Status Selected by or on behalf of GMI Lead Approver: 29/03/2022

Apartment Ductwork & Insulation - Technical Submittal (TSM)

Project: New Cross Residential, Bendix Street
Project No: MC1161
TSM No: D480-AME-XX-XX-TS-M-0004
Revision: PO1

A - No comments

Ameon Limited Unit 9-10 Olympic Court
Boardmans Way
Whitehills Business Park
Blackpool
FY4 5GU

Tel: 01253 760160
Fax: 01253 760150
Email: enquiries@ameon.co.uk

Building Services Engineering

Status Selected by or on behalf of GMI Lead Approver: 29/03/2022

Apartment Ductwork and Insulation Technical Submittal

Project: New Cross Residential, Bendix Street
Project No. MC1161
Submittal No. D480-AME-XX-XX-TS-M-0004

Domestic Ventilation Services

204mm x 60mm or 220 x 90mm rigid plastic ductwork will be provided to all apartments.

Flexible ductwork will be used for final connections to the utility cupboard MVHR unit and ceiling mounted air valves

Fresh air and exhaust ductwork from the MVHR units to the building external façade will be insulated in a glass mineral wool 25mm ductwrap with aluminium foil facing.

~~General Notes~~

1. Associated ductwork and Insulation datasheets can be found on the following pages
2. All apartment ventilation will be installed in accordance with the Domestic Ventilation Compliance Guide 2010.

A - No comments

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Ducting & Accessories

Flat Channel 1.5 Metre Length

		External Dimensions (mm)			Resistance (Pa) at flow rate							
Stock Ref	Duct Size	A	B	C	8 l/s	13 l/s	21 l/s	29 l/s	37 l/s	45 l/s	53 l/s	61 l/s
406870	Insulated 204 x 60*	160	304	1500	<1	<1	1.3	2.2	3.3	4.5	5.9	7.8
436617	Uninsulated 204 x 60	60	204	1500	<1	<1	1.3	2.2	3.3	4.5	5.9	7.8
436599	Uninsulated 110 x 54	54	110	1500	1.2	2.4	5.3	9.1	13.9	19.8	25.9	32

Stock Ref	Duct Size	A	B	C	60 l/s	120 l/s	180 l/s
407343	Insulated 220 x 90*	190	320	1500	1.4	4.9	10.2
403025	Uninsulated 220 x 90	90	220	1500	1.4	4.9	10.2

Flat Channel Connector. F to F

		External Dimensions (mm)			Resistance (Pa) at flow rate							
Stock Ref	Duct Size	A	B	C	8 l/s	13 l/s	21 l/s	29 l/s	37 l/s	45 l/s	53 l/s	61 l/s
436623	204 x 60	64	212	100	<1	<1	<1	<1	<1	<1	1.2	1.5
436605	110 x 54	54	114	100	<1	<1	1.1	1.4	2.2	3.4	4.8	6.4

Stock Ref	Duct Size	A	B	C	60 l/s	120 l/s	180 l/s
403026	220 x 90	95	224	52	<1	<1	<1

Channel Fixing Clip (Pack of 10)

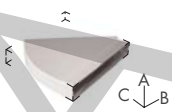
		External Dimensions (mm)			Resistance (Pa) at flow rate		
Stock Ref	Duct Size	A	B	C	60 l/s	120 l/s	180 l/s
403030	220 x 90	97	44	19	N/A	N/A	N/A

Horizontal 90° Bend. F to F

		External Dimensions (mm)			Resistance (Pa) at flow rate							
Stock Ref	Duct Size	A	B	C	8 l/s	13 l/s	21 l/s	29 l/s	37 l/s	45 l/s	53 l/s	61 l/s
406879	Insulated 204 x 60*	160	360	360	<1	1.7	4.1	8.4	13	18	25	34
436620	Uninsulated 204 x 60	65	260	260	<1	1.7	4.1	8.4	13	18	25	34
436602	Uninsulated 110 x 54	60	152	152	2.3	9.9	21	38	64	93	124	162

Stock Ref	Duct Size	A	B	C	60 l/s	120 l/s	180 l/s
407342	Insulated 220 x 90*	190	350	350	9	36	80
403028	Uninsulated 220 x 90	95	250	250	9	36	80

Horizontal 45° Bend. F to F



		External Dimensions (mm)			Resistance (Pa) at flow rate							
Stock Ref	Duct Size	A	B	C	8 l/s	13 l/s	21 l/s	29 l/s	37 l/s	45 l/s	53 l/s	61 l/s
406876	Insulated 204 x 60*	160	340	360	<1	<1	1.2	2.1	3.8	6.1	9.2	13
249944	Uninsulated 204 x 60	65	240	260	<1	<1	1.2	2.1	3.8	6.1	9.2	13

Stock Ref	Duct Size	A	B	C	60 l/s	120 l/s	180 l/s
449363	Uninsulated 220 x 90	95	240	200	5	20	46

*Minimum insulation wall thickness 25mm. Insulation Thermal Conductivity: 0.04 W/(m.K)

A - No comments

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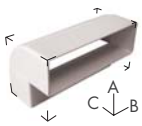
Horizontal T. F to F to F

		External Dimensions (mm)			Resistance (Pa) at flow rate							
Stock Ref	Duct Size	A	B	C	8 l/s	13 l/s	21 l/s	29 l/s	37 l/s	45 l/s	53 l/s	61 l/s
406883	Insulated 204 x 60*	160	410	355				vary on installation				
436551	Uninsulated 204 x 60	65	310	255				vary on installation				
436614	Uninsulated 110 x 54	60	185	150				vary on installation				

Stock Ref	Duct Size	A	B	C	60 l/s	120 l/s	180 l/s
449365	Uninsulated 220 x 90	95	275	250		vary on installation	

Vertical 90° Bend. F to F



		External Dimensions (mm)			Resistance (Pa) at flow rate							
Stock Ref	Duct Size	A	B	C	8 l/s	13 l/s	21 l/s	29 l/s	37 l/s	45 l/s	53 l/s	61 l/s
406872	Insulated 204 x 60*	215	310	215	1.1	2.5	5.2	9.8	16.1	24	33.6	45
436621	Uninsulated 204 x 60	115	210	115	1.1	2.5	5.2	9.8	16.1	24	33.6	45
436603	Uninsulated 110 x 54	95	115	95	3.3	15.5	36	61	96	138	190	253

Stock Ref	Duct Size	A	B	C	60 l/s	120 l/s	180 l/s
403029	Uninsulated 220 x 90	117	224	120	7	28	66

Vertical 45° Bend. F to F

		External Dimensions (mm)			Resistance (Pa) at flow rate							
Stock Ref	Duct Size	A	B	C	8 l/s	13 l/s	21 l/s	29 l/s	37 l/s	45 l/s	53 l/s	61 l/s
406871	Insulated 204 x 60*	200	310	215	<1	<1	1.3	2.5	4.4	6.9	10	13.3
445196	Uninsulated 204 x 60	100	210	115	<1	<1	1.3	2.5	4.4	6.9	10	13.3
441655	Uninsulated 110 x 54	115	115	70	1	2.4	6.6	12.9	23.1	35.1	48	64

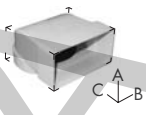
Stock Ref	Duct Size	A	B	C	60 l/s	120 l/s	180 l/s
449364	Uninsulated 220 x 90	110	225	115	6	27	65

Elbow Bend. 100mm to Rectangular. M to F

		External Dimensions (mm)			Resistance (Pa) at flow rate							
Stock Ref	Duct Size	A	B	C	8 l/s	13 l/s	21 l/s	29 l/s	37 l/s	45 l/s	53 l/s	61 l/s
436624	204 x 60	80	215	195	2.9	7.1	15.1	28	45.1	68.1	92.2	118
436607	110 x 54	90	115	140	3	8	17.7	33	49.9	74.5	101	137

Stock Ref	Duct Size	A	B	C	60 l/s	120 l/s	180 l/s
403027	220 x 90	118	226	240	N/A	N/A	N/A

Elbow Bend. 125mm to Rectangular. M to F



		External Dimensions (mm)			Resistance (Pa) at flow rate							
Stock Ref	Duct Size	A	B	C	8 l/s	13 l/s	21 l/s	29 l/s	37 l/s	45 l/s	53 l/s	61 l/s
436625	204 x 60	80	215	195	3.1	5.9	12.2	25	43.6	62.2	86	111

Stock Ref	Duct Size	A	B	C	60 l/s	120 l/s	180 l/s
449361	220 x 90	118	226	240	N/A	N/A	N/A

*Minimum insulation wall thickness 25mm. Insulation Thermal Conductivity: 0.04 W/(m.K)

A - No comments

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Duct Wrap & Duct Slab

Designed to provide high levels of thermal and acoustic insulation in HVAC ductwork applications.

Applications:
Rectangular, flat oval and circular ductwork in HVAC applications.

Description

There are two grades of Duct Slab and a single high performance grade of Duct Wrap.

ISOVER Multi-Purpose Duct Slab is suitable for use with all types of rectangular ductwork.

ISOVER High Performance Duct Slab is suitable where an extra firm substrate is required for subsequent coverings.

ISOVER High Performance Duct Wrap is a strong, easy to handle mattress for use with all shapes of ductwork.

Fire Classification

The base mineral wool of ISOVER duct products has a Euroclass A1 fire rating when classified in accordance with BS EN 13501 - 1. Additionally, the factory-applied aluminium foil facing meets the highest standards required by BS476: Part 6 'Fire Propagation', and BS476: Part 7 'Surface Spread of Flame'. The foil facing is therefore rated 'Class O' to the Building Regulations.

Service Temperature

ISOVER Duct Wrap & Slab has a maximum continuous service temperature of 230°C. It can also be used in below-ambient, provided that a 100% vapour barrier is maintained. It is dimensionally stable over this temperature range. The temperature of the foil facing should not exceed 80°C.

Standards

ISOVER Duct Wrap & Slab are manufactured under Quality Management Standard BS EN ISO 9001:2000, and in compliance with the requirements of: BS3958: Part 5:1986,'Specification for bonded man-made mineral fibre slabs'.

The product can be used in conjunction with the performance requirements and applications standards of: BS5422: 2001,'Method for specifying thermal insulating material on pipes, ductwork and equipment (in the temp range -40 to +700°C)'. BS5970:2001,'Code of practise for the thermal insulation of pipework and equipment (in the temperature range -100 to + 870°C)'.

Benefits

- Completely fire safe - totally non-combustible.
- Will not absorb moisture.
- Durable - not easily damaged in storage, during transport or on site when installing.
- Long product life - will not age.
- Environmentally safe - made from naturally occurring minerals.
- Chemically inert - approximate pH value of 7.

Durability

- Odourless, inert and fully compatible with all standard HVAC materials and components.
- Will not accelerate corrosion with steel, copper or aluminium.
- Will not sustain vermin, nor breed or promote fungi or bacteria.
- Will not slump or consolidate in application.

Ecological Information

ISOVER Duct Wrap & Slab are made from glass mineral wool, one of the most environmentally friendly materials available.

Sustainable.
ISOVER Duct Wrap & Slab are manufactured from silica sand, the earth's most abundantly occurring mineral and a sustainable, infinite resource.

Recyclable.
Approximately 80% of the raw material used in the production of **ISOVER Duct Wrap & Slab** are recycled, far more than any comparable product. The recycled material can be post-consumer glass (from housing generation projects) or waste glass from bottle and flat glass manufacture, which would otherwise go to landfill.

Environmental.
The manufacturing process does not use or contain CFC's, HCFC's or other damaging gases - nor has it ever. In addition, the unique resilience of ISOVER glass mineral wool enables high compression packing which means more insulation in a smaller space than almost any other insulant. The result is better vehicle utilisation, reducing the environmental impact of transportation.

No comments

Product Performance & Characteristics

Thermal Conductivity

Thermal conductivity at 10°C mean temperature	
ISOVER Multi Purpose Duct Slab	0.032 W/m.K
ISOVER High Performance Duct Slab	0.030 W/m.K
ISOVER High Performance Duct Wrap	0.033 W/m.K.

Isospec

For assistance in specifying ISOVER Duct Wrap & Slab, use the Isospec programme. Visit www.isover.co.uk to request your free copy.

Water vapour permeance

Water vapour permeance 0.0037 g/(s.MN) (foil facing)

Acoustic Performance

ISOVER duct products provide a high level of acoustic performance against noise break-out from ductwork. The following examples show the minimum performance expected from rectangular metal ductwork, 1mm wall thickness, insulated with ISOVER duct slabs.

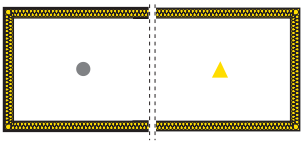
Duct dimension 1200mm x 500mm

Insulated with 40mm **ISOVER Multi-Purpose Duct Slab** or 40mm **High Performance Duct Slab**

▲ $D_{e,w}$ = 9dB

Insulated with 40mm **ISOVER Multi Purpose Duct Slab** or 40mm **High Performance Duct Slab** with additional 1mm sheet metal covering

● $D_{e,w}$ = 20dB



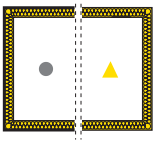
Duct dimension 600mm x 500mm

Insulated with 40mm **ISOVER Multi-Purpose Duct Slab** or 40mm **High Performance Duct Slab**

▲ $D_{e,w}$ = 8dB

Insulated with 40mm **ISOVER Multi Purpose Duct Slab** or 40mm **High Performance Duct Slab** with additional 1mm sheet metal covering

● $D_{e,w}$ = 19dB



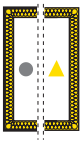
Duct dimension 300mm x 500mm

Insulated with 40mm **ISOVER Multi-Purpose Duct Slab** or 40mm **High Performance Duct Slab**

▲ $D_{e,w}$ = 8dB

Insulated with 40mm **ISOVER Multi Purpose Duct Slab** or 40mm **High Performance Duct Slab** with additional 1mm sheet metal covering

● $D_{e,w}$ = 19dB



Product Dimensions

ISOVER Duct Wrap and Slab are compression packed in individual packs using a strong polythene packaging film. The packs are then stacked on wooden pallets with a final weatherproof outer covering, giving the option for outside storage. **ISOVER Duct Slabs** are manufactured in 1200mm x 600mm dimension. **ISOVER High Performance Duct Wrap** is manufactured in a 1200mm wide compression wrapped roll.

Thickness	ISOVER Multi Purpose Duct Slab		ISOVER High Performance Duct Slab		ISOVER High Performance Duct Wrap	
	Slabs/pack	m²/pack	Slabs/pack	m²/pack	Roll length	m²/pack
25mm	-	-	-	-	18.0m	21.60
40mm	12	8.64	10	7.20	12.0m	14.40
50mm	10	7.20	9	6.48	9.0m	10.80

No comment

Technical Support: **0115 945 1143** or E-mail **isover.enquiries@saint-gobain.com**

General Enquiries: Saint-Gobain ISOVER UK, East Leake, Loughborough, Leicestershire LE12 6JU Tel: 0115 945 1050 Fax: 0115 945 1915

British Gypsum-Isover Limited reserve the right to alter or amend product specification without notice. The information given in this publication is correct to the best of our knowledge at the time of publication. Whilst British Gypsum-Isover Limited will endeavour to ensure publications are up to date, it is the users responsibility to check with us that it is correct prior to use.

SAINT-GOBAIN
ISOVER UK

Status Selected by or on behalf of GMI Lead Approver: 29/03/2022

AirWiseVentilation

SUPPLIERS OF VENTILATION EQUIPMENT

DATA SHEET

COMBINATION FLEXIBLE DUCTING(AWFDC).

CONSTRUCTION

AIRWISE`AWFDC' IS A LAMINATED PVC CONSTRUCTION ENCAPSULATING A HIGH TENSILE STEEL WIRE HELIX ENSURES THERE IS NO SEPARATION FROM THE DUCT MATERIAL. THE `FDC' FLEX IS COVERED WITH A TOUGH CO-POLYMER OUTER DUCT/VAPOUR BARRIER, WHICH ACTS AS A UNIQUE EXTRA AIRTIGHT, STRONG AND DURABLE COLD BARRIER.

ADVANTAGES

* **SUPPLIED IN STANDARD 6 METER LENGTH, COMPRESSED TO 0.6 MTS.**
* **INDIVIDUALLY BOXED.**
* **EASY TO CONNECT TO EITHER ROUND OR OVAL DUCTING.**
* **NO SPECIAL TOOLS REQUIRED FOR CUTTING OR FIXING.**
* **IN THE EVENT OF FIRE NO TOXIC GASES ARE EMITTED.**
* **THE PRODUCTS HAVE BEEN SUCCESSFULLY TESTED AND FIRE RESISTANCE RATED**
* **SEAMLESS SMOOTH INTERIOR SURFACE ENSURES A LOW-PRESSURE**
* **THE LAMINATION OF THE LAYERS OF ALUMINIUM POLYESTER AND PVC INTO ONE SINGLE PRODUCT GIVES EXTRA STRENGTH DURABILITY AND STABILITY.**

TECHNICAL DATA

CONSTRUCTION MATERIAL……..LAMINATED, REINFORCED ALUMINIUM/POLYESTER & PVC
WIREPITCH……102MM=25MM,125 TO 508MM=37MM.
DIAMETER RANGE……..……102-508MM
TEMPERATURE RANGE……..-30/+120ºC
MAXIMUM AIR VELOCITY……30 M/SEC
POSITIVE WORKING PRESSURE…2500 PA (MAX)
STANDARD LENGTH……..6 METERS
PACKING……INDIVIDUAL BOX OF 0.6 METERS
CLAMPING……..LIGHTENING BAND,STAINLESS STEEL FLEX CLIPS

Air Wise comments