6944: 1985
- BS 476:24-1987
- AS 1530 Parts 3 and 4: methods for fire tests on

- building materials, components and structures.
- AS 1668 Part 1: the use of mechanical ventilation and air handling in buildings; Part 1: fire and smoke control; and
- AS 4254 (1995): ductwork for air-handling systems in buildings.

LAF's products have been successfully tested on a fire-door frame (2040 mm x 820 mm), access panels, fire dampers up to 2400 mm (w), PVC steel and copper pipe penetrations, and electrical cable trays.

Test Data

Vermiduct® performance to AS 1530.4-1990, BS 476-24:1987 and ISO 6944:1985

Test No.	Year	Mode	Duct Dimension	Fire Side	Spray T'kness (mm)	Joint Type & Interval (m)	Sheet Metal (mm)	Susp'n Rod (mm)	FRL
FSH-0092	90	H-1	1200x600	I	96	Mez140L 1.52	1	10	240/240/240
FSH-0092	90	H-2	1200x600	I	71	Drive 1.52	1	10	240/240/120
FSH-0092	90	H-3	1200x600	E	64	Drive 1.52	1	10	240/240/120
FSH-0092	90	H-4	1200x600	E	89	Mez140L 1.52	1	10	240/240/240
FSH-0092	90	V-1	1200x600	I	97	Drive 1.52	1	10	240/240/120
FSH-0092	90	V-2	1200x600	I	68	Mez140L 1.52	1	10	240/240/120
FSH-0230	92	H-1	1600x600	E	61	L40x40x5 2.0	1	10	180/180/120
FSH-0230	92	H-2	2400x600	I	63	L40x40x5 1.5	1	12	180/180/60
FSH-0230	92	V-1	2400x600	I	66	L40x40x5 1.5	1	10	180/180/60
FSH-0236	92	H-1	2400x600	I	68	L40x40x5 1.5	1	12	180/180/30
FSH-0236	92	H-2	750x750	E	78	L40x40x5 1.5	PVC 6	10	180/180/180
FSH-0236	92	H-3	750x750	I	75	L40x40x5 1.5	PVC 6	10	180/180/120
FSH-0236	92	V-1	2400x600	I	69	L40x40x5 1.5	1	10	180/180/120
FS-2979	98	H-1	1600x600	I	53	Mez140L 1.52	0.8	8	120/120/101
FS-2979	98	H-2	1600x600	I	51	Mez140L 1.52	0.8	8	120/120/85
FS-2979	98	H-3	1600x600	E	42	Drive 2.4	0.8	10	120/120/120
FS-2979	98	H-4	1600x600	E	48	Drive 2.4	0.8	10	120/120/114
FS-2979	98	V-1	1600x600	I	48	TDF35 1.42	0.8	8	120/120/120
FS-2979	98	V-2	1600x600	I	50	Mez120L 1.52	0.8	8	120/120/120
FSH-0649	99	H-1	1000x1000	E	40	Drive 1.52	0.8	6	240/205/151
FS-3577/2435	03	H1-A	1000x250	E	60	TDF35 1.42	0.8	8	- /229/229
FS-3577/2435	03	H1-B	1000x250	I	50	TDF35 1.42	0.8	8	- /240/180
FS-3577/2435	03	V1-C	1000x250	E	30	TDF35 1.42	0.8	8	- /240/240

Note: Mode Column: H= Horizontal and V= Vertical Fire Side Column: I= Internal and E= External

Health

Being a blend of gypsum and vermiculite, Vermiduct® contains no asbestos and presents no known health hazard before, during or after application. Normal precautions for gypsum products apply, including dust mask, eye protection and covering of sensitive skin.

Contact

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