

UNDERROOFING SYSTEMS

SMART WATERPROOFING, LONG-TERM SERENITY



INDIVIDUAL &
COLLECTIVE HOUSING



PUBLIC-ACCESS
BUILDINGS



HISTORIC
BUILDINGS



SMART WATERPROOFING LONG TERM SERENITY

■ ANY ROOF COVERED WITH TILES CAN LEAK OVER TIME

Even if you work with the very best material, a host of factors can affect a tile's capacity to keep water out, including frost, humidity, structural movement, high winds, an accumulation of dead leaves, snow, hail, etc.

If the roof leaks, your customers' ceilings, walls, furniture and flooring can be damaged. Your expertise lies in ensuring the roof fulfills its primary function of protecting the building against moisture. Because, if there's a leak, the building can be damaged, its real estate value will plummet – and its inhabitants may suffer mental stress.

■ ENGINEERED TO BE 100% LEAK-FREE, ONDULINE® DELIVERS DURABLE PROTECTION TO ANY BUILDING

Delivered with a 30-year warranty, Onduline is a solution that offers complete peace of mind to your customers – and to you. It keeps leaks out in the long term, giving you the satisfaction of a job well done and your customers the certainty they are protected for many years to come.

■ CHOOSE ONDULINE TO BOOST EVERY ASPECT OF YOUR BUSINESS

Like to save time during installations? Make renovations easier? Differentiate yourself from the competition? With ONDULINE® UNDERROOFING systems, you get all this – and you can be sure your customers will be satisfied.



A leading system certified by the strictest regulations, approved by the most demanding installers



Individual Housing



Collective Housing



Public Access buildings



Historical buildings



Adapted to both new constructions
and renovations

SECURE WATERPROOFING

OFFER A SOLUTION GUARANTEED
100% LEAK-FREE

ONDULINE NEVER LEAKS. IT'S A ROOF UNDER THE ROOF.

Over time, tiles can move or break, letting water into the roof. With Onduline, any potential disaster is quickly averted. Whether installed as a primary roofing or an underroofing solution, Onduline sheets provide a fully waterproof layer that resist all kinds of weather. From bitter frost and heavy snow to intense heat waves, its reliability has been consistently proven in some of the world's most extreme climatic conditions – for more than 70 years.

That means owners and occupants can feel safe in their homes, and you can focus on your next job instead of wasting time fixing old sites.

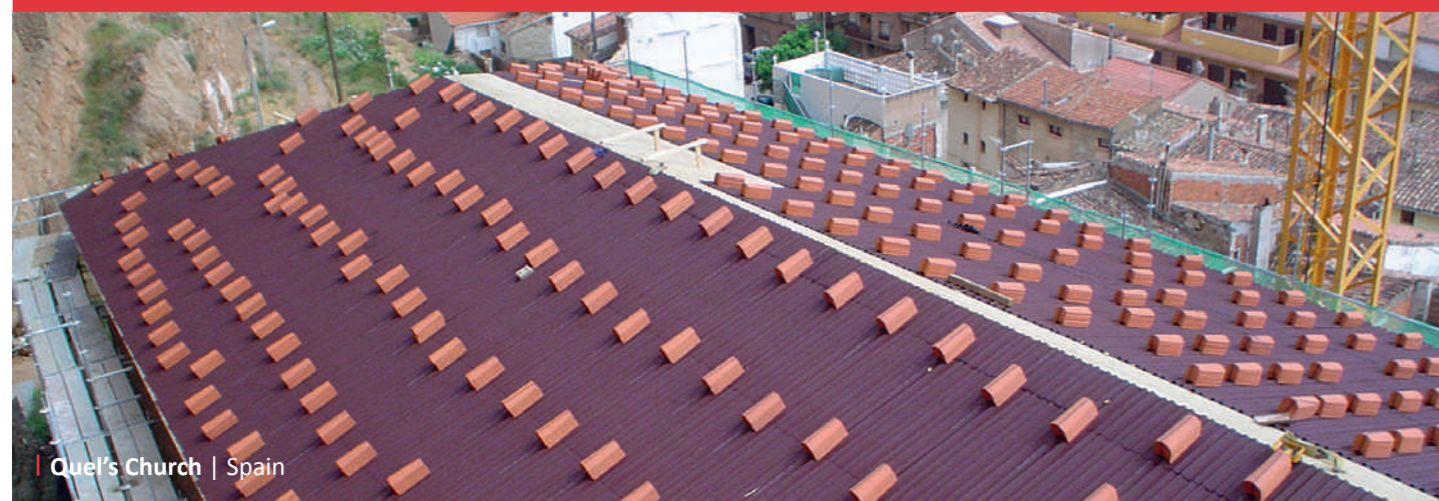
WITH A 30-YEAR WARRANTY, ONDULINE BACKS YOU UP

The Onduline Group provides a 30-year warranty for all roofs waterproofed with Onduline corrugated Underroofing sheets. This unique warranty is valid under the following conditions:



Installation is made in respect of Onduline's installation instructions

The ONDULINE® UNDERROOFING system is installed with Onduline accessories and fasteners.



FAST INSTALLATION

INSTALL ROOFS FASTER AND TAKE
PRODUCTIVITY TO A WHOLE NEW LEVEL

Onduline sheets are designed to be quick and simple to install. And, thanks to their specially adapted form, they make it easier to lay down tiles. You'll work faster, more efficiently – and have more time to take on new jobs.

FAST WEATHERPROOFING

Before you even begin fixing tiles, Onduline delivers full roof protection in record time. That means you no longer need to plan your roof installations around the weather. Whether it's sunny or it's raining, you're the one who sets the schedule.

FAST & EASY ALIGNMENT OF TILES FOR A PERFECTLY STRAIGHT ROOF

Whatever kind of tile you're working with, you'll find an Onduline product that perfectly matches its shape and form. Install the underroofing, then simply slot your tiles into the corrugations to achieve a perfectly straight roof. It's fast, easy – and you can be sure your job will be done well.

RENOVATE AS MUCH OF THE ROOF AS YOU WANT

Unlike other solutions, ONDULINE UNDERROOFING sheets can be applied progressively by vertical columns. That means you can work step by step to renovate the roof partially or completely.

A FLEXIBLE SOLUTION FOR USING CANAL TILES ON OLD STRUCTURES

Old buildings don't always have flat or straight edges, which can make them a challenge to renovate. By laying down Onduline sheets, you create a new flat substructure that makes laying down tiles fast and easy.

EASY TO CARRY, SHAPE AND CUT

At just 3 kg per square meter, Onduline is by far the lightest material in its category – which means you put less strain on your back. What's more, it's a relatively soft material that can be cut with a circular saw, a jigsaw, a saw – or even a simple cutter. It does not break thanks to its flexibility.

SAFE TO WALK ON

Onduline sheets are designed to maximize anti-slip performance thanks to their tailor-made rough surface, so you can always work in secure conditions.

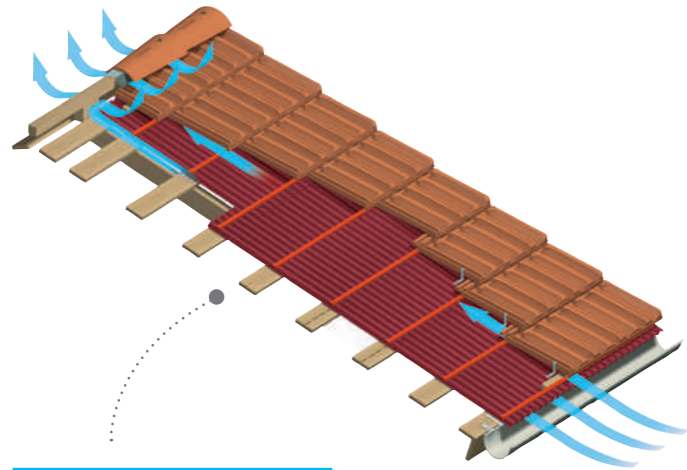


IMPROVED BUILDING PERFORMANCE

GIVE YOUR CUSTOMERS EXTRA BENEFITS AND EXTRA REASONS TO DO BUSINESS WITH YOU

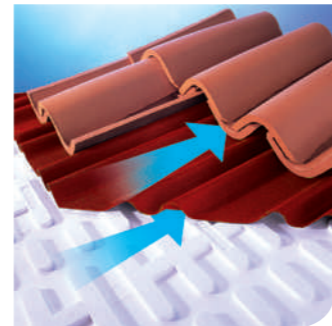
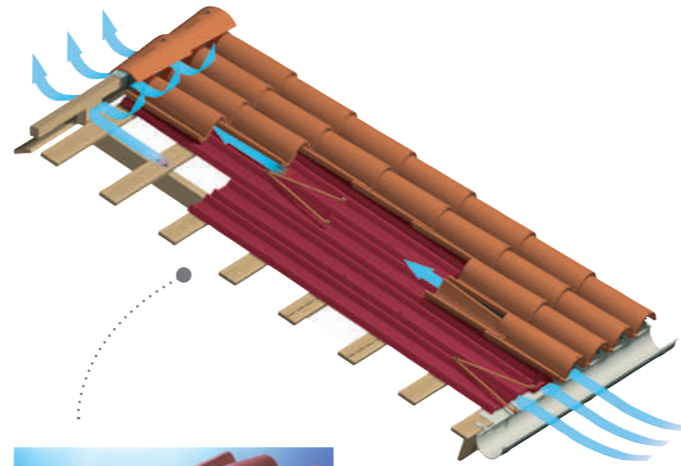
DUAL VENTILATION HELPS DISCHARGE WATER VAPOR AND RAPIDLY DRY TILES

Onduline sheets are designed to allow air to circulate freely above and below the corrugations, providing the roof with excellent ventilation.



Air circulating **beneath the sheets** helps to discharge vapor before it condenses.

The flow of air **between the sheets and the tiles** allows the roof to dry rapidly.



THERMAL PROTECTION DELIVERS ENERGY SAVINGS FOR YOUR CUSTOMERS

Onduline helps improve a building's thermal insulation, allowing it to stay cooler in the summer and retain warmth in the winter. This energy efficiency helps save your customers money throughout the year.

ACOUSTIC PROPERTIES OFFER ADDITIONAL COMFORT

Onduline helps reduce noise from both outside and inside the building. That means homeowners can enjoy a better quality of life thanks to **acoustic attenuation** from heavy rain, traffic or airplanes. And their neighbors will be better protected from any noise they may make themselves.

100% GREEN PRODUCTS, 100% RESPONSIBLE PRODUCTION

ONDULINE® UNDERROOFING sheets meet the strictest environmental regulations and are manufactured in line with responsible production methods. Onduline works with third-party companies to assume its environmental responsibilities. These partnerships help us improve our carbon footprint, increase product recycling rates, and optimize the management of waste water and gas emissions. What's more, two of our factories are located within protected nature reserves!



FREE OF RUST, FREE OF ASBESTOS

ONDULINE® UNDERROOFING contains no metals, so it never rusts in any circumstances – even when a building is located near the sea. The material is also entirely **asbestos free**, and always has been.

FLEXIBILITY TO FIT ANY TILE

WORK WITH ANY TYPE OF TILE, EVEN ON LOW PITCHED ROOFS

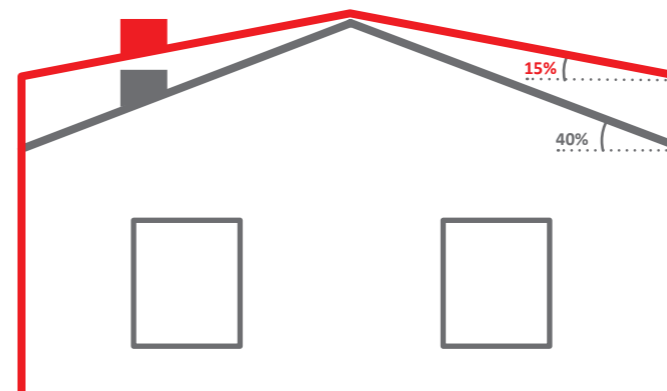
ONDULINE® UNDERROOFING SYSTEMS ADAPT TO ANY TILE

ONDULINE® UNDERROOFING comes in a range of different shapes and profiles, each adapted to a different kind of tile.



REDUCE MINIMUM PITCH TO 15% (9°) FOR ANY TYPE OF TILE

The use of many roof tiles is limited to a certain **minimum pitch**. If used on roofs below this level, the tile's waterproofing performance will be reduced and it will be less effective at draining water and resisting climatic conditions such as frost. But, with ONDULINE® UNDERROOFING, you can fix tiles below the manufacturer's recommended minimum pitch, safe in the knowledge that it provides **full waterproof coverage down to a pitch of 15%**.



Minimum pitch possible	Standard minimum pitch without ONDULINE® UNDERROOFING*	With ONDULINE® UNDERROOFING systems
Round tiles (canal tiles)	32% (18°)	15% (9°)
Mixt tiles and Flat Monocanal	30% (17°)	
Flat tiles and Marseillaise	40% (22° to 50%) (22° to 27°)	
Slate	60% (31°)	

* Indicative figures. May depend on local regulations, manufacturer recommendations, local restrictions, etc.

PRESERVING THE ORIGINAL AESTHETICS OF BUILDINGS

RENOVATE ANY BUILDING EFFICIENTLY AND AESTHETICALLY

Roofs have a significant impact on the overall aesthetics of a building. That's why it's often desirable to **reuse the original round tiles during renovations**, especially for historical buildings. And, even in more recent buildings, tiles can help give a neighborhood a **consistent architectural style**.

With Onduline, you can decide to use a building's original cover tiles on top of new ones. It's a solution that is widely recommended by architects, helping **preserve the look** of the building and maintain its historical charm, while delivering valuable savings.



Le Faget Castle | France



Leon Cathedral | Spain



Foggia Cathedral | Italy



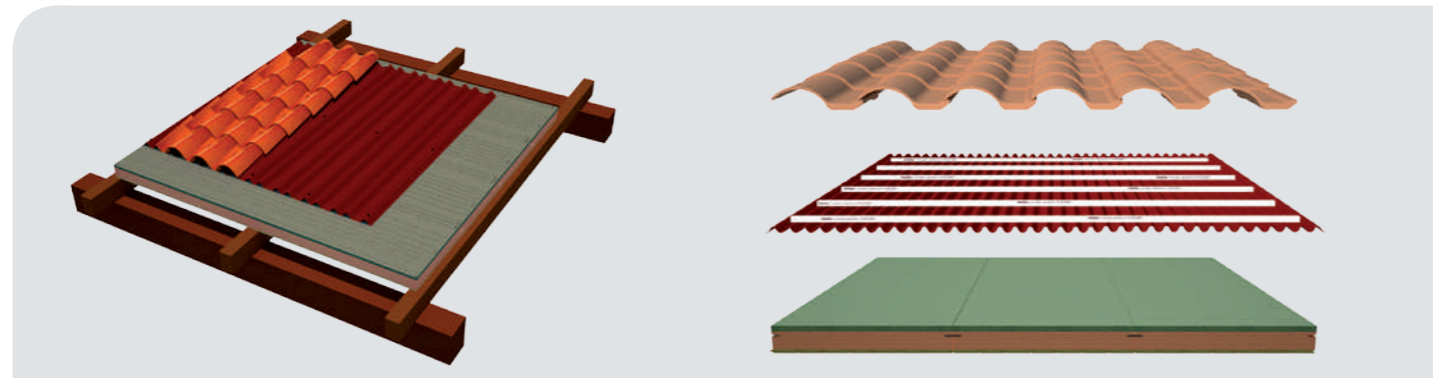
Santa Croce | Italy

INTEGRAL UNDERROOFING SYSTEMS FOR ANY TILE

ONDULINE® UNDERROOFING SYSTEMS ARE DRY AND LIGHTWEIGHT

Weighing in at around 3 kg/m², Onduline sheets are the **lightest underroofing solution on the market**. This makes them convenient for renovations, and a great way to make daily roof installations faster and easier.

With ONDULINE® UNDERROOFING, there is no **need to use heavy materials like mortar** (~40 kg/m²), meaning the total cost of the roof is less expensive.



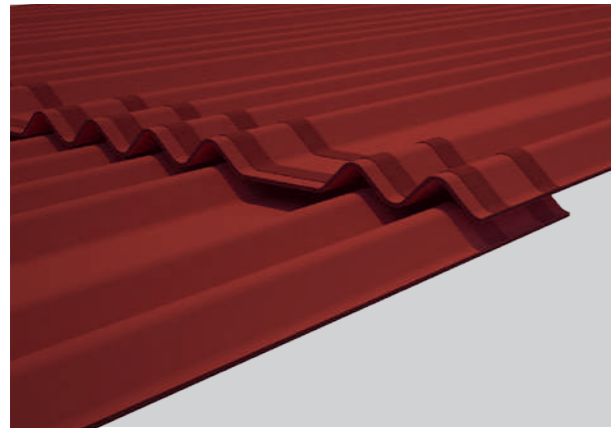
SELECTING YOUR UNDERROOFING SHEETS

ROUND TILE		ONDULINE® T95		
	From 17 to 19 cm or more than 22 cm			
		ONDULINE® T190		
	From 14 to 19 cm			
		ONDULINE® T220		
	From 18 to 22 cm			
		ONDULINE® T235		
	From 20 to 23 cm			
	POLYVALENT		ONDULINE® T380 New profile	
		From 14 to 18 cm with battens	OPTIMIZED HEAT RESISTANCE BETTER WALKABILITY	
		ONDULINE® T470 New profile		
From 20 to 23 cm with battens		OPTIMIZED HEAT RESISTANCE BETTER WALKABILITY		
SPECIFIC			ONDULINE® T50	
	with battens	OPTIMIZED HEAT RESISTANCE BETTER WALKABILITY		
		ONDULINE® T940		
		OPTIMIZED HEAT RESISTANCE BETTER WALKABILITY		

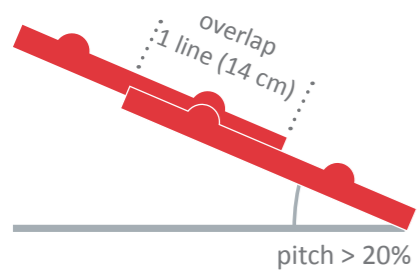
INTRODUCING INNOVATIONS

NEW SMART LINES: EASIER INSTALLATION, SECURE WATERPROOFING

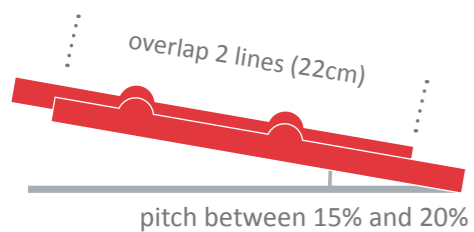
With Smart lines, you no longer need to measure overlaps. Designed for easy alignment, our sheets come with simple guidelines:



All roofs with pitches of 20% and above:
1 line overlapping



Low pitched roofs of 15%-20%: 2 lines overlapping

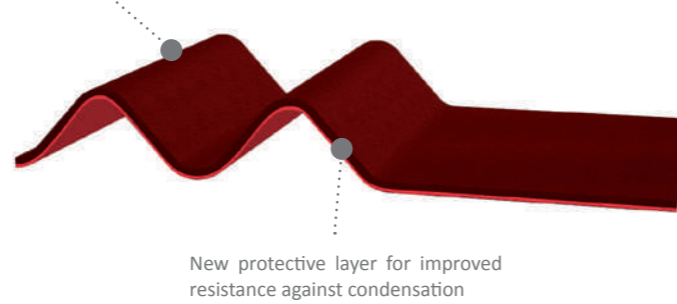


For installation on discontinuous supports, always secure overlapping on top of the support.

NEW HCP+ TECHNOLOGY: IMPROVED PROTECTION AGAINST CONDENSATION

HCP+ is a protective layer applied to the underside of all our underroofing sheets. It significantly boosts the product's resistance to condensation coming from inside the building and is essential in areas of the roof with poor ventilation.

ONDULINE® UNDERROOFING sheet made of selected fibers, resin and bitumen



NEW ONDULINE® SHEETS ARE EASIER TO WALK ON

Smaller corrugations will allow you to walk easier on the roof. Security is improved and you save time.

Polyvalent, these profiles allow you to cover different kind of tiles, improving your logistics.



TECHNICAL DATA

New profile	New profile		
ONDULINE® T380	ONDULINE® T470	ONDULINE® T50	ONDULINE® T940
From 14 to 18 cm with battens	From 20 to 23 cm with battens	with battens	
ONDULINE® T95	ONDULINE® T190	ONDULINE® T220	ONDULINE® T235
From 17 to 19 cm or more than 22 cm	From 14 to 19 cm	From 18 to 22 cm	From 20 to 23 cm

	Onduline® T95	Onduline® T190	Onduline® T220	Onduline® T235	Onduline® T380	Onduline® T470	Onduline® T50	Onduline® T940
Profile (#corrugations +flat)	10	11+5	9+4	9+4	17+5	18+4	21	14+4
Length (mm)	2000	2000	2000	2000	2000	2000	2000	2000
Width (mm)	950	1020	970	1045	1045	1060	1060	1060
Color	Red	Red	Red	Red	Silver	Red	Red	Red
Weight (kg)	5.5	6.4	5.4	5.9	6.2	6.1	6.2	5.8
Weight/m² (kg/m²)	2.9	3.15	2.8	2.8	3.0	2.9	2.9	2.75
Pitch (mm)	95	63	88	95	48	48	48	48
Height wave (mm)	36	36	35	38	24	24	24	24
Gross Surface (m²)	1.9	2.0	1.9	2.1	2.1	2.1	2.0	2.1
Side overlap	1 corrugation			2 corrugations				
Roof pitch > 20% (>12°)	Horizontal Overlap	1 line (14 cm)			1 line (14 cm)			
	Useful surface (in m²)	1.59	1.78	1.64	1.77	1.79	1.79	1.70
Roof pitch between 15% and 20% (9°-12°)	Horizontal Overlap	2 lines (22 cm)			2 lines (22 cm)			
	Useful surface (in m²)	1.52	1.70	1.57	1.69	1.72	1.72	1.63

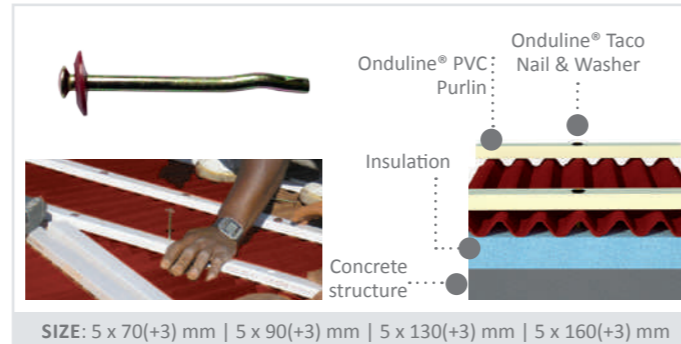
ONDULINE® FASTENERS

FIX UNDERROOFING SHEETS ON ANY SUBSTRUCTURE WITH THE RIGHT FASTENER

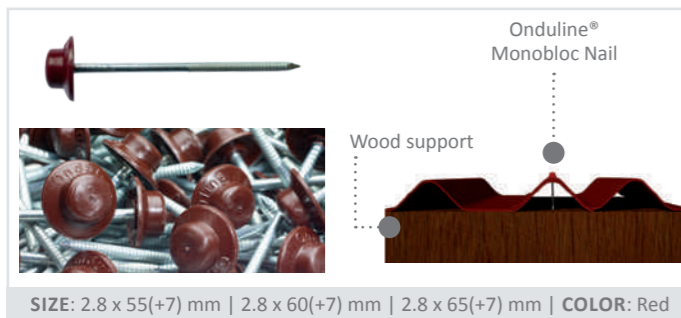
NEW ONDULINE® UNDERROOFING NAIL WITH WASHER, FOR WOOD AND HARD WOOD SUBSTRUCTURE



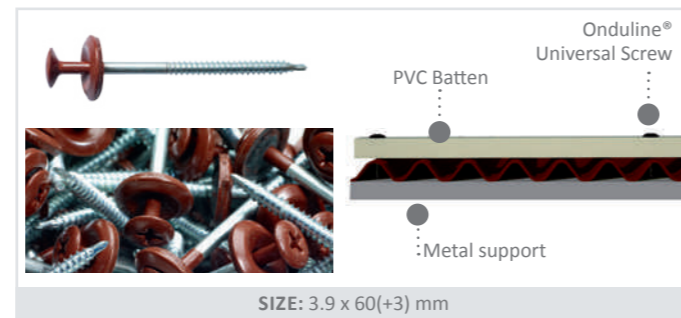
ONDULINE® TACO NAILS WITH WASHER FOR CONCRETE STRUCTURES



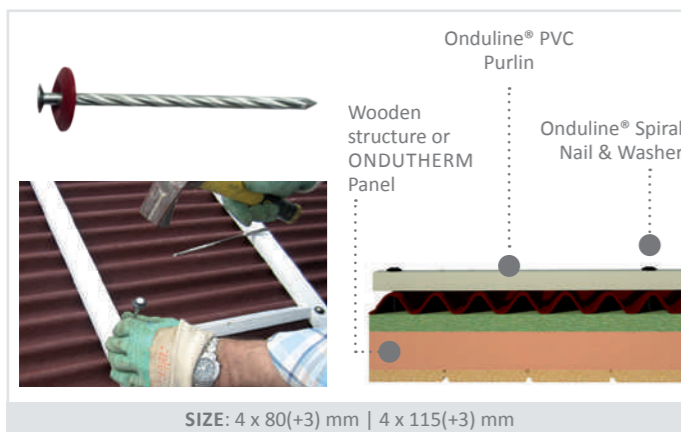
ONDULINE® MONOBLOC NAILS FOR COMMON WOODEN SUBSTRUCTURES



ONDULINE® UNIVERSAL SCREW FOR SUBSTRUCTURES IN METAL (UP TO 3 MM, 280 GD) OR HARD WOOD



ONDULINE® SPIRAL NAILS FOR COMMON WOODEN STRUCTURES + PLASTIC PURLIN



ONDULINE® NYLON NAILS FOR SUBSTRUCTURES MADE OF CEMENT & PERFORATED BRICKS



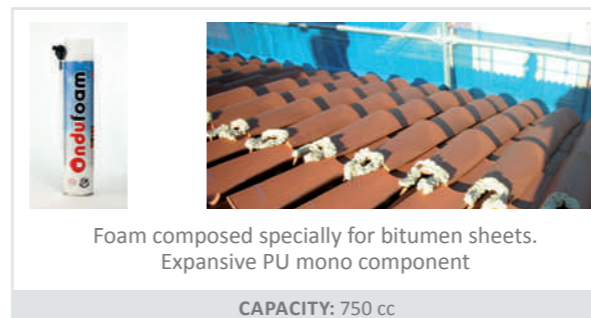
ONDULINE® ELEMENTS TO FIX, SEAL AND REPAIR

MAKE YOUR WORK EASIER WITH THE RIGHT PRODUCT FOR THE JOB

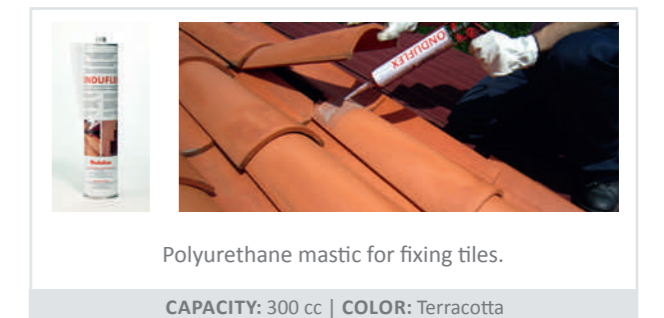
ONDULINE® PVC PURLIN



ONDULINE® ONDUFOAM



ONDULINE® ONDUFLEX



ONDULINE® ONDUFILM



ONDULINE® ONDUBAND



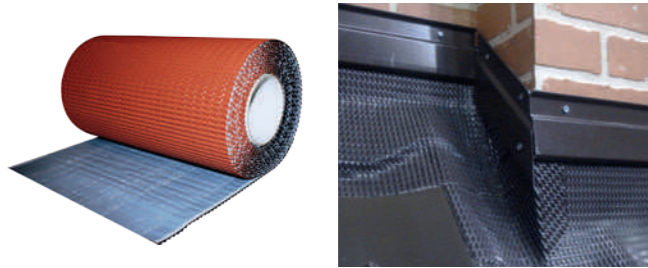
ONDULINE® COMPONENTS FOR FINISHING RIDGES, HIPS, AND EAVES

CREATE THE PERFECT FINISH ON ANY TYPE OF ROOF

For wall abutments and chimneys

ONDULINE® FLASHING BAND

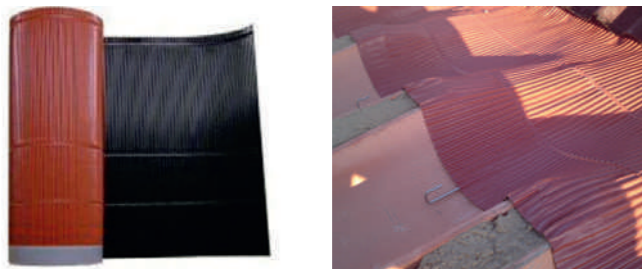
Self-adhesive flashing band, high flexibility, 25% stretchability, high gluing performance (butyl technology).



SIZE: 30 cm x 2.5 m | COLORS: Red, Brick red, Terracotta, Brown, Black, Grey
SIZE: 40 cm x 2.5 m | COLOR: Terracotta

ONDULINE® METAFILM

Used for both new and renovation work at eaves, this metallic band is sealed with a line of butyl.



SIZE: 5 x 0.40 m | THICKNESS: 0.15 mm | COLOR: Terracotta

For ridges & hips

ONDULINE® ONDULAIR

Designed to secure waterproofing at the ridge and hip, this self-adhesive band is waterproof, flexible and breathable. Made of polypropylene in the center and metal on the sides.

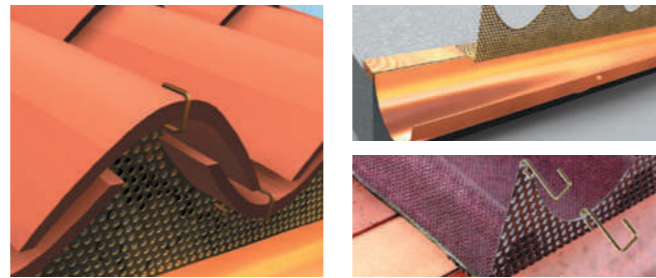


SIZE: 5 x 0.38 m | THICKNESS: 0.15 mm | COLOR: Terracotta

For eaves

ONDULINE® METALLIC GRILL

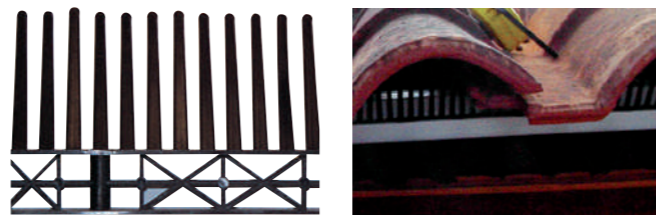
Improve the aesthetics of roofs at the eaves and prevent access to small animals while optimizing ventilation.



Available for T190, T220 and T235 / T470
Hook : SIZE: 50 x 16 mm - 50 x 20 mm | COLOR: Black

ONDULINE® UNIVERSAL VENTILATED PLASTIC FILLER

Prevent access to small animals while optimizing ventilation



SIZE: 100 x 8 cm | COLOR: Black

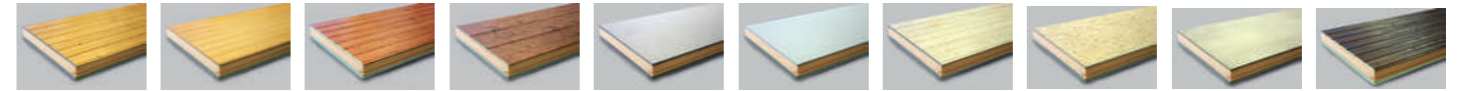
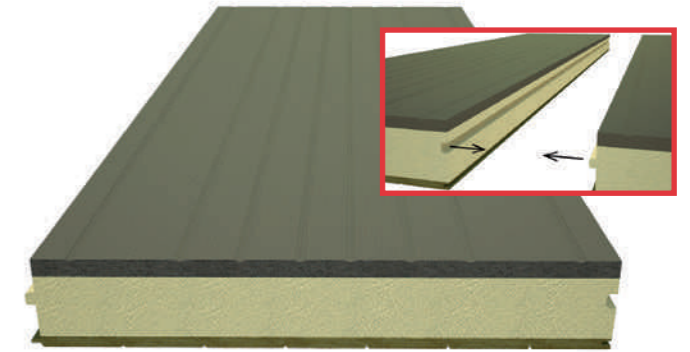


RECOMMENDATIONS TO ACHIEVE YOUR VERY BEST WORK

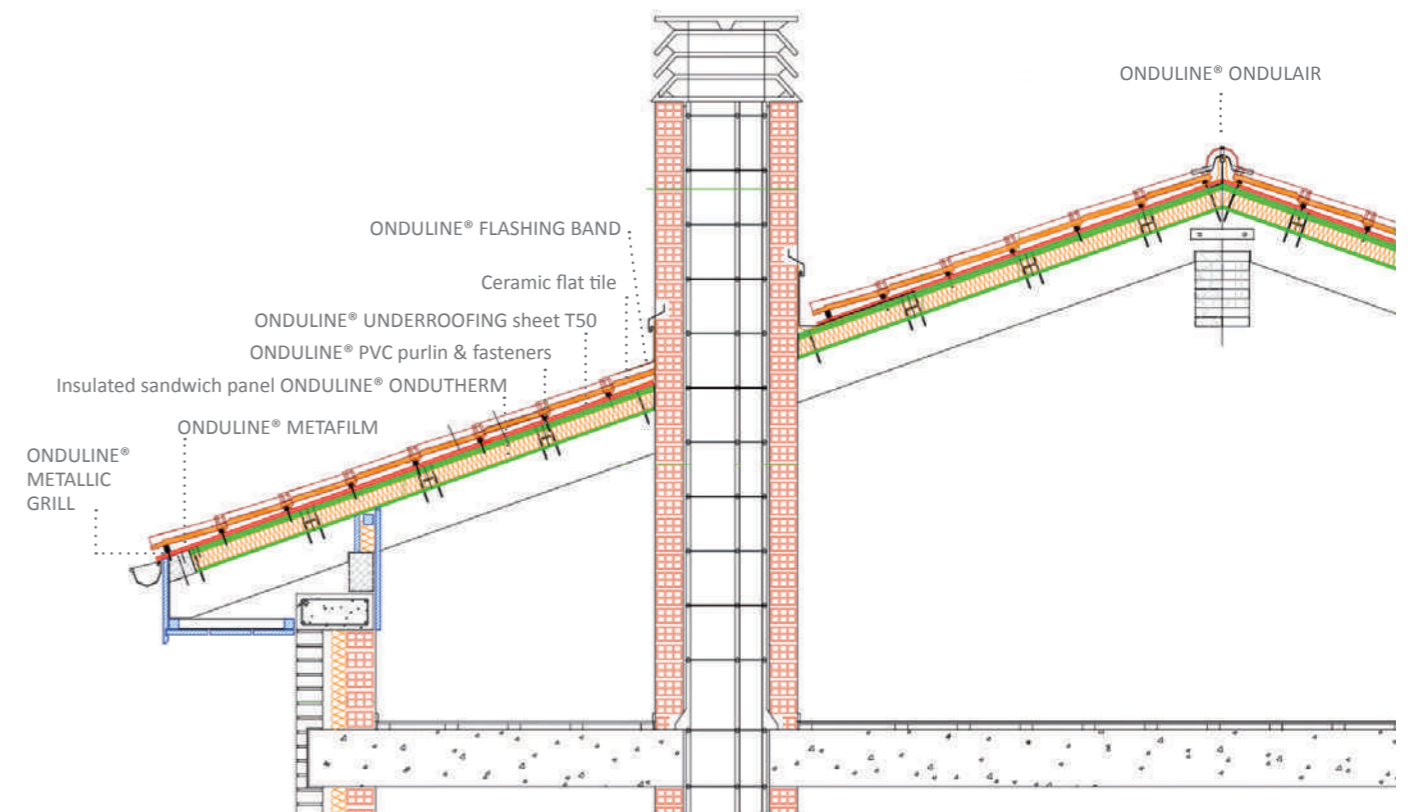
USE ONDULINE® ONDUTHERM SANDWICH PANELS FOR OUTSTANDING INSULATION

- Insulation made of **Extruded Polystyrene** (Density 35kg/m3). Exists in different finishings and thicknesses.
- Features **new assembly system with tabs** for easy installation.
- CE marked – Certified by ETA 11/0291. Manufactured in compliance with ISO 9001 and 14001 standards

Consult our dedicated brochure to see the full product range.



ROOFING STRUCTURE MADE OF MIXED TILES SECURED WITH ONDULINE® UNDERROOFING SHEET ON TOP OF ONDULINE® ONDUTHERM INSULATED SANDWICH PANEL

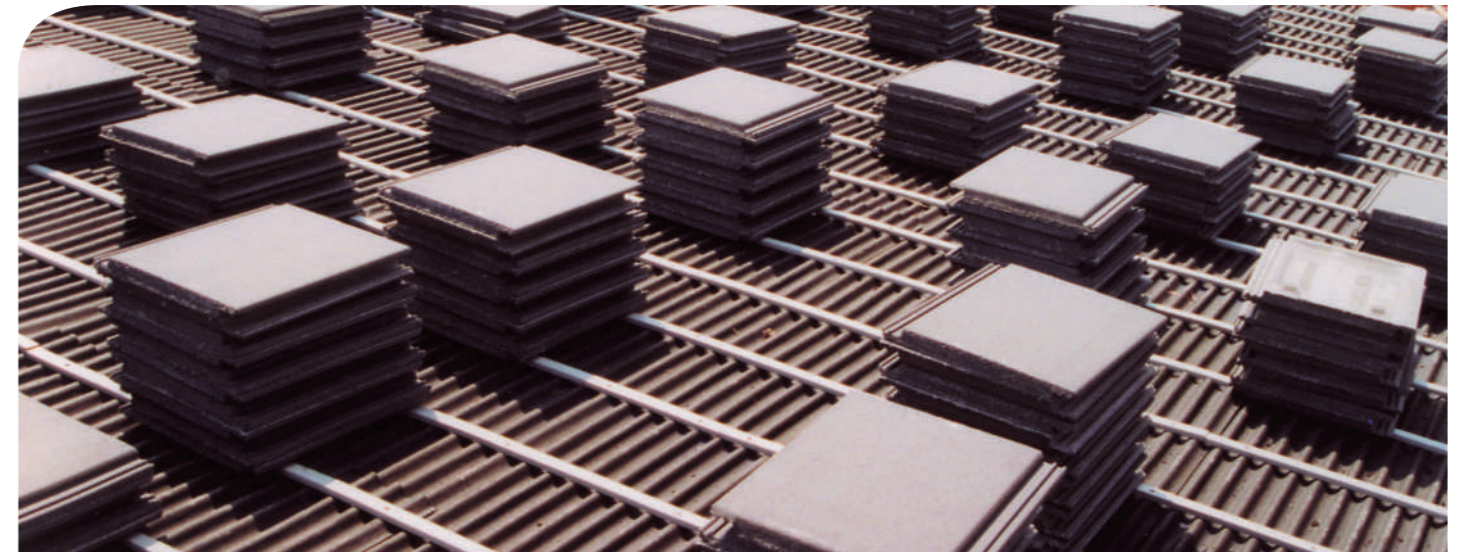
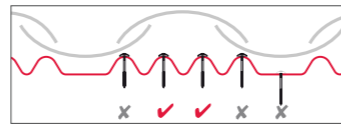


INSTRUCTIONS TIPS FOR OPTIMAL INSTALLATION

- Always use Onduline® fasteners
- Fix fasteners at the highest point of the corrugations
- Fasteners should always be passed through the Onduline® sheet and the insulated board (if there is one) before being fixed to the substructure. The type and length of fastener you use will depend on the substructure material and its thickness.
- For low pitches, make sure you fix fasteners 7 cm from the side of the sheet.

- Onduline® recommends its underroofing systems are not installed when temperatures are below 1°C or over 40°C.
- When installing T95, T190, T220 and T235, Onduline® recommends walking on a plank to avoid potential damage to the sheets.
- When installing in particularly rainy regions or on pitches lower than 20% (9°), please consult the Onduline® Technical Department for assistance.

	Per sheet	Per m ²	Distribution of fasteners
Number of fasteners	12	6.8	4 on the upper part, 4 in the middle, 4 on the bottom part



ONDULINE IS FULLY COMPLIANT WITH THE STRICTEST REGULATIONS

ONDULINE® UNDERROOFING systems are produced in line with the European Standard TS EN 14964. Conformity is demonstrated through frequent controls undertaken directly in Onduline factories. Onduline also meets the strictest requirements of local regulations in many countries.

Approved in France by the Centre Scientifique et Technique du Bâtiment (CSTB) (Technical Agreement Document 5/13-23234)

Approved in the United Kingdom by the BBA (British Board of Agrément)

Approved in the USA by Miami-Dade County, International Accreditation Service (IAS), Florida Building Commission (FBC), Los Angeles Department of Building and Safety (LA DBS), Cool Roof Rating Council (CRRCC) (USA CVER-010-002-01 Report TAS 100 Onduline BT-10 Underlayment & BM3)

Approved in Turkey by the Institute of Turkish Standards (TSE) (TS EN 14964 - B.02.2. TSE.0.14.54/61) and listed in the 2014 Yearly Price Analysis for Construction («Yili Insaat Birim Fiyat Analizleri»), making Onduline an officially recognized product authorized for use in Turkish government projects.

Approved in China by CNWB (China National Waterproof Building Materials Industry Association), and by the Shandong and Hubei Provinces.



- Established in **1944**
- **Worldwide leader**
in lightweight roofing
- More than **70 years**
of industry experience
- Around **1600 employees**
from **43** nations
- **€320M turnover** in 2013
- **10 plants** in **8 countries**,
fully certified
- Present in over **120 countries**
via **45 subsidiaries**
- Over **150 million m²**
of roofing solutions sold every year

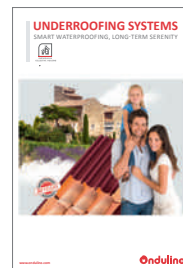
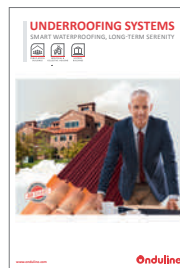
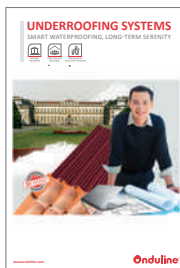


The Onduline Group is a world leader in lightweight roofing and underroofing solutions and a well-recognized global player in the construction industry. With outlets in over 120 countries across all 5 continents, Onduline is firmly oriented towards its end users.

To meet the needs and expectations of professionals, Onduline delivers robust yet flexible insulative solutions offering guaranteed protection for buildings and the people inside.



Onduline's core values come with a "protection above all" pledge. We strive to constantly improve the way we work in order to provide our clients with affordable, genuinely ecologically responsible roofing and underroofing solutions that improve the indoor and outdoor environment and offer a better climate to live and work in.



www.onduline.com

Onduline - 35, rue Baudin
92300 Levallois-Perret, FRANCE

Onduline is a French limited liability company with a managing board and supervisory board, and a share capital of €11,323,485.05 - R.C.S. Nanterre 552 088 361

Onduline®