



HVAC Insulation



Insulation Solutions for HVAC Applications

New CE marking and ISOVER CLIM product range

ISOVER
SAINT-GOBAIN



Introduction



Saint-Gobain Group

For more than three centuries, Saint-Gobain has applied its technological expertise and knowledge of markets to supply products that reflect its customers' and partners' needs. The Saint-Gobain Group has acquired a reputation for innovation, responsiveness and productivity.

By continuous investing in Research and Development, Saint-Gobain is able to provide all of its partners with a technological edge and the assurance of an ongoing focus on innovation. Saint-Gobain's presence in more than 64 countries is a source of synergies and a constant exchange of ideas that help deliver the most innovative and appropriate solutions.

ISOVER Technical Insulation

The ongoing rise in energy prices as well as the concern to protect the environment, has underlined the urgent need to reduce energy losses. This has led the insulation industry to focus on developing improved structural insulation products. The potential of energy savings in HVAC installations and components is also essential to improve energy efficiency in buildings.

As the world's leading insulation company, ISOVER has drawn attention to the importance of effective insulation in the so-called technical areas, such as Marine, Industry, HVAC and Original Equipment Manufacturer (OEM), where effective insulation is not only important to save energy, but also to provide acoustic and thermal comfort.

We have used our recognised innovation skills to bring efficient technical solutions for these critically important markets.



ISOVER HVAC Insulation solutions

HVAC installations are designed to provide thermal and acoustic comfort to buildings' occupants. This should be done ensuring an efficient use of energy and complying fully with safety requirements. ISOVER provides a complete range of insulation solutions for HVAC ducts and pipes, which help not only to deliver desired levels of comfort but also to reduce energy

consumption and contribute to fire safety. These solutions are adapted to meet any customer and case need whatever the application should be. The best performance for each case will be obtained with two main materials: glasswool, providing excellent thermal and acoustical performance, or ISOVER latest innovation for fire resistance: high performing ULTIMATE mineral wool.

CE marking in Technical Insulation

CE marking and EN 14303

Following CE marking in building insulation, finally technical insulation products will get CE marked under the Construction Products Directive (89/106/EEC). CE marking ensures that all marked products are tested according to European standards, complying with European directives or regulations, and the manufacturer respects the safety and quality control rules to place them on the European market.

For insulation materials, the harmonised EN 14303 standard "*Thermal insulation products for building equipment and industrial installations*" defines the characteristics to be declared and the test procedures to be followed. Therefore CE marking in technical insulation will provide more transparency and reliability in the market by giving the possibility to compare products all over Europe with a common reference, and increase focus on performance level.

After first publication of EN 14303 in 2009, CE marking for Technical Insulation becomes mandatory by August 2012 in countries where the Directive 89/106/EEC has been implemented accordingly. As soon as the European construction product regulation (CPR) will be in force in July 2013, all missing EU countries will be covered.



CE marking and new "ISOVER CLIM" product range.

With the new CE marking for technical insulation products, ISOVER uses the opportunity to harmonize its HVAC product range at the same time, offering same high quality and technical advanced products under one umbrella "ISOVER CLIM" all over Europe.

ISOVER has already started to CE mark all European technical insulation products (*) by using accredited and independent institutes and will finalise this process by mid of 2012. Under one new product group „ISOVER CLIM“ ISOVER will market all of the high quality and technical

advanced products produced, tested and certified for HVAC insulation applications in Europe.

The ISOVER CLIM product declarations will meet all requirements according EN 14303 such as dimensional tolerances, thermal conductivity and fire reaction.

Together with a new application and performance based naming structure, ISOVER CLIM will confirm its proved know-how for thermal, acoustic and fire insulation in HVAC, and guide the user to choose the right product with the right properties for each application.

(*): as an exception, loose wool for industrial applications will not be CE marked as out of scope of EN 14303. But its reaction to fire will be expressed in Euroclasses.



ISOVER CLIM

New ISOVER European HVAC range

A complete and adapted range for HVAC insulation

ISOVER CLIM stands for the new CE marked and harmonised European range for HVAC insulation: a complete range that offers to the user the most adapted solution. Whatever the type of ducts, performance requirements for the installation (acoustics, thermal, fire protection, assembly...) or the specific local building codes demands, ISOVER CLIM has the right product solution.

ISOVER CLIM range: naming structure.

ISOVER CLIM range has been segmented in five applications groups which automatically provide information of the main use of the product. To guide specification on the

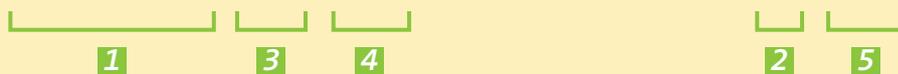
main benefit obtained, naming includes as well indication performances levels, moving away from the old and – only manufacturing perspective – way of specification based on weight.

Additional information of product form, facings and special applications will ease differentiation between products.

By CE marking and third party control ISOVER guarantees the performance and consistency of the CLIM product range no matter where products are finally produced and delivered: a consistent and harmonised product range all over Europe.

The new European CLIM range structure is defined with a main name based on applications + suffixes based on performances.

Examples: CLIMCOVER Slab Alu1 / CLIMCOVER A2 neto



1. Product group

Indicating the applications: self-supporting air ducts, inside insulation of metal air ducts, outside insulation of metal air ducts, HVAC pipe sections, HVAC fire protection

2. Fire performance

Euroclass: **A1, A2**

3. Product form

Different product forms: roll, slab, lamellamat, crimped product, flexible pipe section, rigid pipe section, wired mat

4. Facing type

indicating facing type

Alu1, Alu2, Alu3 aluminium facing with reference to Euroclass of the product (A1, A2, B)
V1, V2 veil facing with reference to the colour
G1, G2 woven glass facing with reference to colour and gramweight

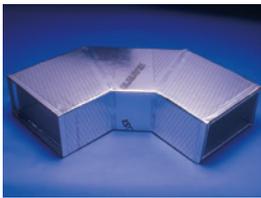
5. Others

neto woven glass facing
Fix Selfadhesive facing
APTA enhanced thermal and acoustical performance
2.0, 4.0 performance level indication
Hygrowick indicates condensation special solution

A. CLIMAVER

ISOVER solution for self-supporting air ducts made from glasswool boards.

CLIMAVER solution is the easy-to-install air duct alternative that



provides high levels of thermal insulation, air tightness and noise control.

B. CLIMLINER

ISOVER solutions for insulation of metal air ducts, where insulation is installed inside the metal duct.



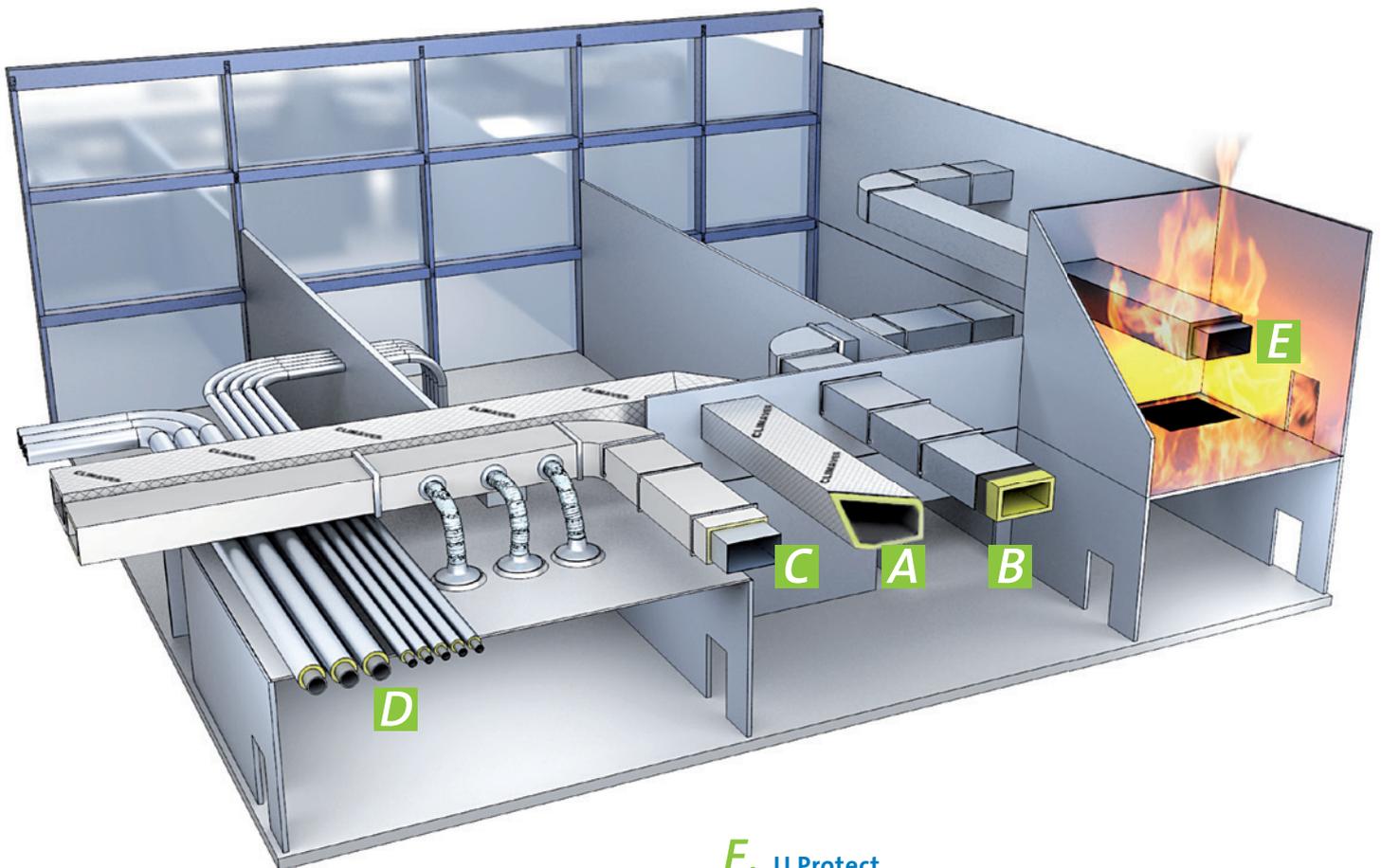
CLIMLINER is the best solution to guarantee noise reduction in air metal ducts.

C. CLIMCOVER



ISOVER solutions for insulation of metal air ducts, installed on the outside of the metal duct.

CLIMCOVER is the right solution to provide thermal insulation and prevent condensation in air metal ducts.



D. CLIMPIPE



ISOVER pipe sections for insulation of HVAC water pipes. CLIMPIPE sections provide high efficient levels of thermal insulation and prevention of condensation.

E. U Protect



ISOVER solutions for providing fire resistance in HVAC using ULTIMATE mineral wool.

U Protect solutions provide an easy-to-install and lightweight efficient solution for fire resistance in HVAC.

CLIM Product Range

A. CLIMAVER, solutions for self-supporting ducts

The ducts are made from high density glasswool boards with factory made edges and shiplap to provide easy and airtight joints. The boards are faced on the external face with reinforced alu facing that provides vapour barrier and can provide as well guidance for the installation.

European name	Product description	Outer Facing	Inner Facing	λ (10°C) mW/(m.K)	λ (40°C) mW/(m.K)	Euroclass
CLIMAVER A2 neto	Board with enhanced acoustical & fire performances and mechanical resistance to cleaning brushes.	reinforced aluminium	woven glass fabric	32	36	A2-s1,d0
CLIMAVER A2 PLUS	Board with enhanced acoustical & fire performances	reinforced aluminium	smooth aluminium	32	36	A2-s1,d0
CLIMAVER neto	Board with enhanced acoustical performances as well and mechanical resistance to cleaning brushes.	reinforced aluminium	woven glass fabric	32	36	B-s1,d0
CLIMAVER PLUS R	Board with enhanced acoustical & thermal performances	reinforced aluminium	smooth aluminium	32	36	B-s1,d0
CLIMAVER A2 DECO	Decorative board with enhanced acoustical & fire performances and mechanical resistance to cleaning brushes.	decorative aluminium	woven glass fabric	32	36	A2-s1,d0
CLIMAVER APTA	Board with enhanced acoustical & thermal performances as well and mechanical resistance to cleaning brushes.	reinforced aluminium	woven glass fabric	32	36	B-s1,d0
CLIMAVER A2 APTA	Board with enhanced acoustical, fire & thermal performances and mechanical resistance to cleaning brushes.	reinforced aluminium	woven glass fabric	32	36	A2-s1,d0

B. CLIMLINER, solutions for inside insulation of metal ducts

Glasswool slabs or rolls that provide high acoustic benefits as well as thermal insulation to the air duct.

European name	Product description	Outer Facing	Inner Facing	λ (10°C) mW/(m.K)	λ (40°C) mW/(m.K)	Euroclass
CLIMLINER Slab CLEANTEC	Rigid Slab with optimum acoustical performance and mechanical resistance to cleaning brushes.	glass veil	woven black glass fabric	33	37	A2-s1,d0
CLIMLINER Roll G1	Roll with optimum acoustical performance and mechanical resistance to cleaning brushes.	-	woven black glass fabric	32	37	A2-s1,d0
CLIMLINER Slab V2	Rigid Slab with optimum acoustical performance.	glass veil	non woven black glass fabric	33	37	A2-s1,d0
				34	38	A2-s1,d0
CLIMLINER Roll V2	Roll with optimum acoustical performance.	-	non woven black glass fabric	35	40	A2-s1,d0
				32	37	A2-s1,d0

C. CLIMCOVER, solutions for the external insulation of metal ducts

The insulation is installed outside the metal duct. Glasswool rolls, slabs, crimped mats or lamellas, to provide thermal insulation and prevent condensation in metal ducts.

European name	Product description	Outer Facing	Inner Facing	λ (10°C) mW/(m.K)	λ (40°C) mW/(m.K)	Euroclass
CLIMCOVER Roll Alu1	Roll with optimum thermal & fire performances and vapour barrier	reinforced aluminium	-	32	37	A1
CLIMCOVER Roll Alu2	Roll with enhanced thermal & fire performances and vapour barrier	reinforced aluminium	-	35	40	A2-s1,d0
CLIMCOVER Roll Alu3	Roll with standard thermal performance and vapour barrier	reinforced aluminium	-	35	40	B-s1,d0
CLIMCOVER Slab A1	Slab with optimum thermal & fire performances and vapour barrier	reinforced aluminium	-	31	34	A1
CLIMCOVER Slab Alu2	Slab with enhanced thermal & fire performances and vapour barrier	reinforced aluminium	-	31	34	A2-s1,d0
CLIMCOVER CR Alu2	Crimped roll with enhanced mechanical performance and a vapour barrier	reinforced aluminium	-	36	42	A2-s1,d0
CLIMCOVER Lamella Alu1	Lamella with optimum fire & mechanical performances and a vapour barrier	reinforced aluminium	-	38	47	A1
CLIMCOVER Lamella	Lamella with enhance fire & optimum mechanical performances and a vapour barrier	reinforced aluminium	-	37	44	A2-s1,d0
CLIMCOVER Lamella Fix	Self-adhesive, easy to install, lamella with optimum mechanical performance, a vapour barrier.	reinforced aluminium	self-adhesive	37	44	F

D. CLIMPIPE, solutions for pipe insulations (pipe sections)

ISOVER pipe sections solutions for insulation of HVAC water pipes. CLIMPIPE sections are provide in glasswool pipe sections or ULTIMATE high efficient mineral wool.

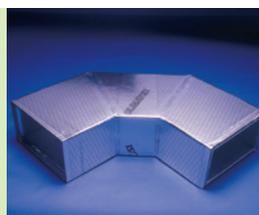
European name	Product description	Outer Facing	Inner Facing	λ (10°C) mW/(m.K)	λ (40°C) mW/(m.K)	Euroclass
CLIMPIPE Section Alu2	Pipe section with enhanced thermal & fire performances, vapour barrier and confort during installation	reinforced aluminium	-	32	35	A _{2L} -s1,d0
CLIMPIPE Section Alu3	Pipe section with enhanced thermal performance, vapour barrier and confort during installation	reinforced aluminium	-	32	35	B _L -s1,d0
CLIMPIPE Section Boaflex	Flexible pipe section with vapour barrier and confort during installation	reinforced aluminium	-	37	44	A _{2L} -sw,d0
CLIMPIPE Section Hygrowick	Pipe section with special facing that provides the best solution to solve condensation situations.	hygrowick	-	To be determined	To be determined	D _L -s1,d0
U Protect Pipe Section Alu2	ULTIMATE mineral wool Pipe section with enhanced thermal & fire performances, vapour barrier and confort during installation	reinforced aluminium	-	32	35	A _{2L} -s1,d0

Note: For unfaced pipe sections in glass wool or ULTIMATE mineral wool please check our Industry range TECH range.

E. U Protect, solutions for fire resistant ducts

ISOVER solutions for providing fire resistance in HVAC applications by using high performing ULTIMATE mineral wool. Solutions in this brochure are designed for providing fire resistance in to metal ducts.

European name	Product description	Outer Facing	Inner Facing	λ (10°C) mW/(m.K)	λ (40°C) mW/(m.K)	Euroclass
U Protect Slab 2.0	ULTIMATE mineral wool slab with standard thermal performance.	-	-	33	37	A1
U Protect Slab 2.0 V1	ULTIMATE mineral wool slab with standard thermal performance and comfortable applications properties.	non woven glassveil	-	33	37	A1
U Protect Slab 2.0 Alu1	ULTIMATE mineral wool slab with standard thermal performance & vapour barrier as well as comfortable applications properties.	reinforced aluminium	-	33	37	A1
U Protect Slab 4.0	ULTIMATE mineral wool slab with enhanced thermal performance.	-	-	31	34	A1
U Protect Slab 4.0 V1	ULTIMATE mineral wool slab with enhanced thermal performance and comfortable applications properties.	non woven glassveil	-	31	34	A1
U Protect Slab 4.0 Alu1	ULTIMATE mineral wool slab with enhanced thermal performance & vapour barrier as well as comfortable applications properties.	reinforced aluminium	-	31	34	A1
U Protect WNM 2.0	ULTIMATE mineral wool wired mat with standard thermal performance.	-	-	33	37	A1
U Protect WNM 2.0 V1	ULTIMATE mineral wool wired mat with standard thermal performance and comfortable applications properties.	non woven glassveil	-	33	37	A1
U Protect WNM 2.0 Alu1	ULTIMATE mineral wool wired mat with standard thermal performance & vapour barrier as well as comfortable applications properties.	reinforced aluminium	-	33	37	A1
U Protect WNM 4.0	ULTIMATE mineral wool wired mat with enhanced thermal performance.	-	-	31	34	A1
U Protect WNM 4.0 V1	ULTIMATE mineral wool wired mat with enhanced thermal performance and comfortable applications properties.	non woven glassveil	-	31	34	A1
U Protect WNM 4.0 Alu1	ULTIMATE mineral wool wired matwith enhanced thermal performance & vapour barrier as well as comfortable applications properties.	reinforced aluminium	-	31	34	A1



The technical information in this brochure corresponds to our present state of knowledge and experience at the date of printing (see imprint). No legal guarantee can be given, unless it has been explicitly agreed. The state of experience and knowledge is developing continuously. Please ensure that you always use the latest edition of this information. The described product applications do not take special circumstances in consideration. Please verify whether our products are appropriate for the specific application. For further information please contact our ISOVER sales offices. We deliver only according to our terms of trade and terms of delivery.

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