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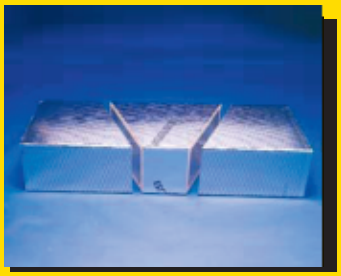
CLIMAVER neto

The ductwork revolution

Fire Safe I Faster installation I Lower installation cost I High Acoustic Absorption I Fabrication at site I Low leakage rates I Higher thermal resistance I Excellent aesthetic

Marketed by :

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Manufactured by :

SAINT-GOBAIN
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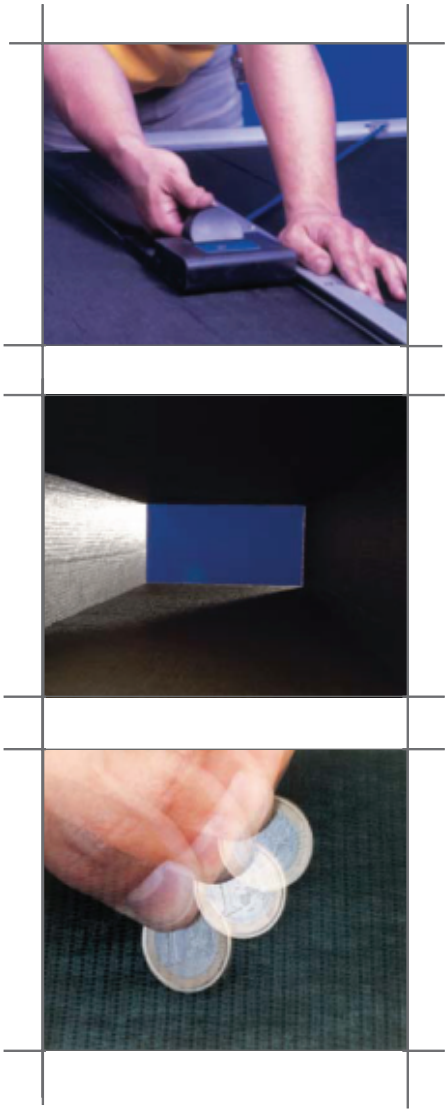
Glasswool ductboards for manufacturing air distribution ducts in air conditioning installations for cooling, heating and acoustic absorption.



DESCRIPTION

CLIMAVER NETO is a high density glasswool board, faced on one side with reinforced aluminum, and with a new black glass textile on the other face.

- The outer facing of reinforced aluminum is fireproof and provides an excellent vapour barrier and airtightness. It has a smooth finishing and high resistance to tearing and punching.
- The inside facing assures a high acoustic absorption and constitutes a smooth surface, with high resistance to tearing and therefore cleanable by brushing (make coin test to verify).

- **Exclusive inner facing: NETO.**
  The highest acoustic benefits, with a high resistance facing, cleanable by the most aggressive methods (for example brushing).

- **Ruled external facing.**
  External facing patterned with guide lines: reference for the construction of duct fittings of the duct network using the Straight Duct Method, MTR (*)
  This method of assembly provides important advantages: precision, resistance and quality, optimal inner finishing, and minimum wastes.

CLIMAVER NETO is supplied as panels for duct construction.

Thickness (mm)	Lengh (m)	Width (m)
25	3	1,19

THERMAL INSULATION

The glasswool provides thermal insulation and reduces energy losses.

Thermal conductivity	$\lambda \leq 0{,}032$ W/m · K
Thermal resistance	$R \geq 0{,}75$ m ^{2} · K/W
(Refered to 10 °C)	

VAPOUR PERMEANCE

Approximate value: 0,013 g/m2 day mm Hg (corresponding to the outer facing).

FIRE REACTION

CLIMAVER NETO has the best fire possible classification for nonmetallic ducts and insulated metallic ducts:
Euroclass B-s1, d0.
Tested in laboratory by means of:

- SBI Test. (s1,d0)
  - s1: null smoke emission.
  - d0: non flamming particles droplets/particles.

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ACOUSTIC ABSORPTION

The NETO facing combines the maximum acoustical absorption and a high resistance inner facing.

I.e: 1 meter of straight duct CLIMAVER NETO, 40 cm x 30 cm attenuates 11 dB/m (frecuency 1.000 Hz)

The absorbent capacity of the ductboard is given by its acoustical absorption coefficients:

Frecuency (Hz)	125	250	500	1.000	2.000
Acoustical absorption α	0,25	0,60	0,65	0,95	1,00

This results in the following noise reduction (by duct length):

Straight duct noise reduction (dB/m) ***CLIMAVER NETO***						
Cross section (mm)	200 x 200	3,71	11,09	12,26	19,70	21,00
	300 x 400	2,17	6,47	7,15	11,49	12,25
	400 x 500	1,67	4,99	5,52	8,86	9,45
	400 x 700	1,46	4,36	4,81	7,74	8,25
	500 x 1.000	1,11	3,33	3,68	5,91	6,30

The duct network design must be made with air speed near 6 m/s so that the excellent acoustical performance would not be damaged by high air speeds.

MECHANICAL STIFFNESS

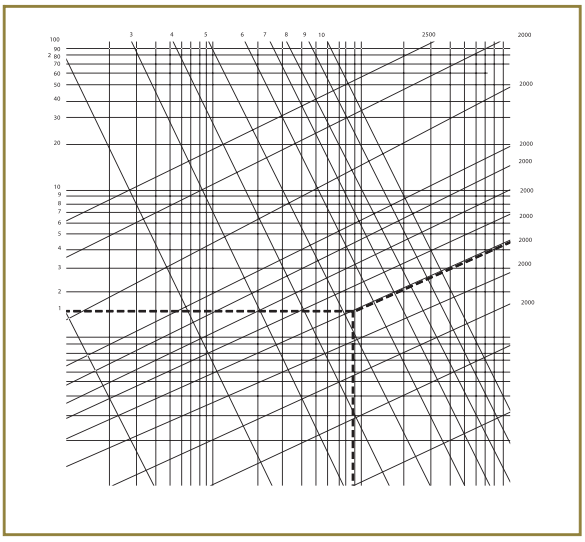
CLIMAVER NETO boards have R5 rigidity, according to EN13403 (European Standard for non-metallic ducts). This rigidity is the maximum level of the ones established by this standard.

CLIMAVER NETO ductboards can stand static pressure under 800 Pa with no evidence of fissures or swellings (test according to EN 13403).

PRESSURE DROPS

The right abacus is used for pressure drop calculation in CLIMAVER NETO ducts, obtai-ned from the ASHRAE Fric-tions Graph for cylindrical metal ducts, with a correlation of equivalent diameter (rectangular ducts) and the increase of friction value due to the different absolute rugosity of the CLIMAVER NETO. The equivalent diameter can be calculated with the following formule:

$$d = 2 \cdot \frac{(a \times b)}{(a + b)}$$



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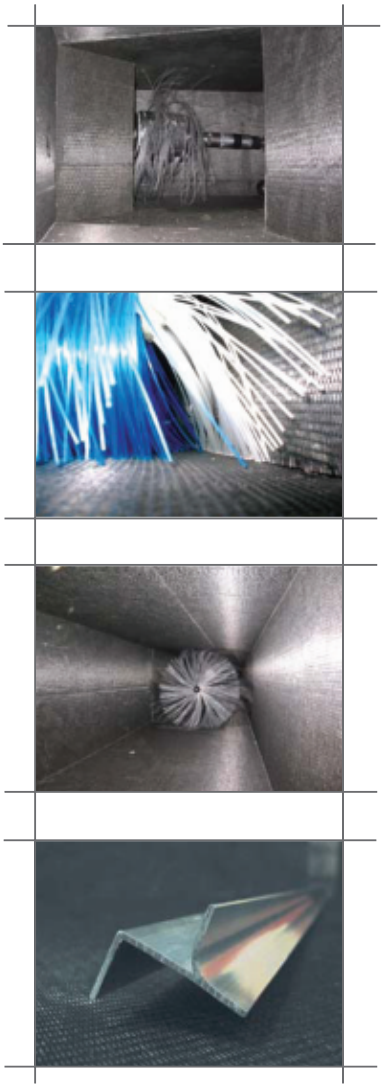
DUCT CLEANING

The high resistance of the inner facing allows brushing cleanning.

CLIMAVER NETO are “cleanable”, after surpassing tests made by pressure air methods "skeeper" and “brushing” without presenting tears or breakage of the inner facing.

Watching openings in the duct network must be made separated 10 meters each maximum to facilitate its cleaning. The profiles PERFIVER H, have been developed to be sure that the ducts are perfectly sealed, with sealed of the cover with CLIMAVER tape.



CLIMAVER METAL SYSTEM

CLIMAVER METAL SYSTEM has been designed for those applications where cleaning is a strong requirement. To ensure that often cleanings of the duct network can be made, internal edges are sealed and protected with the profile PERFIVER L.

CLIMAVER NETO ductboards can be used for the assembly of the CLIMAVER METAL SYSTEM. This system combines CLIMAVER ductboards with the profiles PERFIVER L, to be placed in the longitudinal edges of the duct.

CLIMAVER METAL SYSTEM + CLIMAVER NETO:

- **Hermetic assembly system.**
- **Cleaning.**
- **Resistance.**
- **Acoustic Absorption.**

CERTIFICATES

CE mark.
Fulfills EN-13403 fo non-metallic ducts.

CE

WORK CONDITIONS

In agreement with EN-13403, CLIMAVER ducts are not recommended in the following cases:

- Air circulation at a temperature > 90ºC.
- Transport of solids or corrosive liquids.
- Vertical ducts of height superior to two plants, without proper edge supports, properly covered outer ducts and buried ducts.