



# BARRISOL®

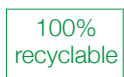
WORLD N°1 MONDIAL

## Radiant Clim®



Air conditioning, silent and homogeneous, without air recirculation  
Reversible hot / cold radiation

Biosourced Barrisol® Ceiling & Radiant Panels



[www.barrisol.com](http://www.barrisol.com)



BVCert. 6039707  
Plafond tendu



**Heating**



**Cooling**



**Ventilation**



**Lighting**



**Acoustic**

Design : Pieter Van Renterghem

## Radiant Clim<sup>®</sup>: technical and practical advantages

Includes all technical features:

- Radiant **Heating** and **cooling** with a single system
- Free choice of energy source: ideal for low temperature systems
- Integrated hygienic **ventilation**
- Barrisol **Biosourcée**<sup>®</sup> acoustic membrane
- LED lighting can be integrated over the entire surface
- Sound diffusers can be integrated invisibly

Combines aesthetics and flexibility:

- No unsightly technical elements visible
- Frees up walls and spaces of living rooms
- Optimises plenum heights (7 cm minimum)

Comfort and a healthy environment guaranteed:

- No recirculation of air: no distribution of viruses or microbes and no mixing of dust

- Hygienic ventilation with fresh air
- Uniform temperature at all points in the room
- Totally silent

Efficient and economical:

- **High specific power** for heating and cooling
- **Biosourced**<sup>®</sup> membrane and 100% recyclable equipment
- Maintenance and service free
- **Saving on consumption** thanks to thermal radiation

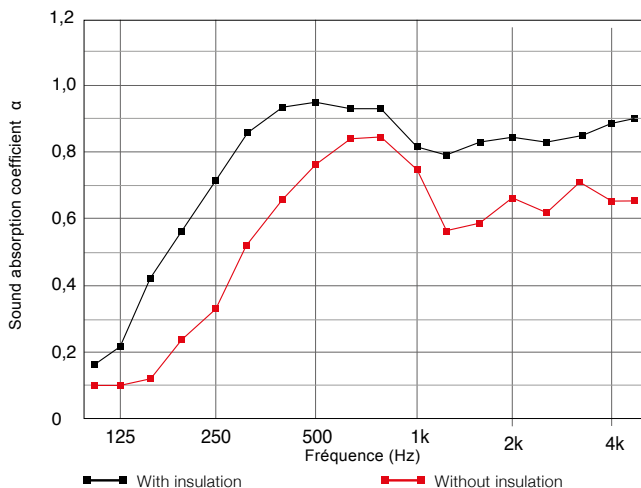
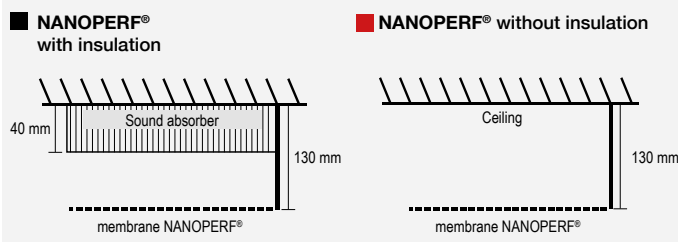
# Radiant Clim® Acoustic



## A15 NANOPERF® SIMPLE MEMBRANE

### Specifications NANOPERF® A15

Holes: 500 000/m<sup>2</sup>  
Diameter of a hole: ≈ 0,1 mm  
Perforation rate: ≈ 1 %  
Thickness: ≈ 0,18 mm  
Reference: A15 + réf. coloris



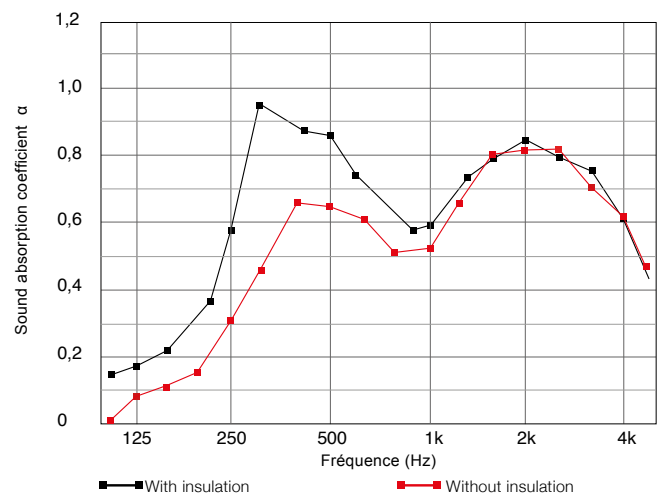
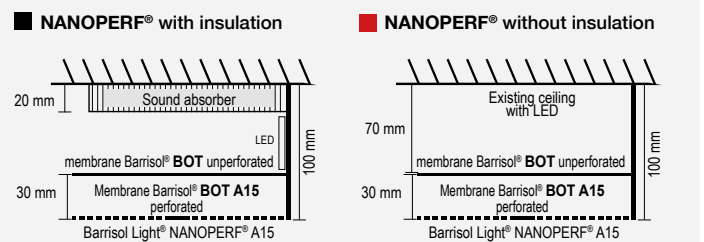
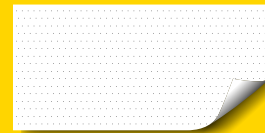
# Radiant Clim® Acoustic Light

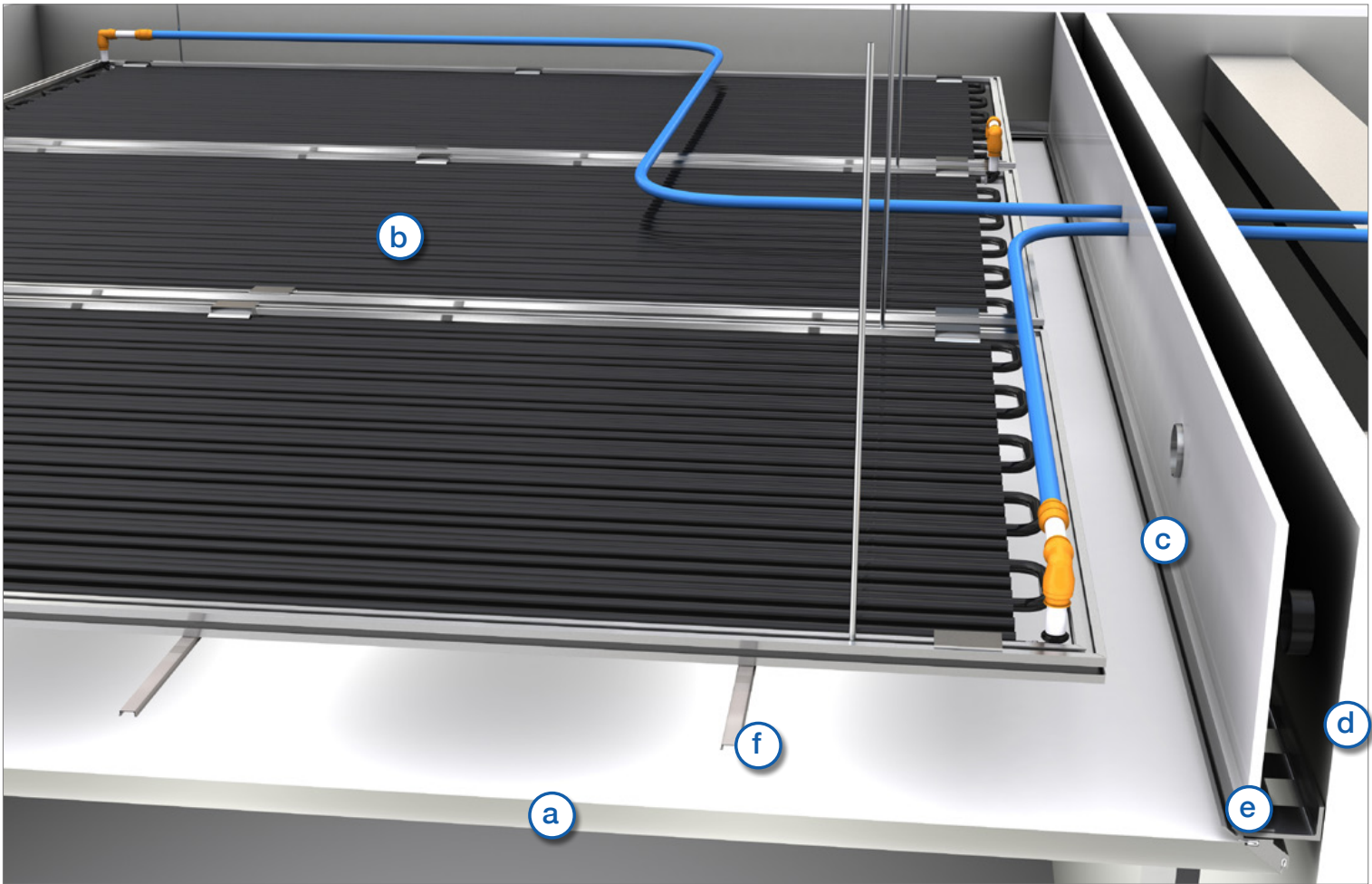


## A15 NANOPERF® DOUBLE MEMBRANE LIGHT

### Specifications NANOPERF® A15

Holes: 500 000/m<sup>2</sup>  
Diameter of a hole: ≈ 0,1 mm  
Perforation rate: ≈ 1 %  
Thickness: ≈ 0,18 mm  
Reference: A15 + réf. coloris





## Radiant Clim® : The combination of two original systems for your well-being

The Barrisol Clim® stretch ceiling (a) combined with radiant panels (b), form a new system combining aesthetics, comfort and silence.

Radiant panels (b) are installed in the plenum, they can be suspended or directly attached to the slab.

The hidden surfaces behind the fabric radiate directly through the surface of the stretched ceiling to people and objects within the room below.

Barrisol Clim® Peripheral profiles (e) have openings that allow air exchange between the plenum and the room, which significantly increases the cooling capacity.

Advantageously integrated into the system, the mechanical ventilation (blowing (c) and extraction (d)) becomes invisible. The system then works in forced convection, thus additional

allowing an additional gain in power. Thanks to the unique Barrisol Biosourcée® membrane, which is transparent to infrared rays and has a perforated profile, the specific heating and cooling capacities are impressive and unequalled.

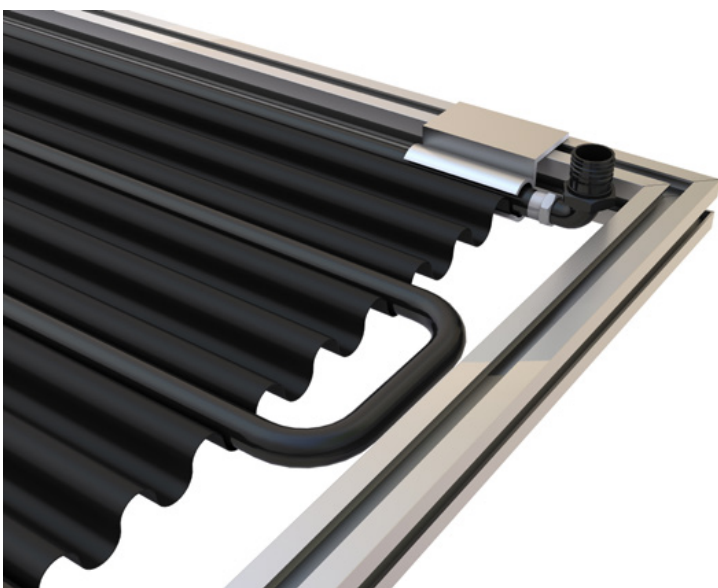
LED lighting (f) can be integrated into the system (by fixing to a sub-structure or directly to the underside of the panels) so that the ceiling is illuminated over its entire surface.

The membranes can also be made with a micro-perforation to absorb sound and thus meet the highest acoustic requirements. Customisation with a printed pattern is also possible and is A+ certified. The membrane can be dismantled and reassembled by a qualified person as often as required, thus allowing interventions in the plenum.



Réalisation : Barrisol®

## Radiant Clim®: The radiant air conditioning system



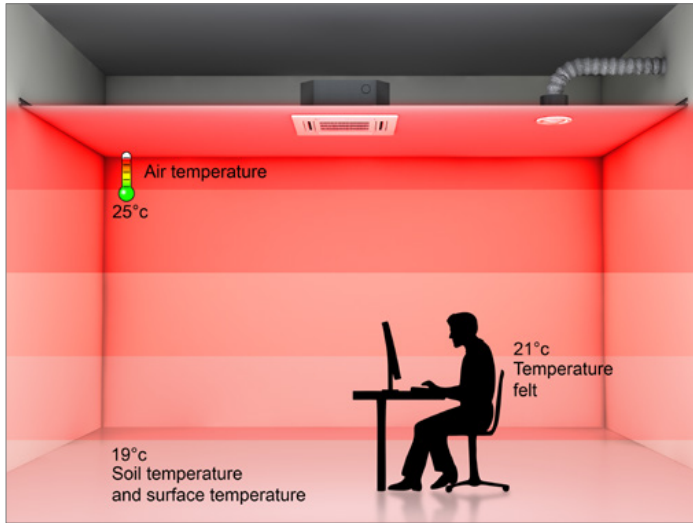
At the heart of this system is the latest generation radiant panel.

Thanks to its sinusoidal shape, which follows the heat pipe, the panel develops 1.57 times more emitting surface than encumbered surface. Made entirely of copper, its active surface has a thermal conductivity 7 times greater than steel, allowing a perfectly homogeneous temperature distribution over its entire surface.

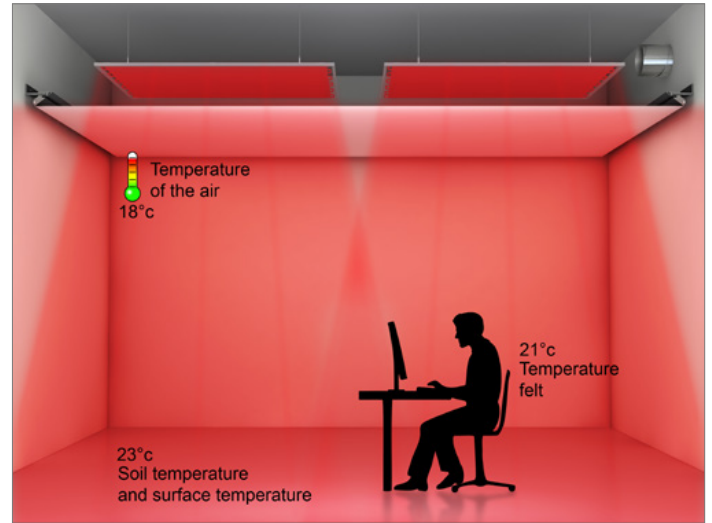
The Barrisol **Biosourcée**® sheet, transparent to thermal radiation, placed under the panels, allows an optimal diffusion of heat and cold.

The Radiant Clim® system offers you a tailor-made, healthy and pleasant microclimate. In a few minutes you can moderate the temperature of your premises.

## Radiant Clim® : The benefits of thermal radiation



Air heating



Heating by Barrisol Radiant Clim®

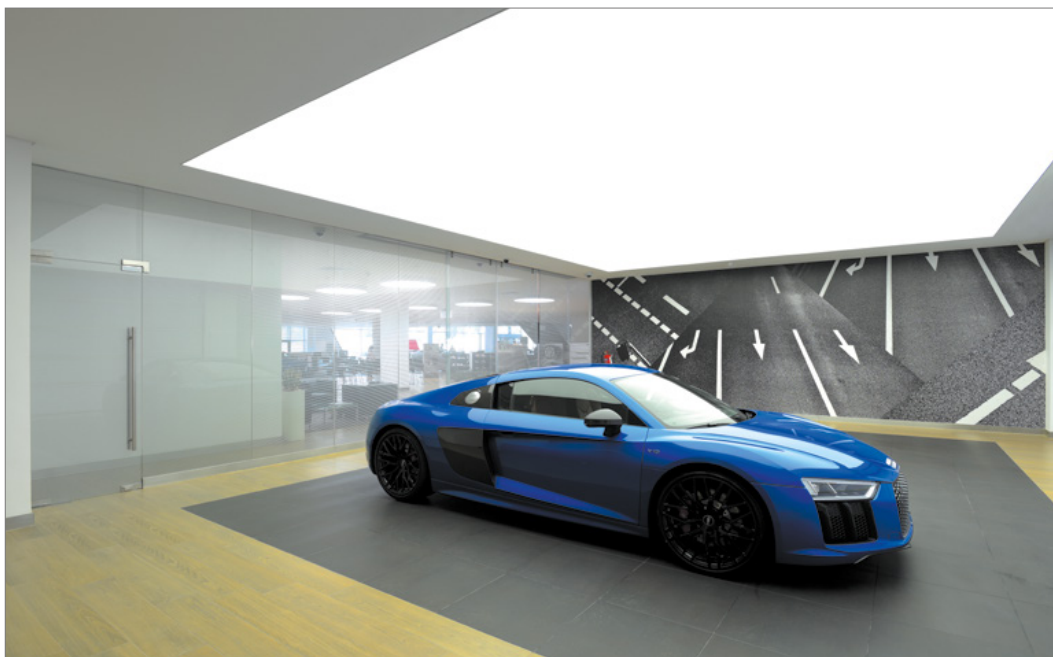
The temperature you feel is very different from the temperature on your thermometer. You may well read 25 degrees and be disturbed by an unpleasant feeling of cold. On the other hand, a temperature of 16 degrees on the thermometer will not prevent a feeling of softness.

Humans exchange 50 to 70% of their body heat by radiation. When the balance of this exchange is disturbed, a feeling of discomfort sets in. Convection heating or cooling systems use only the ambient air to regulate the temperature.

Warm air rises, cold air falls. The atmosphere in the room is arranged in layers. You have cold feet and a warm head.

The Barrisol Radiant Clim® system does not use air to deliver heat or coolness, but the softness of thermal radiation.

Like the sun, these waves travel in a straight line, pass through the air without loss of energy and are converted into thermal energy as soon as they hit the human body or an object.



Consultant : OHA Engineering Consultant

# Radiant Clim® : Unmatched cooling capacity

In cooling mode, the Radiant Clim® solution offers a higher power output than activated metal or plasterboard false ceilings traditionally used in commercial buildings.

The average temperature difference (between the average temperature of the water  $T_m$  flowing through the panels and the temperature of the air in the room  $T_a$ ) determines the specific power of the panel. This power is calculated according to the typical formula ( $P = k \times (\Delta T_m)^n$ ) for heating elements from the average temperature difference ( $\Delta T_m$ ) and the parameters  $k$  and  $n$  characteristic of the radiant panel. The  $k$  and  $n$  values for the Radiant Clim® system vary according to the air change rate.

**Values of  $k$  and  $n$  obtained in a climatic chamber in accordance with EN14240:**

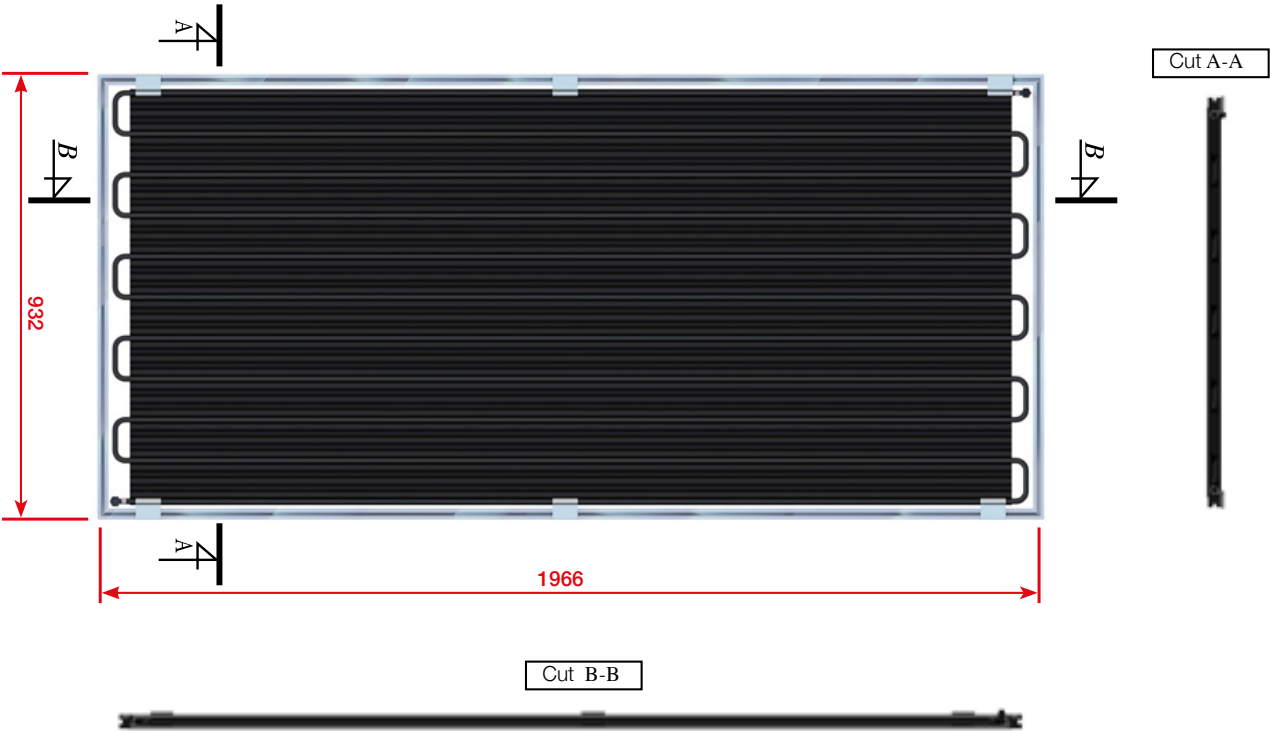
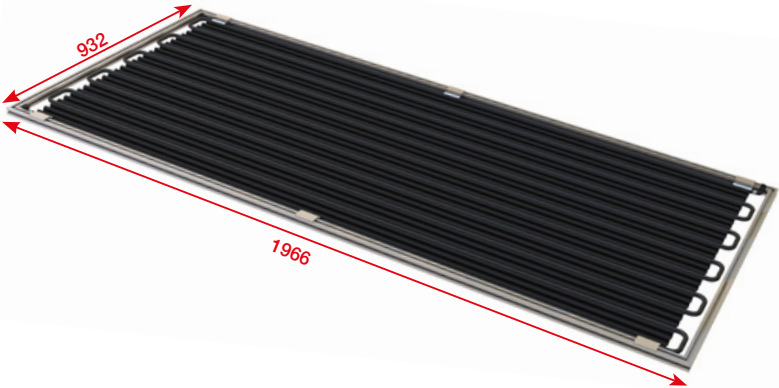
Without air exchange:  $k = 14,08$  and  $n = 1,02$

With two air changes per hour:  
 $k = 12,58$  and  $n = 1.11$

The integration of mechanical ventilation into the system allows the water temperature to be lowered (without the risk of condensation) by the air flowing over the panels, thus increasing the power of the system.

**Example :**

For a typical water regime (inlet: 14°C ; return: 17°C) and a room temperature of 26°C (23°C felt) the cooling capacity of the system is 155 W/m<sup>2</sup> without air change and 171 W/m<sup>2</sup> with two air changes (neutral) per hour.



## Radiant Clim® islands: aesthetic and flexible



In the island version, the radiant panels are equipped with a Barrisol **Biosourcée**® sheet, transparent to radiation on their visible side.

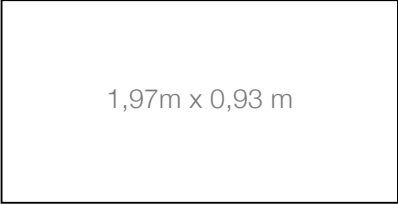
Suspended from the ceiling, they become real decorative objects while ensuring the heating and cooling of your spaces.

Acoustic, plain, printed and available in 2 standard sizes, your islands are infinitely customisable!

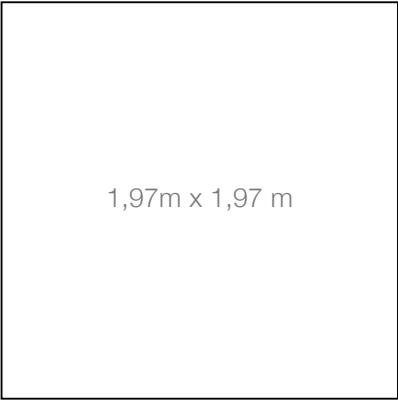


Radiant Clim® islands:

Rectangular



Square



Plain membrane



BOS 01 Artic



BOT 05 Atlas



BOL 01 Blanc Edelweiss



Other colours on request

Effets Matière® membranes, a few examples



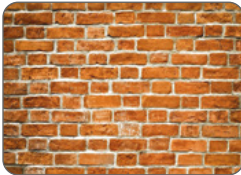
Réf. : Brasserie Copper Effect



Réf. : BEB 01 Concrete Effect



Réf. : BEW 09 Wood Effect



Réf. : BEK 01 Brick Effect



Réf. : BER 02 Marble Effect

## Lightweight and durable materials for more ecology

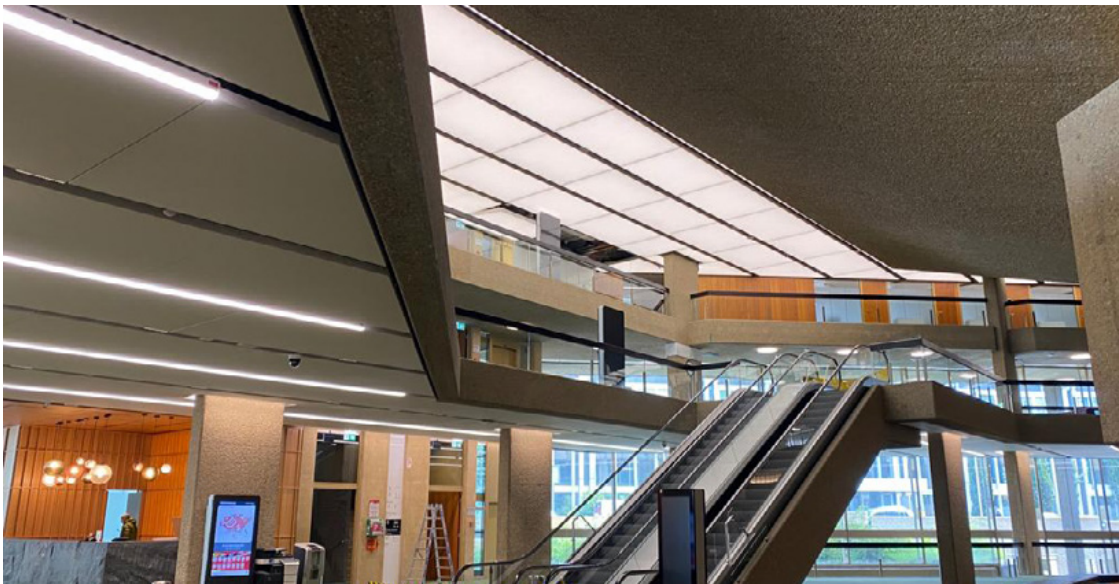
Our Radiant Clim® products are composed of an all-copper emitting surface and a post-recycled aluminium frame of over 80%. All these 100% recyclable components make the recycling of raw materials even more environmentally friendly.

They integrate the last generation of Barrisol Biosourcée® sheet, also 100% recyclable and whose plasticizer of vegetable origin

is up to 30% of the total composition.

Barrisol® sheets can be dismantled and reassembled indefinitely and allow for accessibility above the ceiling, ideal for all technical interventions for example. The durability and longevity of Barrisol® stretch ceilings is also an illustration of the respect of the environment.

Made of light materials, some of which are 100% recyclable and recycled, the Radiant Clim® system minimises the carbon impact of your buildings and has a fire rating of B-s1,d0 and an A+ air emission rating.



Arch. : GM ARCHITECTES ASSOCIES

# The guarantee of **healthy and hygienic indoor air**

With Radiant Clim®, there is no air recirculation, no indoor point air flow, only the electro-magnetic waves from thermal radiation are used to ensure the heating and cooling of your spaces.

Only the fresh air supply is diffused by blowing, and this in a perfectly homogeneous way so as to ensure the best indoor air quality, without dead zones.

Radiant Clim® guarantees the lowest air velocities in the room, thus avoiding any source of transporting pathogens such as viruses and bacteria.





Arch. Hot/cold radiation air conditioning without air recirculation

**BARRISOL® NORMALU® S.A.S.**

Route du Sipes | 68680 Kembs | France | Tel. +33 (0)3 89 83 20 20 | Mail : mail@barrisol.com | www.barrisol.com

Our design office is at your disposal to study and implement your project



**FOR YOUR SAFETY:** Check before ordering your products that the installer is a Barrisol® approved professional. Consult the list of our installers throughout the world on our website: [www.barrisol.com](http://www.barrisol.com) - Section: locate an installer. Do not hesitate to contact us for more information.



**TO ACTIVATE AND BENEFIT** from the Barrisol® 10 year warranty\*, register your ceiling on our website: [www.barrisol.com/fr/activer-ma-garantie](http://www.barrisol.com/fr/activer-ma-garantie)

\*Barrisol® 10 year warranty on sheet welds and harpoon welds

Barrisol®, at the heart of innovation since 1967

2015 TOP DESIGN BARRISOL CLUB POLONIE	2015 TROPHÉE ALSACE INNOVATION 2015	2015 BELGIAN BUILDING BEST OF THE BEST	2014 TRANSBORDER FAMILIA RECIFE	2014 DÉCEBEL D'OR 2014	2013 TROPHÉE DE L'INDUSTRIE BELGIE 2013	2011 TROPHÉE DU DESIGN ANNUÉLIER SATELITE 2011	2011 GRAND PRIX - GRIF-BIS BARRISOL ALBA-SOUTH POLONIE	2010 LES INNOVATIONS ALSACE LES ÉPÉES EN ALBA POLONIE	2009 PRIX DE LA FORTE VAP STANO JAGODINA, TURQUIE	2008 MÉDAILLE D'OR BARRISOL ACQUISITIONES RUSSIE	2008 PRIX DU PRODUIT BARRISOL ACQUISITIONES POLONIE	2007 GRAND PRIX BARRISOL ACQUISITIONES CEE/CZ REPUBLIC	2004 BELGIAN BUILDING AWARDS BARRISOL ALBA-SOUTH	2003 SDM CERTIFICAT D'EXCELLENCE	2002 EXCELLENCE AWARD CONSTRUCTION USA	2002 PRIX DE L'INNOVATION BARRISOL ACQUISITIONES ALBA-SOUTH	2002 PRIX DE L'INNOVATION BARRISOL ALBA-SOUTH	2015 RECORD AWARD BEST OF THE BEST for Barrisol CLOUD®	2015 RECORD AWARD BEST OF THE BEST for Barrisol CLOUD®	2020 RECORD AWARD BEST OF THE BEST for Barrisol CLOUD®	2020 RECORD AWARD BEST OF THE BEST for Barrisol CLOUD®	2020 RECORD AWARD BEST OF THE BEST for Barrisol CLOUD®	2020 RECORD AWARD BEST OF THE BEST for Barrisol CLOUD®	2021 RECORD AWARD BEST OF THE BEST for Barrisol CLOUD®
2001 PRIX DU MEILLEUR PRODUIT BARRISOL ALBA-SOUTH POLONIE	2000 INNOVATION ET QUALITE POLONIE	2000 PRIX DESIGN ET TECHNOLOGIE BARRISOL STAR ALLEMAGNE	1999 PRIX SCIENTIFIQUE DE L'EMBIT CARBOR	1997 PRIX D'EXCELLENCE CISCA USA	1997 PERFORMANCE ET QUALITE CANADA	1997 MENTION D'HONNEUR ESPACIO'97 CHILI	1996 MÉDAILLE D'OR DECOR EXPORT CHIE	1996 PRIX DE L'INNOVATION INTERIEUR BEL SUISSE ALBA-SOUTH AUSTRALIE	1995 MÉDAILLE D'OR DU PRODUIT CHINE	1995 MÉDAILLE D'OR DU PRODUIT CEE/CZ REPUBLIC	1993 PRIX DU PRODUIT ET TECHNIQUE MEILLEUR PRODUIT CEE/CZ REPUBLIC	1991 MÉDAILLE DE BRONZE INNOVATION FRANCE	1991 OSCAR D'HONNEUR BARRISOL STAR	1990 L'EXCEPTIOMNEL SUISSE	1990 PRIX SPECIAL DU JURY THEMAU BARRISOL FRANCE	1985 OSCAR PRODUCT NATIONAL DES ARCHITECTES D'INTERIEUR	1984 COUPE DU PRODUIT D'AVANT GARDE FRANCE	1983 LABEL D'ESTHETIQUE INNOVATIONELLE FRANCE	1975 MÉDAILLE D'ARGENT POUR L'INNOVATION BATIMENT FRANCE					

