



The best way to a greener future

# FPO-TPO

SINTOFOIL series membranes



waterproofing systems  
for roofs

## 1936

**Right since 1936**, the year it was founded, with its products and waterproofing systems IMPER ITALIA positioned itself as a privileged technical partner on the market. **One of the first companies to develop and make pre-manufactured polymer bitumen membranes** and obtain the Quality and Technical Certification from top Italian and international bodies, IMPER ITALIA is now an acknowledged sector leader.



## 1995

**Always ahead of its time** in the mid-1990s, as part of the ambitious project of offering its clients an exhaustive product range capable of solving any waterproofing issue, even under the most critical of conditions, IMPER ITALIA **diversified its production with the development of synthetic membranes made of polyolefin and PVC-P**; initially the latter were only designed for underground use. It presented its new range of synthetic membranes made of a flexible polyolefin with a polypropylene base, the SINTOFOIL series.



MANUFACTURING CAPACITY  
"SYNTHETIC" 

## 2015

**IMPER ITALIA became part of the TECHNICAL Ltd** industrial group, one of the world's largest manufacturers of waterproofing products, insulating items and bitumen tiles.



# FPO-TPO SINTOFOIL

## ECO FRIENDLY an in-built feature



In the mid-1990s, led by the need to complete its range of waterproofing products and systems, by relying on its extensive knowledge of polypropylene-based polymers already extensively used in components for high-end polymer bitumen membranes, **IMPER ITALIA launched on the market its SINTOFOIL product range**, synthetic waterproofing membranes made by means of coextrusion of a mix of polypropylene-based elastomerised polyolefins (TPO/FPA).

**Generally various acronyms are used on the market to refer to polyolefin membranes, i.e. TPO (Thermoplastic Polyolefin) FPA (Flexible Polypropylene Alloy) FPO (Flexible Polyolefin).**

**The absence of halogens and the fact that the polymeric chain of SINTOFOIL's membranes only contain carbon and hydrogen is the key to their inborn ecological vocation.**

The chemical composition of the product, with no plasticizers and halogens, prevents the release of harmful emissions both during production and sealing of the sheets on site.

**The absence of plasticizers determines the outstanding resistance to ageing, UV rays,** atmospheric agents and ensures chemical inertia by making them compatible with any kind of heat-insulating element.

# STRONG SUITS



**The resistance to wear of the waterproofing membranes determines their foreseeable operating life.**

Due to the quality of the compounds in their formulas, the **SINTOFOIL series** waterproofing membranes ensure outstanding physical and mechanic features that guarantee long-term resistance to atmospheric agents and can absorb stress generated by the roofing even under the most challenging circumstances without reporting any damage.

## BENEFITS

- **ENVIRONMENTALLY FRIENDLY**  
The roofing solutions with SINTOFOIL membranes help earn **LEED credits**.
- **COST-EFFECTIVE**  
**Very competitive** roofing solutions from an economic point of view compared with traditional systems.
- **DURABILITY**  
Exceptional **resistance to atmospheric agents and ageing** (BBA Agrément Certificate and a 30-year life expectancy).
- **VERSATILITY**  
Thanks the chemical inertia and the absence of plasticizers **compatibility with any heat-insulating element** (EPS - XPS - PUR - PIR - Mineral wool, etc.), which means that in any case no separation layers are required.
- **LIGHTNESS**  
Ideal for roofing systems that require roofing packages with a limited weight (aeric mass 0,90 kg/sqm per mm of thickness).  
For reconditioning projects, to avoid adding to the weight of the roofing.  
**In the event of disposal, the reduced weight will result in low costs.**
- **GUARANTEED**  
**Solutions that can be guaranteed** even with low thickness levels.
- **VERSATILITY OF THE MEMBRANES**  
Can be **applied at both low and high temperatures**.



## BENEFITS

### ● SAFETY ON SITE

**Protection for workers' health.** The SINTOFOIL membranes do not release harmful smoke during production and sealing of the sheets on site. No naked flames or equipment with flammable or explosive content are required to apply them, just automatic or manual hot air welding machines.

### ● EASY INSTALLATION

The SINTOFOIL membranes bring together the best features of synthetic EPDM membranes (exceptional physical and mechanical properties, along with excellent durability) and PVC-P ones (easy installation and sealability). This ensures **materials whose phenomenal properties are maintained for more than 20 years, whilst being easy to seal and repair in the event of accidental damage in future.**

### ● FAST EXECUTION

The size of the sheets, together with the application methods employed, allow for a **far higher daily output on site compared with traditional systems.**



# ENERGY SAVINGS

## LEED CREDITS

### Member of GBC Council Italy



- A member of the **GBC Council Italy**, a body designed to promote and develop the culture of sustainability and environmental impact awareness in the Italian construction industry. With its SINTOFOIL membranes, **IMPER ITALIA wanted to develop a range of waterproofing products that can provide a decisive contribution to earning LEED credits** (Leadership in Energy and Environmental Design).

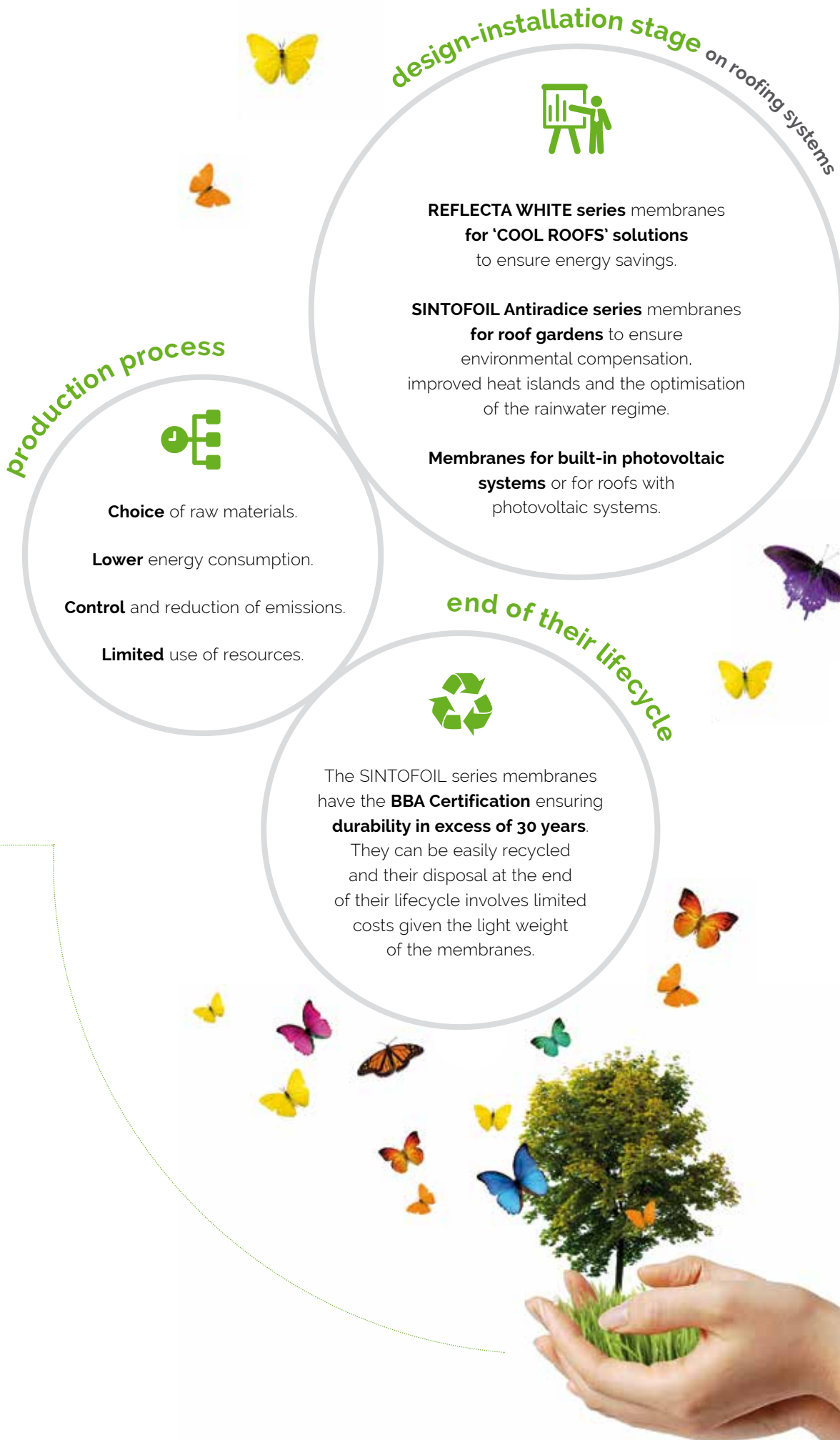
### Sustainability and environmental impact

- IMPER ITALIA's commitment to sustainability and a low environmental impact** permeates the whole lifecycle of the SINTOFOIL waterproof membranes.

### Environmental Product Declaration

- The SINTOFOIL membranes have the Environmental Product Declaration (EPD)** defined by **ISO 14025** as a document containing the criteria to measure the environmental performance of a product with parameters calculated according to the Life Cycle Assessment (LCA) method, **based on the standards of the ISO 14040 series**.





# ENVIRONMENTALLY SUSTAINABLE ROOFING SYSTEMS





## Solutions

**The TPO/FPA SINTOFOL membranes are at the basis of the roofing systems developed by IMPER ITALIA, which have been designed strictly in line with the Green Building philosophy.**

When speaking of waterproofing roofs, one should actually refer to waterproofing systems rather than the individual waterproofing layer. The effectiveness of the waterproof coating is indeed guaranteed by a set of compatible primary and secondary layers that are applied in the right sequence and forming an integral part of the system.

### ROOF GARDEN SYSTEMS



### SYSTEMS FOR COOL ROOFS

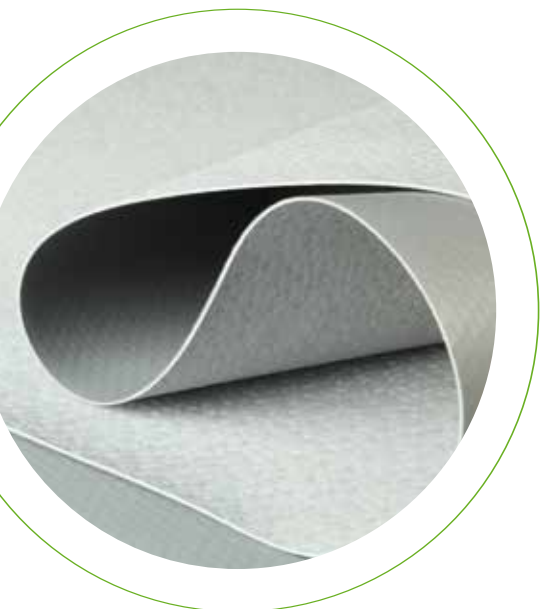


### ROOFING SOLUTIONS AND PHOTOVOLTAIC SYSTEMS



SINTOFOL SOLUTIONS

# ROOF GARDEN SYSTEMS



- The **TPO/FPA SINTOFOIL membranes** are certified to counter roots according to the latest regulations and they provide a watertight protection in accordance with UNI EN 11935 for IMPER ITALIA roof garden systems.

## IMPER ITALIA roof garden systems THE NATURALLY GREEN ROOFING SOLUTIONS

**USABILITY** of the roofing.

**GREATER ARCHITECTURAL VALUE** of the building.

**LESS NOISE POLLUTION.**

**REDUCTION** of the urban heat island effect.

Smog **ABSORPTION.**

**GREATER THERMAL INSULATION** (lower energy consumption).

Optimisation of the hydraulic **REGIME** (rainwater drainage).

**GREATER DURABILITY** of the roofing.



# SYSTEMS FOR COOL ROOFS



## TO MITIGATE THE EFFECT OF HEAT ISLANDS AND HELP SAVE ENERGY

Together with efficient thermal insulation, the use of high reflectance and emissivity membranes, like the **SINTOFOIL REFLECTA WHITE series with a 102% SRI**, ensures a lower surface temperature of the roofing with decisive effects on thermal comfort and energy savings for internal air conditioning.



25-30°C	30-40°C	40-60°C
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Source:

*Dalla cartografia storica al telerilevamento:  
La città di Roma.*

*By the Italian National Research Council.*

# ROOFING SOLUTIONS AND PHOTOVOLTAIC SYSTEMS

The TPO/FPA SINTOFOIL membranes are the elements providing watertight protection in RUBBERSOLAR integrated photovoltaic systems.

IMPER ITALIA has also developed the **RUBBERFIX system** to fasten monocrystalline or polycrystalline photovoltaic panels on a water-proofed roofing with synthetic or bituminous membranes without causing holes in the coating and allowing for the discharge of the stress and weight of the system on the basic structural support.

The increasing use of photovoltaic systems on roofs also involved greater attention on roofing packages and their fire resistance. To meet growing demand, IMPER ITALIA developed specific product ranges to ensure **certified roofing solutions in accordance with BROOF t1 t2 t3 standards**.

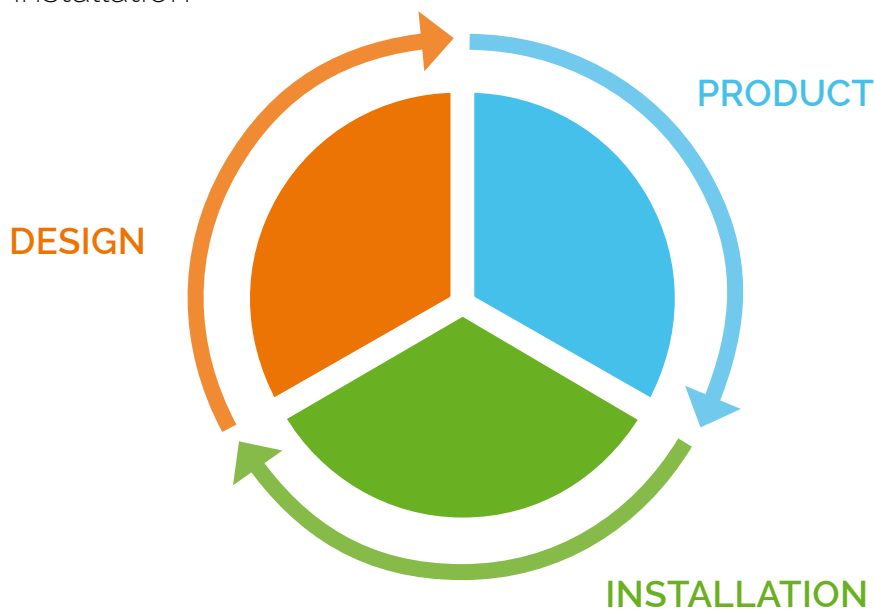


# A PERFECT ROOFING SYSTEM

## Main factors

● A perfect roofing system is the result of the combination of three fundamental factors that all require the same attention:

- product
- design
- installation



## PRODUCT



**To ensure an efficient roofing system, quality products made with the best raw materials and cutting-edge technology are essential, though it must also be suitable for its use and purpose from a technical point of view.**

This is why IMPER ITALIA always devoted the utmost care to choosing raw materials and making compounds that can ensure membranes the requested features for the specific use.

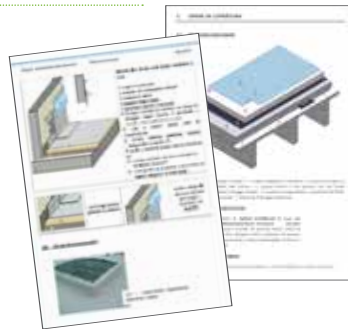


*The production cycles and also the membranes obtained a number of Italian and international certifications.*

## DESIGN



In its over 80 years of business in the specific roofing waterproofing sector and with the experience acquired in thousands of projects in Italy and abroad, IMPER ITALIA developed products and systems that can guarantee watertightness also in complex and challenging structures. Our technical staff provides guidance for clients to choose the best solutions and provide instructions and detailed designs, whilst applying our tailor-made approach for every single project.



*Our technical department, consisting of expert professionals with extensive experiences in the field, can provide support for our Client for:*

- Technical instructions;
- Detailed drawings;
- Temperature and humidity assessments;
- Support to calculate wind uplift.

## INSTALLATION



**Our SINTOFOIL polyolefin synthetic membranes are only applied by authorised installers who successfully completed the training courses.**

For design engineers we also hold workshops about waterproofing issues to further examine specific technical topics.

### TRAINING & MEETING CENTRE

Every year at our Training and Meeting Centre in Mappano we hold more than 50 courses to specialise in the installation of synthetic membranes and a number of workshops for technicians and design engineers. To date, our Training Centre attracted 2,500 participants.



### INSTALLATION MANUAL

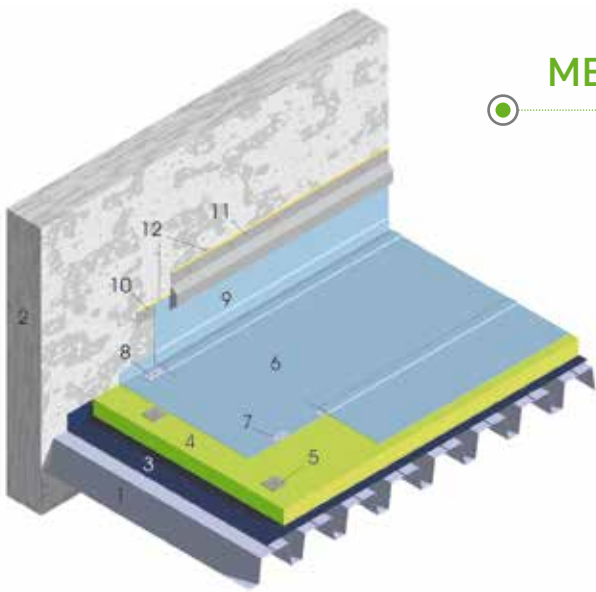
The Installation Manual provided at the end of each course is a valid reference to apply the synthetic waterproofing membranes correctly.



### ON-SITE SUPPORT

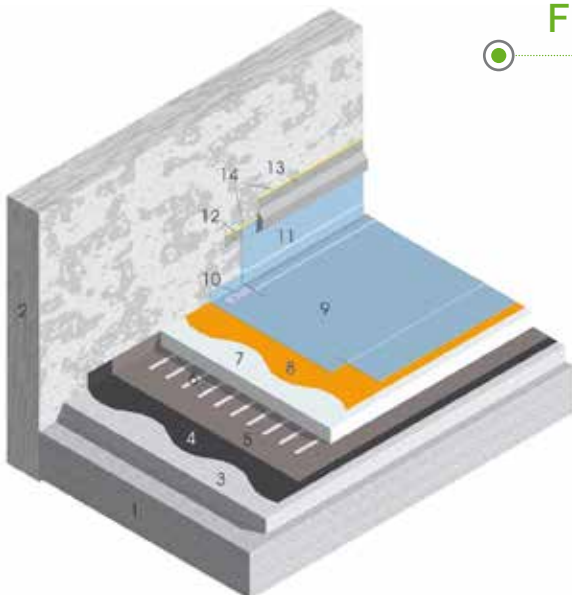
Upon request from the client, IMPER ITALIA technicians are available to provide on-site support. All participants of the specialisation course are always offered the presence of a technician when they start their first waterproofing project.

# ROOFING SOLUTIONS WITH EXPOSED LAYER



## MECHANICAL FIX

- METAL DECK **1**
- VERTICAL WALL **2**
- POLYETHYLENE VAPOUR BARRIER **3**
- THERMAL INSULATION **4**
- THERMAL INSULATING FIXING **5**
- SINTOFOIL WATERPROOFING MEMBRANE** **6**
- WATERPROOF MEMBRANE FIXING **7**
- MECHANICAL FIXING WITH PRE-DRILLED BAR **8**
- SINTOFOIL WATERPROOFING MEMBRANE** **9**
- FIXING PROFILE **10**
- PROTECTION FLASHING **11**
- ELASTOMERIC SEALANT **12**



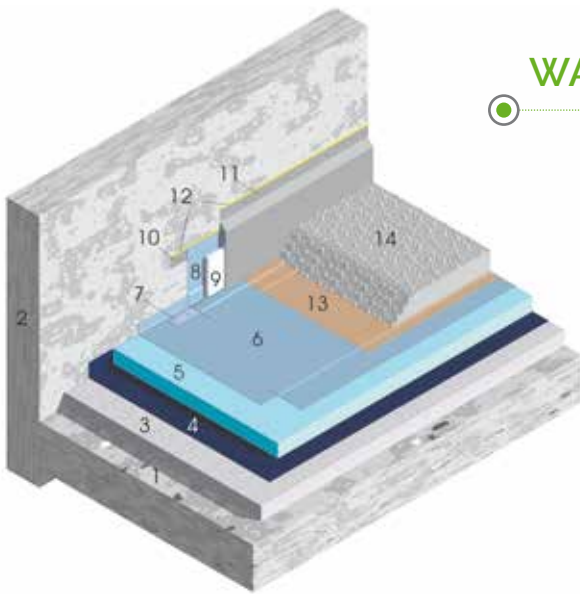
## FULL BONDING

- CONCRETE DECK **1**
- VERTICAL WALL **2**
- SLOPE **3**
- BITUMINOUS PRIMER **4**
- VAPOUR BARRIER BITUMEN MEMBRANE **5**
- THERMAL INSULATION ADHESIVE **6**
- THERMAL INSULATION **7**
- POLYURETHANE ADHESIVE **8**
- SINTOFOIL WATERPROOFING MEMBRANE** **9**
- WATERPROOF MEMBRANE FIXING **10**
- SINTOFOIL WATERPROOFING MEMBRANE** **11**
- FIXING PROFILE **12**
- PROTECTION FLASHING **13**
- ELASTOMERIC SEALANT **14**

# ROOFING SOLUTIONS WITH PROTECTED LAYER

Ballasted system not suitable for foot and vehicular traffic

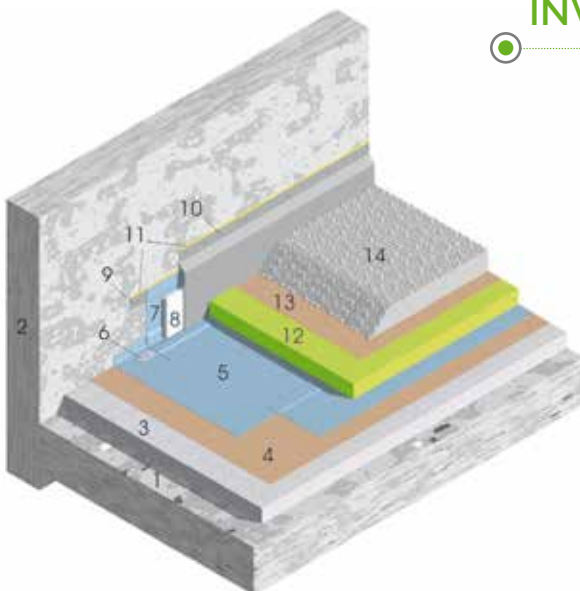
## WARM ROOF



- CONCRETE DECK **1**
- VERTICAL WALL **2**
- SLOPE **3**
- POLYETHYLENE VAPOUR BARRIER **4**
- THERMAL INSULATION **5**
- SINTOFOIL WATERPROOFING MEMBRANE** **6**
- MECHANICAL FIXING WITH PRE-DRILLED BAR **7**
- SINTOFOIL WATERPROOFING MEMBRANE** **8**
- PROTECTION PANEL **9**
- FIXING PROFILE **10**
- PROTECTION FLASHING **11**
- ELASTOMERIC SEALANT **12**
- GEOTEXTILE **13**
- GRAVEL BALLAST **14**

Ballasted system not suitable for foot and vehicular traffic

## INVERTED ROOF

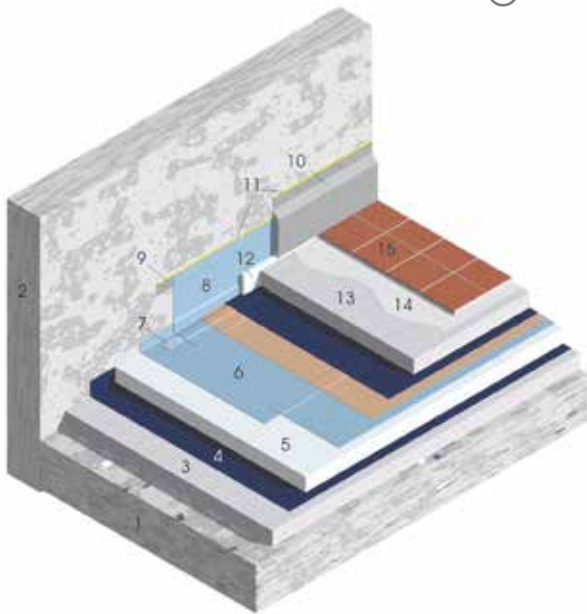


- CONCRETE DECK **1**
- VERTICAL WALL **2**
- SLOPE **3**
- GEOTEXTILE **4**
- SINTOFOIL WATERPROOFING MEMBRANE** **5**
- MECHANICAL FIXING WITH PRE-DRILLED BAR **6**
- SINTOFOIL WATERPROOFING MEMBRANE** **7**
- PROTECTION PANEL **8**
- FIXING PROFILE **9**
- PROTECTION FLASHING **10**
- ELASTOMERIC SEALANT **11**
- THERMAL INSULATION **12**
- GEOTEXTILE **13**
- GRAVEL BALLAST **14**

# ROOFING SOLUTIONS WITH PROTECTED LAYER

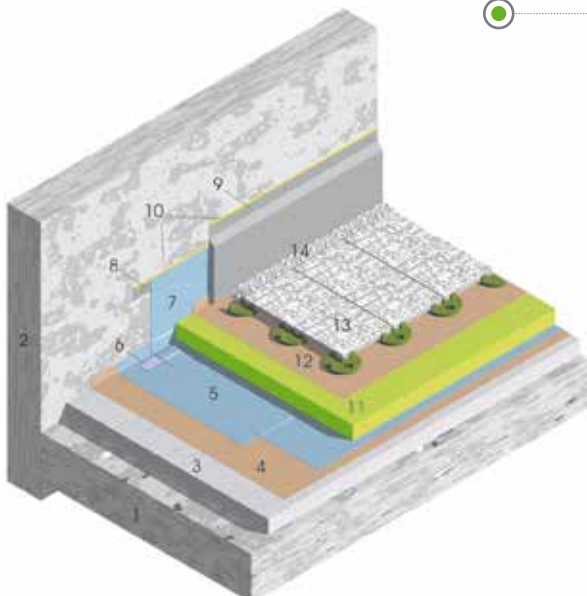
Ballasted system suitable for foot traffic

## WARM ROOF



- CONCRETE DECK **1**
- VERTICAL WALL **2**
- SLOPE **3**
- POLYETHYLENE VAPOUR BARRIER **4**
- THERMAL INSULATION **5**
- SINTOFOIL WATERPROOFING MEMBRANE 6**
- MECHANICAL FIXING WITH PRE-DRILLED BAR **7**
- SINTOFOIL WATERPROOFING MEMBRANE 8**
- FIXING PROFILE **9**
- PROTECTION FLASHING **10**
- ELASTOMERIC SEALANT **11**
- PROTECTION PANEL **12**
- PROTECTION SLAB **13**
- CEMENT GLUE **14**
- TILE **15**

## INVERTED ROOF



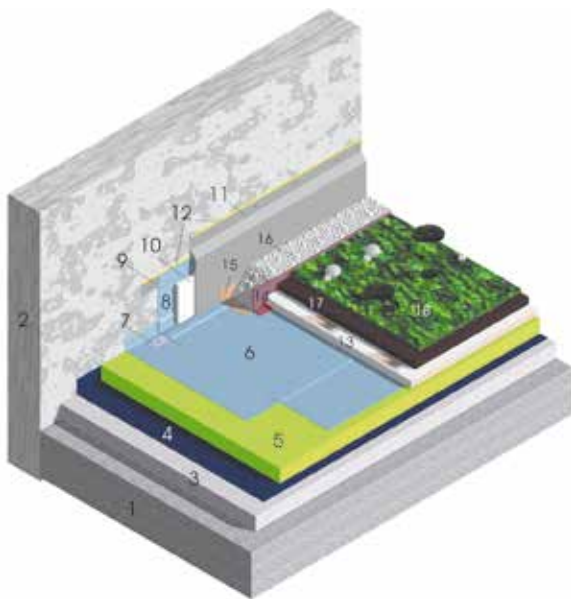
- CONCRETE DECK **1**
- VERTICAL WALL **2**
- SLOPE **3**
- GEOTEXTILE **4**
- SINTOFOIL WATERPROOFING MEMBRANE 5**
- MECHANICAL FIXING WITH PRE-DRILLED BAR **6**
- SINTOFOIL WATERPROOFING MEMBRANE 7**
- FIXING PROFILE **8**
- PROTECTION FLASHING **9**
- ELASTOMERIC SEALANT **10**
- THERMAL INSULATION **11**
- GEOTEXTILE **12**
- FLOATING FLOOR **13**
- GRAVEL **14**



# ROOFING SOLUTIONS WITH PROTECTED LAYER

## Roof garden system

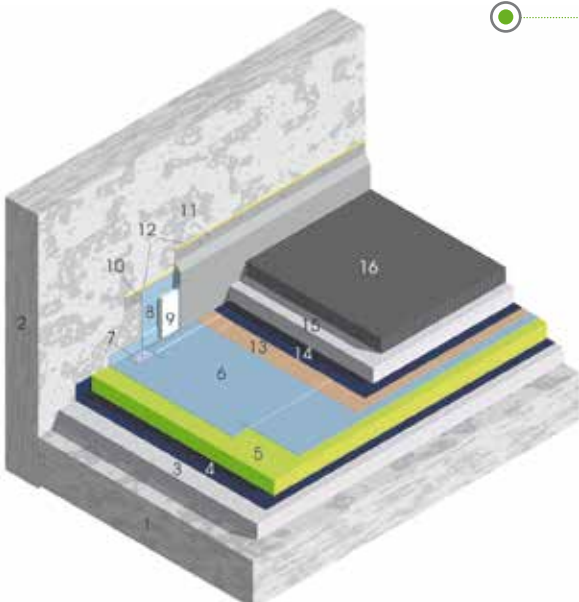
### WARM ROOF



- CONCRETE DECK 1
- VERTICAL WALL 2
- SLOPE 3
- POLYETHYLENE VAPOUR BARRIER 4
- THERMAL INSULATION 5
- SINTOFOIL WATERPROOFING MEMBRANE 6**
- MECHANICAL FIXING WITH PRE-DRILLED BAR 7
- SINTOFOIL WATERPROOFING MEMBRANE 8**
- FIXING PROFILE 9
- PROTECTION PANEL 10
- PROTECTION FLASHING 11
- ELASTOMERIC SEALANT 12
- DRAINAGE, FILTER AND IDRIC RETENTION WATER 13
- BACK-UP 14
- GEOTEXTILE 15
- GRAVEL 16
- SOIL 17
- VEGETATION 18

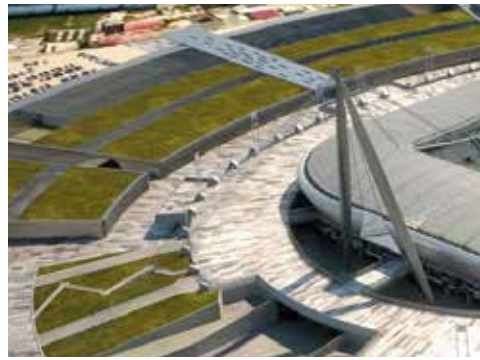
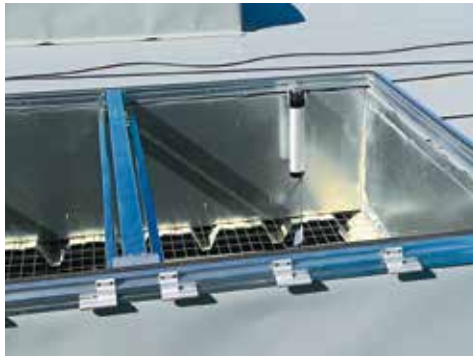
## Ballasted system suitable for vehicular traffic

### INVERTED ROOF



- CONCRETE DECK 1
- VERTICAL WALL 2
- SLOPE 3
- POLYETHYLENE VAPOUR BARRIER 4
- THERMAL INSULATION 5
- SINTOFOIL WATERPROOFING MEMBRANE 6**
- MECHANICAL FIXING WITH PRE-DRILLED BAR 7
- SINTOFOIL WATERPROOFING MEMBRANE 8**
- PROTECTION PANEL 9
- FIXING PROFILE 10
- PROTECTION FLASHING 11
- ELASTOMERIC SEALANT 12
- GEOTEXTILE 13
- POLYETHYLENE FILM 14
- PROTECTION SLAB 15
- ASPHALT BINDER 16

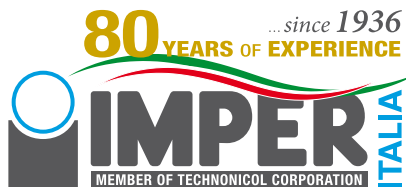
# REFERENCES





REFERENCES

PRODUCT	EXPOSED ROOFING		BALLASTED ROOFING	WALK-ON ROOFING	ROOF GARDEN SYSTEMS	DETAILS OF FITTINGS
	INSTALLATION WITH MECHANICAL FASTENING	FULL INSTALLATION BONDING				
SINTOFOIL <b>RG</b>	●		●	●	●	
SINTOFOIL <b>RG FB</b>		●				
SINTOFOIL <b>FB</b>		●				
SINTOFOIL <b>RT</b>	●					
SINTOFOIL <b>RT FB</b>	●					
SINTOFOIL <b>RC</b>	●					
SINTOFOIL <b>ST</b>	●			●		●



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