



## SyntoDefense

*Transpirant undertile membrane  
with insect and mould protection*



# Roof = Protection?

Nowadays, **ventilated roofs** are highly appreciated solutions for thermic and acoustic insulation.

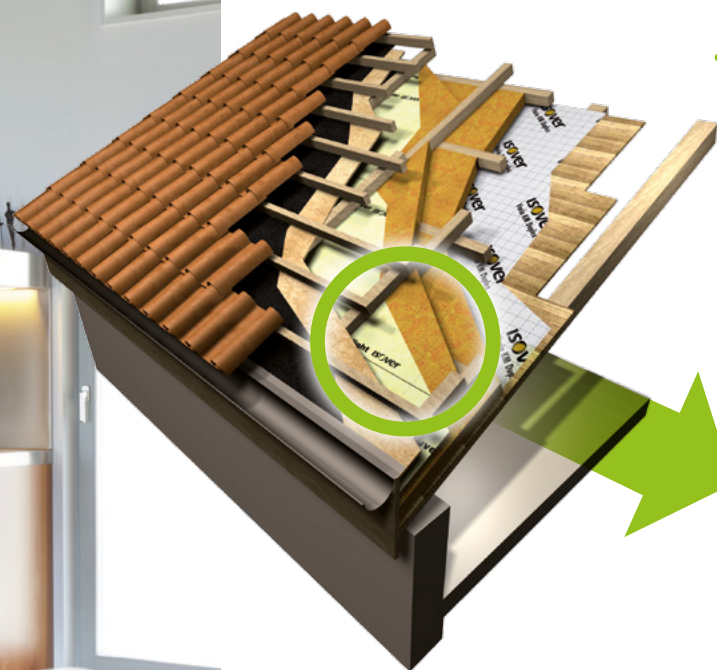
**Mansards** are more and more popular.

Recovery of **attics** is more and more diffused and advantageous.

This makes roofs essential parts of our houses.

**But their air shafts can become like this...**

**...unbeknownst to us!**



More often than not, in fact, our roofs can become cover for **unwanted guests**. Even before protecting our home, they can be shelter for **mosquitos, bees, wasps, other types of insects** and nest for **pigeons and other winged animals**.

A cohabitation often problematic, with consequences for our health and that of our family that can spread throughout the home.

**But what to do?**

**Isover Saint-Gobain, by its brand BITUVER, offers an innovative non-invasive solution.**



# Yes, thanks to SyntoDefense!



The innovative **SyntoDefense** transpirant membrane by BITUVER comes from R&D applied to textile and clothing sector.

Developed in 2001 in Australia on demand of *World Health Organisation* by *Global Fund* and *UNICEF* to fight against malaria and diseases caused by insects in African continent, it was then used by United States in the *Desert Storm* operation. Clothes were treated with a *special admixture* completely innocuous for men, but repellent for insects.

BITUVER brings this experience into the world of construction products, by an undertile foil which combines the effectiveness of transpirant membranes of the existing range with new "Defense" benefits, certified by international organisms.



## Friend of environment and man



- ✓ Organic product exploiting nanotechnology
- ✓ Biodegradable up to 98%
- ✓ Does not emit noxious substances
- ✓ Not dangerous for health
- ✓ Does not contain metals
- ✓ Hypoallergenic for man and pets
- ✓ High resistance to U.V. rays
- ✓ Lengthens the duration of the tissues, preventing bacterial degradation



## "Defense" Effect



### ADDITIONAL PROTECTION OF ROOF

Reduce the attrition of rafters, wood fibres and concrete



### EVERLASTING TREATMENT

It is not carried away by atmospheric agents



### UNCHANGED FEATURES

Transpirability, waterproofing and mechanical resistance

- ✓ ANTI-MOSQUITOS
- ✓ ANTI-INSECTS
- ✓ ANTI-BACTERIA
- ✓ ANTI-MOULD
- ✓ ANTI-ACARIENS
- ✓ REDUCTION OF NESTS

# BITUVER's range of traspirant undertile foils

## SyntoLight and SyntoDefense

Three-layer undertile membranes surfaced on both sides with polypropylenic tissue.  
Traspirant to water vapor and impermeable to water at the same time.

Features	Law ref.	Parameters	Tolerance
Weight/m <sup>2</sup>	UNI EN 1109	150 g	+5%
Vapor transmission properties	EN 13859-1	WDD: 850g/m <sup>2</sup> X 24h Sd=0,02 M 23°C 93/50% UR  WDD: 2080g/m <sup>2</sup> X 24h Sd=0,02 M 38°C 93/50%UR	±15%
Permeability to vapor	UNI EN 1931	μ 36	
Cold flexibility	UNI EN 1109	-40° C	≤
Tensile strength at breaking L/T	UNI EN 123111	300/230 N/5 cm	-20%
Tear resistance (B method) L/T	UNI EN 123101	160/180 N	± 15%

- ✓ High resistance to tearing
- ✓ Effective vapor permeability (μ = 36)
- ✓ Easy handling
- ✓ Strong resistance to U.V. rays
- ✓ Pleasing to the touch

*Saint-Gobain PPC Italia S.p.A. reserves the right to make any change whatsoever without warning to one or more products and to cease their production.*



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