icobit

icoper®-hp

Fiber reinforced, ready to use, seamless waterproofing membrane in water dispersion. Colored, walkable, tileable, UV and ponding-water resistant.

icobit.com

NO REINFORCING MESH REQUIRED

CE EN 14891 | CE 14891 DM01 | CE EN 1504-2 | EN 1504-2 (C) PI-MC-IR

icoper-hp

No Reinforcing Mesh Required

UV Resistant

Hail Resistant

Undertile waterproofing

PONDING WATER RESISTANT

CERTIFIED PRODUCT
EMISSIONS INTO INDOOR AIR
A+

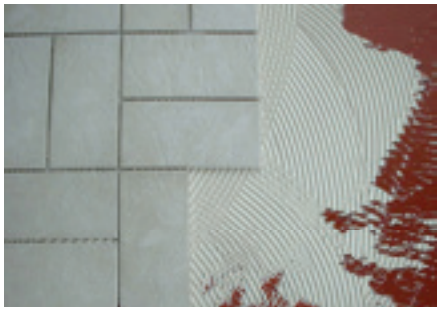
ICOPER-HP is a special, fiber reinforced, liquid formulation recommended for protecting from water damage such substrates as terraces, balconies, flat roofs in general and damp areas by forming a seamless, colored layer resistant to UV rays and ponding water.
The resulting membrane is seamless and effective even on complex shapes, unlike traditional bitumen-polymer membranes.
ICOPER-HP is a water-based, solvent-free chemical compound rated A+ in terms of VOC content.

Thanks to its VOC-free formulation, the Icoper Line possesses the lowest emission level (A+), which ensures high safety standards and complies with Requirement No. 3. (Hygiene, Health and Environment) of CPR 305/2011.

The use of fiber-reinforced ICOPER-HP avoids the need for reinforcements such as fiberglass mats, meshes and non-woven fabrics. Once cured, it features extremely high resistance to UV rays and ponding water and can be walked over. It is therefore suitable for exposed waterproofing on flat roofs.
ICOPER-HP is particularly recommended for waterproofing terraces and balconies, thanks to its high crack bridging ability in accordance with the provisions of European Standard EN 14891 "Liquid applied water impermeable products for use beneath ceramic tiling bonded with adhesives". It can be tiled over by means of standard "improved" cement adhesives of class C2 and above. In addition, ICOPER-HP allows re-waterproofing tiled surfaces without removal.

Uses

ICOPER-HP is recommended for waterproofing terraces, balconies and vertical surfaces of bathrooms and showers with direct bonding of tiles. Moreover, it is ideal for waterproofing flat, sloped or irregularly shaped concrete roofs, whether in new construction or renovation. It is also intended for waterproofing gutters, ledges, eaves, chimneys, facades and, in the specific ICOPER-HP AR root-resistant version, planter boxes and roof gardens.



ICOPER-HP can be used to waterproof exposed terraces and balconies subject to walking traffic, as well as renovate tiled terraces and balconies with leaking problems without having to remove the existing tiles.

Features / Benefits

- Recommended for low-slope and flat roofs thanks to its ponding water resistance.
- Self reinforced: no need for reinforcing fabrics, mats or meshes.
- Suitable for undertile waterproofing of terraces and balconies.
- Crack bridging ability at low temperature.
- Walkable.
- Anti-carbonation to protect reinforced concrete.
- One component, ready to use, quick, safe and easy to apply.
- VOC content rated A+ (very low emissions).
- Excellent UV resistance: no topcoat required.
- Appropriate resistance to industrial and marine environments.
- Opened packaging can be resealed and stored for further use.
- Hail resistant.
- Contributes to obtaining LEED® credits.

Icobit contributes significantly to achieving LEED certification especially through the use of products of the Icoper Line, which are eligible for earning points across different credit categories of the LEED v4 Manual.

CREDIT	POINTS
EQ - Low-Emitting Materials	up to 3 points

HAIL RESISTANCE

ICOPER-HP provides the roofing system with a hail resistance up to H7 on the Torro Scale, in accordance with EN 13583:2012 "Flexible sheets for waterproofing. Bitumen, plastic and rubber sheets for roof waterproofing. Determination of hail resistance".

Surface preparation

• Clean thoroughly and remove dust, loose material or non-adhering particles, grease, oil, formwork release agents and any contaminant that may affect proper adhesion.
• Substrate must be cured, clean, dry, sound, solid and not exposed to rising damp, negative hydrostatic pressure or evaporative flows.
• Joints and substrate cracks must be treated appropriately as per industry standards: control and isolation joints, floor-to-wall as well as any vertical transitions must be sealed with ICOJOINT MS silane modified polymer or with the self-adhesive sealing ICOARM BUTYL TAPE.
• Check for proper operation of rainwater drains and roofing details in accordance with Norm EN 12056.

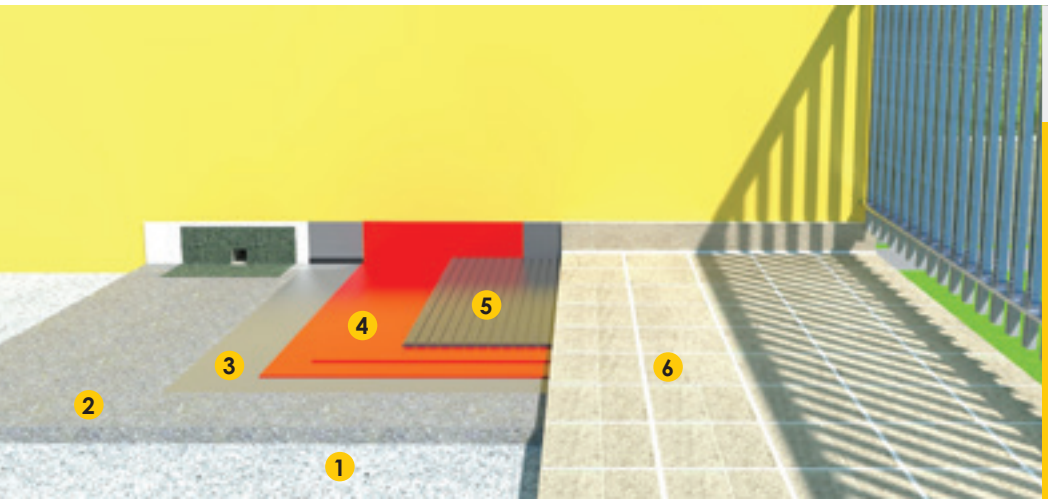
- **Concrete**: Make sure surface finish is appropriate and suitable to accommodate waterproofing. Allow newly placed concrete to cure fully.
New substrates must be primed with a coat of ICOPER MULTIUSO diluted with 50% water applied at a rate of approximately 300 gr/m^2.
Existing concrete or porous substrates, once the surface has been cleaned and repaired, must be treated with the one-component ICOFISS bonding primer at a rate of approximately 250 gr/m^2.
- **Tiles**: Check the condition of tile grout, remove and replace any loose or missing tile portions.
Consider possible need for the specific EXIT AIR vent pipes.
Treat with ICOFORCE bonding primer at a rate of 300 gr/m^2.

Application instructions

Once the substrate has been accurately prepared and the primer has properly dried, apply two coats of ICOPER-HP at an overall rate of not less than 2 kg/m^2 using a squeegee, flat trowel or brush.

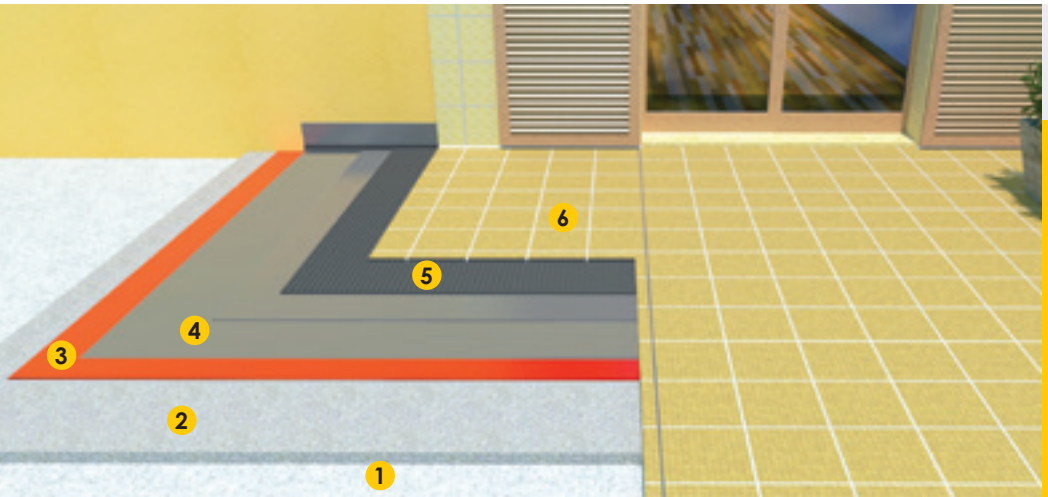
Apply consecutive coats crossways to ensure that the fibers are laid lengthwise and across.
The waterproofing must be turned up and terminated at least 10 cm on any adjacent vertical surfaces using a brush.
Applying coats in contrasting colors helps ensure that the correct spread rate is achieved. Allow to cure before applying the next coat.

In the case of undertile waterproofing (e.g. balconies, terraces, bathrooms, showers, etc.) use a "C2 TE S1" tile adhesive (such as TOPFLEX) in compliance with European Standard EN 12004.



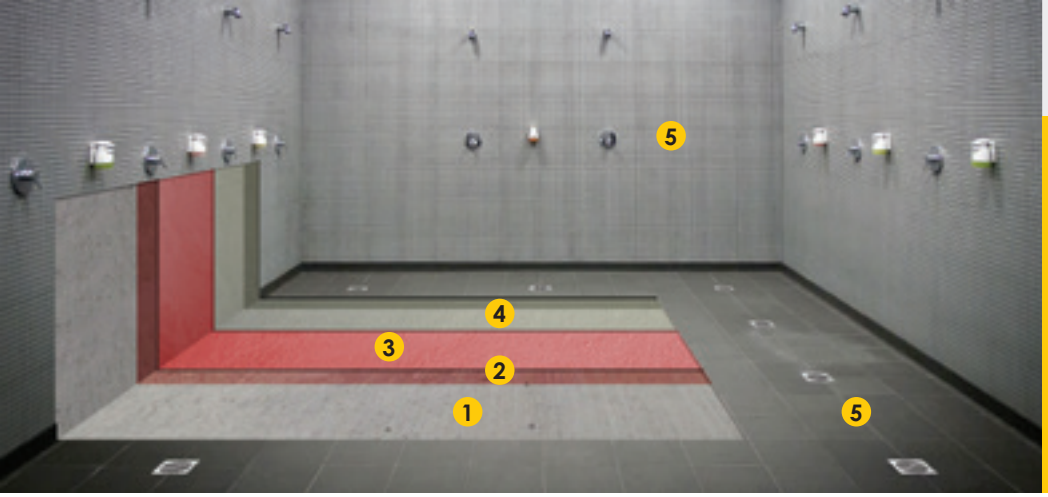
Balcony waterproofing

BUILD UP
1) Load carrying element
2) Slope layer: reinforced concrete screed
3) Primer: ICOPER MULTIUSO diluted with water
4) Waterproofing: ICOPER-HP in two coats
5) C2TES1 tile adhesive
6) Tiles



Terrace waterproofing

BUILD UP
1) Load carrying element
2) Slope layer: reinforced concrete screed
3) Primer: ICOPER MULTIUSO diluted with water
4) Waterproofing: ICOPER-HP in two coats
5) C2TES1 tile adhesive
6) Tiles



Bathrooms, showers and damp areas

BUILD UP

1) Concrete load carrying element
2) Primer: ICOPER MULTIUSO diluted with water
3) Waterproofing: ICOPER-HP in two coats
4) C2TES1 tile adhesive
5) Bathroom tiles

Weathered tiled terraces and balconies

BUILD UP

1) Bonding layer: existing stone-ware tiles
2) Primer: ICOFORCE
3) Waterproofing: ICOPER-HP in two coats

Tools can be cleaned with water while product is fresh or with nitro thinners once hardened.

Precautions

• ICOPER-HP is ready to use: do not dilute nor reinforce with mat or mesh.
• Apply at temperatures between +5°C and +35°C (41°F/95°F). Avoid applying during the hotter part of the day and to substrates excessively exposed to sunlight, both before and during application.
• Do not apply in case of rain, fog, dew, or if such weather conditions are imminent or expected during the curing period.
• Allow newly placed concrete to cure fully. Avoid applying ICOPER-HP to substrates that are moist or subject to rising damp and/or evaporative flows. If necessary, install the specific EXIT AIR vent pipes and use the ICOBLOK primer for damp substrates.
• Avoid applying thick layers in one coat.
• Ensure that the upstands are fully bonded to sound, finished substrates and renders.
• Please contact our Technical Support before applying ICOPER-HP to lightweight screeds or to substrates that have been previously treated with unexposed waterproofing systems (below screed, undertile, etc.).
• Temperatures and moisture affect drying/curing time. The latter may become considerably longer if the product is applied close to its minimum allowed temperature.
• The use of ICOROOF PUR protective coating (see TDS) ensures additional chemical resistance and thus a longer life expectancy to waterproofing carried out in very aggressive conditions, such as industrial and marine environments.

FOCUS

WATERPROOFING TERRACES, BALCONIES AND DAMP AREAS

A balcony is an elevated platform projecting from the wall of a building and enclosed by a parapet or railing. Those serve as both safety and aesthetic measures.

A terrace is a raised, flat, entirely open space that can be either attached to a building or stand alone. If it is found on a rooftop, the main difference with a balcony is that a terrace falls within the perimeter of the building itself. In most cases, a terrace is significantly larger than a balcony, with a size that provides additional living space.

Water ingress and resulting damage

We are used to finding the underside of balconies that is without plaster and leaves the rebars exposed and in advanced oxidation state. Saline efflorescence may appear and floor tiles frequently come loose.
No small issues that often result in aesthetic and, more importantly, structural damage to our buildings.
The main cause is water ingress due to:

- Wrong choice of the waterproofing system
- Poor quality screed
- Wrong/lacking joint design
- Lack of slope screeds
- Lack of detail waterproofing (thresholds, balusters, upstands, water drainage, etc.)

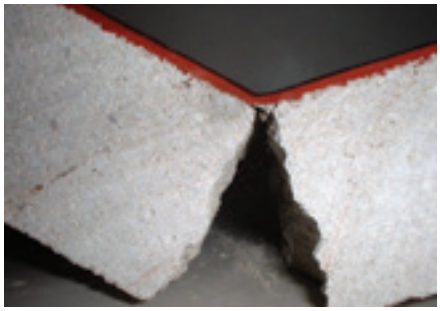
Concrete cracking

Cracking inevitably occurs in concrete as a result of its poor tensile strength. Visible damages (macro cracks) and invisible ones (micro cracks) originate from static and dynamic external causes, moisture-related expansion and contraction, creep, shrinkage, settlement and differential thermal expansion. Those are critical factors in the **durability** of a building.

Therefore, it becomes crucial to protect cracked surfaces from water ingress.

What's Crack Bridging?

The term indicates the ability of an elastic waterproofing system or membrane to withstand without damage the appearance of cracks in the substrate, thus remaining impervious to water. This property is of paramount importance in the case of **undertile waterproofing** where, given the composite build-up, the membrane must prove both deformable and waterproof.



FOCUS

WATERPROOFING TERRACES, BALCONIES AND DAMP AREAS

Undertile waterproofing: the advantages of ICOPER-HP

A waterproofing system applied before pouring the slope screed and placing the tiles may not be able to prevent the above-mentioned issues: leaving the task of waterproofing to tile grout entails the risk of cracks developing in the slope screed as a result of freeze-thaw cycles, mechanical strain, accidental overloads, etc., which may result in the ingress of rainwater in the substrate.

Waterproofing terraces and balconies on top of the slope screed and prior to placing the tiles is an effective way of minimizing such risks. ICOPER-HP is the original, one component, fiber reinforced, liquid waterproofing system that requires no reinforcing mesh nor fabric and can be tiled over in accordance with European Standard EN 14891. It is ideal for waterproofing kitchens, terraces and damp areas such as bathrooms and showers.

ICOPER-HP meets Harmonized Standard EN 14891: it protects terraces and balconies from water ingress and prevents crack bridging even in unfavorable weather conditions.

PRODUCT PERFORMANCES - HARMONIZED STANDARD EN 14891:2012

ESSENTIAL CHARACTERISTICS	REQUIREMENTS	PRODUCT PERFORMANCES
Initial tensile adhesion strength	≥ 0.5 MPa	1.3 MPa
Tensile adhesion strength after heat ageing	≥ 0.5 MPa	1.4 MPa
Tensile adhesion strength after water immersion	≥ 0.5 MPa	1.4 MPa
Tensile adhesion strength after contact with lime water	≥ 0.5 MPa	0.9 MPa
Tensile adhesion strength after freeze-thaw cycles	≥ 0.5 MPa	1.1 MPa
Water impermeability	no penetration	
Crack bridging ability in standard conditions	≥ 0.75 mm	1.28 mm
Crack bridging ability at low temperature (-5°C)	≥ 0.75 mm	1.22 mm

PRODUCT PERFORMANCES - HARMONIZED STANDARD EN 1504-2:2004

TEST METHODS	ESSENTIAL CHARACTERISTICS	REQUIREMENTS
EN 1062-6	Permeability to CO_2	S_D > 50m
EN ISO 7783-1-2	Water vapor permeability	CLASS I (S_D < 50m)
EN 1062-3	Capillary absorption and water permeability	w < 0.1 Kg/m^2 · h$^{0.5}$
EN 1542	Bond strength by pull off test	≥ 0.8 MPa
EN 13687-3	Freeze-thaw cycling without de-icing salt immersion	≥ 0.8 MPa
EN 1062-11:2002	Exposure to artificial atmospheric agents	No visible defects
EN 1062-7	Crack bridging properties	Class A5 (-5°C)
EN 13501-1	Reaction to fire	Euroclass E

TECHNICAL DATA

PRODUCT FEATURE	MEASURE	UNIT
Type of product	one component, water based	
Density	1.41	g/ml
Dilution	ready to use: do not dilute	
Solid content	71.5 (± 2%)	%
Service temperature	–20 to +90 *(-4 to +194)*	°C *(°F)*
Waiting time between coats (+23°C, 50% R.H., breezy)	minimum 3	hours
Curing time (+23°C, 50% R.H., breezy)	minimum 24	hours
Tensile elongation at break (7 days, +23°C, 50% R.H.)	52	%
Tensile strength (7 days, +23°C, 50% R.H.)	3.0	MPa
Hail resistance in accordance with EN 13583:2012 flexible substrate and rigid substrate	≥ 41	m/s
Artificial aging	pass	
Water impermeability	no penetration	
Number of coats	minimum 2	n°
Spread rate per coat	1.0	Kg/m^2
Dry film thickness (2.2 Kg/m^2)	1.0 (± 0.1)	mm
Shelf life	18	months

Safety measures

See SDS

Storage

Store in a dry, well-ventilated place at temperatures above freezing.

Colors

- Red
- White
- Brick Red
- Gray
- Black
- Green

Please contact our technical support at:
assistenzatecnica@icobititalia.com

ICOBIT ITALIA SRL
Viale Luca Gaurico 9/11 00143 Roma (Italy)
C.F e P.I. 12428711001
www.icobit.com I info@icobititalia.com

PACKAGING

APPLICATION METHODS

FLAT TROWEL

SQUEEGEE

ICOPER-HP EN 0123