

WATERTIGHT

To sum up all the arguments, what makes ONDULINE® sheets watertight and waterproof?

Both the technology and the system make of ONDULINE® sheets the right choice:

TECHNOLOGY

- Bitumen is one of the best waterproofing material.
- Quantity of bitumen: a high and unrivaled impregnation rate for all products, with no compromise on quality.
- Homogenous bitumen impregnation in all points of the sheet, durably protecting every single fibre inside (single layer technology). A stabilised and fully monitored production process in every ONDULINE® plant.
- High quality coating, additional protection against water, allowing very low water absorption into the material.

SYSTEM

- Seal smart technology, securing waterproofing at fixing points and overlaps.
- Simple overlapping system avoiding water penetration.
- Adapted accessories to watertight all roof details and sensitive points, including specific fixings.

Obviously, an installation in full respect of ONDULINE® recommendations is mandatory for a durable performance of the roof.

For all these reasons, ONDULINE® is well known for its waterproofing capability, as a material and as a roofing system.

What is the difference between the terms watertight and waterproof?

In the context of roofing solutions, “watertight” refers to **the sealing system** which does not let water in and “waterproof” to **the inherent properties of the material**.

A roofing system or material designed as “watertight” means that **it is designed to prevent water from entering the structure**. It implies a high level of resistance to water penetration.

On the other hand, a roofing system or material designed as “waterproof” means **it is designed to be completely impervious to water**, providing an absolute barrier against water penetration.

In summary, **ONDULINE® sheets are both watertight (full system) and waterproof (inherent properties of bitumen)**. Therefore, they offer an excellent protection against water damage.



Why watertightness and waterproofing are so important?

The main problem of most buildings is waterproofing. The **roof waterproofing** protects from different meteorologic conditions. Not only for the roof, but waterproofing is also essential in a building construction, from the **roof** to the **foundations**. And in this case, it is very difficult to change the **waterproofing system** afterwards.

A weak **waterproofing performance** can damage the building and it is often very expensive to install a new one. The best tips are to select from the very beginning high-quality building and roof **waterproofing solutions**.

A RELIABLE roofing system

All roofing materials are waterproof. Nevertheless waterproofing is not only a matter of material composition, but mainly a **benefit of the full system**. All systems are not equal. The **overlapping system**, combined with the exclusive **ONDULINE® Sealsmart technology** inherent to the material limit leaks, making people and their belonging safe inside. Accessories are also important in the system. They reinforce the protection of the roof. Material watertightness is conformed to European Norm **EN 534:2006+A1:2020**



Watertight



Wind Resistant



Sound absorbing



Lightweight



Fast to install



Easy to install



Aesthetic



Eco-responsible



MORE FAQ ABOUT WATERTIGHT

What is ONDULINE® Sealsmart technology?

When perforating an ONDULINE® sheet, generated heat provokes micro bitumen exudation drops at microscopic scale. **This liquid bitumen automatically seals off all around the metallic thread of the fastener**, providing secured long-term waterproofing = **Immediate waterproofing**.



Sealsmart
Technology



Did you know? Approximately the **same process goes on in the overlaps of the sheets!** The sheets heated by the summer sun sort of stick together, creating the perfect waterproofing cover for the roof. Thanks to **ONDULINE® Sealsmart technology**, the potential leaks at the weakest points of the roof are limited, like overlaps and fixing points.

About the role of embossed lines.

Embossed lines are present on some of our products and play a double role: 1) They **reduce the necessary overlap distance by securing the seal**, thus optimising the net coverage surface of the product. 2) They help the installer during installation, by avoiding taking measurements to properly align the sheets.



A UNIQUE technology optimising roof durability and customer satisfaction.

All technical parameters of ONDULINE® products are optimised **considering durability purpose**, providing a much better quality within the bitumen sheet category. All this is designed to keep the satisfaction of our clients in mind and **ensure a long-term loyalty towards ONDULINE®**.

About the importance of bitumen content and HOMOGENEOUS IMPREGNATION.

Cumulated differences in ONDULINE® have a direct impact on the **product specifications and manufacturing process** roof overall durability, its waterproofing function and aesthetical properties.

Impregnation rate and **amount of bitumen** are two well considered parameters for ONDULINE®. In other words, quantity of bitumen per sheet and the proportion of it compared to other components are **highly controlled and respected** during the production process.

Why?

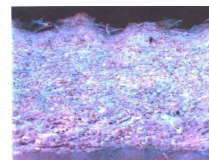
Bitumen not only gives the **waterproofing property** to ONDULINE® material, but also **preserves the integrity of the material** on the long term. Indeed, bitumen **protects every single organic fibre** against the damaging effects of water. If the fibres are isolated from water, they can durably keep their armature function. **An extremely homogeneous impregnation of the sheet is therefore the core of our industrial know-how.** On purpose, **ONDULINE® maintains an impregnation rate of 90%, which is made possible by its mono layer technology.**

ONDULINE® maintains a high quantity of bitumen per sheet and **bitumen application is extremely monitored** to make sure all fibres are well protected against water. So that the product absorbs less, dries faster and ultimately lasts longer.

Monolayer ONDULINE® sheets have more than 45% of bitumen content while, for instance, multilayer competition often have less than threshold of 40%.

Monolayer technology:

Cohesion of the organic fibres in the thickness.



ONDULINE® masters the quantity everywhere in the sheet.

→ ONDULINE® internal tests have always shown that this is not the case for bitumen sheets manufactured with a multi-layer technology. With the multi-layer technology, some parts have less bitumen, causing earlier ageing.

→ In addition to bitumen, **the coating also acts as a barrier to water.** Resin prevents part of humidity to come inside the material.



MORE FAQ ABOUT WATERTIGHT

How long does the ONDULINE® waterproofing warranty last?

ONDULINE® waterproofing warranties go **from 10 to 20 years** depending on the product reference, the application, and the market weather conditions.



The roof is warranted against leak, making people and their belongings safe inside.

The ONDULINE® Group Warranty is valid under the following conditions:

- Installation is made in respect of ONDULINE®'s installation instructions.
- ONDULINE® roofing system is installed with ONDULINE® accessories and fasteners.

ONDULINE®'s accessories are manufactured in the same material and therefore offer the same performances (watertightness/flexibility) as the sheets. **Ridges and eaves width is optimised to avoid rising water at the edge in particular.**

Warranties are degressive overtime. They are provided by Onduline subsidiaries. Terms and conditions can vary locally.

The mandatory use of ONDULINE® Fasteners for waterproofing warranty validity:

ONDULINE® fasteners are equipped with a **washer of 16 mm diameter minimum** to ensure long-lasting waterproofing of the roof. They are also coated with the best anti-UV agents to secure their durability.



Is watertightness and waterproofing also warranted for low pitched roofs?

ONDULINE® can be installed on low slopes. A strict respect of the installation guidelines is recommended for a good durability of the roof. **From 5° to 10° (9% to 17%)**, the sheets must be installed on a full deck. Over, the sheets can be installed either on full deck or on discontinuous battens (OSB, plywood, wood deck...).

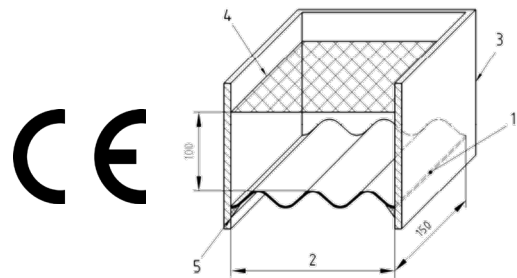
Installation recommendations vary depending on product and region. Please refer to local installation guidelines.

ONDULINE® sheets are in compliance with European Norm EN 534:2006+A1:2020

EN 534 European Standard sets the expected waterproofing performance for Corrugated bitumen sheets and specifies the official test method.

“5.3 Physical properties> 5.3.1 Water impermeability”

When tested according to 7.3.1, no drop of water shall pass through the sheet after 48h.



ICS 91.100.50

Supersedes EN 534:1998

English Version

Corrugated bitumen sheets - Product specification and test methods

Plaque ondulées bitumées - Spécifications des produits et méthodes d'essai

Bitumen Wellplatten - Produktfestlegungen und Prüfverfahren

This European Standard was approved by CEN on 3 May 2006.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CEN member.

5.3 Physical properties

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