

Introducing...

# The Vanguard PVC Single-Ply Fusion-Welded System

The ultimate waterproofing solution for your new flat roof

Vanguard has been developed by a team that's served almost 50 years in commercial and domestic roofing - from system development and manufacturing, to supply and installation.

With this wealth of experience, every aspect of your roofing project has been considered. Whether it's a new build or retrofit...for your home or business premises... every stage of your project has been factored in.

**The result is a unique system with outstanding resistance to our natural weathering cycles. It won't crack in winter. Won't blister in sunlight. Won't stress when hot air expands it. It just holds tight, year after year.**



## What is Vanguard?

A polyester reinforced multi-layer waterproofing system. The upper light layer gives unique protection against weather and UV rays, while the underlying black layer is ultra-resistant to impact and puncture. And the ancillary metals are cut and pre-bent to size, then supplied with bespoke fixings - so every flat roof it covers becomes a perfect, watertight envelope.

## Vanguard PVC Single-Ply Roofing: at a glance

Here are some reasons why Vanguard is literally the BEST you can choose:

- ✓ It can be fitted over an existing roof - saving you time and money
- ✓ The membrane and fixings are pre-cut and shaped in a controlled environment - so it can be installed in most conditions, without risk to the roof
- ✓ It's vapour permeable - releasing moisture trapped in by the old top layer
- ✓ The double fusion-welded joins won't come apart - so there's no risk of letting in water
- ✓ As a highly-resistant all-weather system, it's fit for any climate
- ✓ Permanent UV radiation prevents peeling and cracking in sunlight
- ✓ It's designed to resist impact and puncture from falling debris, like tiles from a higher roof
- ✓ It's dimensionally stable with high-tensile strength, so it can withstand long-term stress caused by normal building movement
- ✓ Test Certificates issued by European independent organisations confirm the membranes meet the highest standards.
- ✓ It's ONLY fitted by registered and certified installers - and there's no cheap imitation for rogues, cowboys and novices
- ✓ The Insurance Backed Guarantee covers product and installation for up to 25 years
- ✓ A Consequential Loss Guarantee protects your home and possessions
- ✓ A single UK company is fully accountable for the system and installation
- ✓ As manufacturer, our own Field Technicians offer nationwide support
- ✓ The standard lead grey finish looks fantastic
- ✓ The membrane is 100% recyclable - protecting your environmental footprint

# 12 reasons why Vanguard PVC Single-Ply Membrane is the best choice for your new roof

## 1. Dimensionally Stable, to Cope with Cyclical Building Movement

Vanguard's field sheet consists of a polyester reinforced multi-layer membrane. It's manufactured by co-extruding multiple layers of synthetic premium-quality plasticised polyvinyl chloride (PVC-P), interwoven on a polyester carrier frame.

This makes it extremely strong, and flexible enough to cope with expansion during hot spells. (Tests show it can stretch up to 18-20% of its natural size without failing - and do it consistently, as the roof breathes in and out.)

Compare that with GRP Fibreglass or mineral felt, that won't elongate, and finally you have a hard-wearing system that won't stress and crack as the roof expands.

## 2. High Tensile Strength - High Resistance to Impact and Puncture

Manufacturers of built-up systems may tell you that PVC Single-Ply is too thin, and prone to puncture - but it simply isn't so. The 1.5mm reinforced membrane is designed specifically to withstand all foreseeable stresses, including the impact of falling slates and other flying debris.

It's incredibly hard to puncture this material. But if the worst should happen, it's also easy to repair. We can make good quickly, without replacing the whole roof.

## 3. Split-Resistant Metal Perimeter and Upstand Flashing Details

Traditionally, flat roofs are most vulnerable around the perimeter and flashing details, where the material is stressed - bent at an angle of 90 degrees. In felt roofs, this inevitably causes cracks and splits. Then water can seep into the roof and damage the structural deck.

In liquid materials, especially asphalt, bends and stresses also lead to slumping. If the material is overheated by just a fraction, gravity takes over - and the result is an unsightly mess.



Strong and permanent split-resistant detail

Vanguard is much more resilient and precise. As shown here, a special laminated metal sheet is pre-bent to a bespoke shape, then fusion-welded to the flashing detail. This forms a strong and permanent split-resistant detail that will keep its shape, and keep the weather out for many years to come.

## 4. Double-Welded Fusion Joins Applied Safely - No Toxins or Naked Flames

Most roofing systems use toxic chemicals or naked flames during installation - raising a whole raft of Health & Safety concerns. Felt, for example, uses a gas gun naked flame to bond the surfaces with bitumen. While GRP uses chemicals, mixed on site.

Gas guns are especially troublesome. To seal the joins firmly, they apply an intense heat - which can cause the timber structure to smoulder and catch alight, even after the flame is switched off.

To manage this risk, installers should wait an hour before leaving the site - but in practice, this doesn't always happen. Then homeowners, site managers and others are put in danger.

Thankfully, Vanguard can be installed virtually risk-free, as the membrane doesn't need chemicals or a gas gun with a naked flame. In our controlled hot air welding process, the joins are bonded with a heat gun. It's set to a predetermined temperature, so there's no fire hazard - and with no room for error, the weld and joins are consistent across the whole roof.



Controlled Hot-Air Welding Process

## 5. Vapour Permeable - Allowing Trapped Building Moisture Out

We've talked about trapped moisture: the water vapours that get locked into a roof that's installed in the wrong conditions. In felt roofs especially, the moisture can turn to water and seep into the roof deck, or freeze and crack the membrane.

It's a serious risk - and it limits your options if you want to build straight over the old roof.

If you applied GRP Fibreglass for example, or EPDM Rubber, the new top layer would lock in the moisture. So when it freezes, it would stress the new waterproofing layer from below.

Vanguard protects against this with a vapour permeable covering. Working like Gore-Tex®, our membrane is breathable - turning trapped moisture into vapour, that gets pushed out through the cells. So the roof remains dry inside. And water won't find a way back in, because top layer is fully repellent. Think of it as a one-way valve.

This means Vanguard can be installed in any weather, without storing up problems for the future - whether it's fitted as an overlay, or after the stripping the roof.

## 6. Ponding and Standing Water Cause NO Adverse Effects

Remember what happens when pools of water collect on the roof? The water can seep into the most vulnerable points, only to freeze and crack the

membrane - while the substructure suffers under the extra weight.

But there's no such risk with Vanguard. The system uses fusion-welded joints, so there's no way in for lingering drops of water. Plus, the dimensionally stable membrane can withstand the weight, and won't crack if the water freezes. There's no short or long-term damage.

## 7. Solar and UV Reflective Coating (No Unsightly Chippings or Moss)

Sunlight is an age-old problem for flat roofs. Traditional materials like mineral felts and asphalt can "dry out" as oils evaporate - then become brittle and lose their

flexibility. So they rely on reflective chippings to fend off UV rays.

But the chippings bring new problems. They're unsightly. They block the roof's drainage when they fall into gutters.

And they trap in moss and lichen, that absorb and retain moisture - so inevitably, the roof suffers when it freezes over in winter.

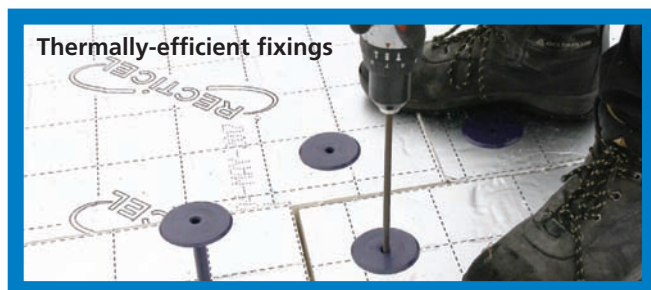
The Vanguard System is smarter. The upper light layer has a special solar and UV reflective

coating. So you won't need chippings, and organic matter won't grow and weaken the roof.

## 8. Thermally Efficient Fixing to Reduce "Cold Bridging" in Warm Roofs

A cold bridge - also known as a thermal bridge - is any point in the warm roof insulation that lets in hot or cold air. It occurs whenever a fixing causes a break in the insulation - most often, in a junction between a wall and the floor or roof.

The gap can cause condensation, and damage the surrounding timber - undermining the effect of the waterproofing layer above.



To counter this, we've developed a new fixing method for all Vanguard installations. The metal screw is placed inside a special thermally-efficient tube, that's counter-sunk within the body of the insulation.

This method dramatically reduces the risk of cold bridging - protecting the roof void from all the effects of condensation.

## 9. Strong enough to build on - Enjoy the Rooftop Experience

Your roof can be more than a functional space, to keep out the water. You can add a roof terrace - your own haven for long afternoons and lazy evenings. The membrane is strong enough to take slabs or decking, with the help of pedestal pads or other protective layers.

## 10. Long Life - with a Low "Whole Life" Cost

Vanguard is guaranteed for 25 years - but that's just a minimum standard. The system's built-in resilience means a well-maintained roof should hold tight for 40 years. Or longer - there are PVC Single-Ply roofs still standing from the 1960s.

Of course it's an investment, costing in at the higher end of the range. But that gives you the proven longevity and low maintenance of PVC Single-Ply. So in whole life terms, it's far more cost-effective than the cheaper systems.

EXAMPLE: imagine you pay £10,000 for a fully-fitted Vanguard system. It's maintenance-free and backed by a solid guarantee, so there's no ongoing cost. So, over the minimum 25-year lifespan, the annual cost is £400.

Compare that with a cheaper system like felt, that you buy for £5000. With 6-monthly checks, plus maintenance, you'd pay an extra £150 per year. So over the guaranteed period (just 10 years), you'd pay £6500. That's an annual cost of £650.

And don't forget...

As well as the extra lifetime cost, you'd have to start over just 10 years down the line. That's more upheaval - and with inflation, you'll be paying future prices.

It makes more sense to choose a solid long-term solution, at today's cost.

## 11. Low Carbon Footprint - the Membrane is Fully Recyclable

If environmental issues concern you, Vanguard is the natural choice. The raw materials and manufacturing process have a minimal impact - far less than any other system. And when the roof reaches the end of its natural life, every component can be recycled. Nothing goes to landfill.

## 12. Virtually Maintenance Free - No More Weekends up a Ladder!

Most flat roofs need to be checked at least twice a year - once in spring, then again in autumn. This is especially important if the roof is vulnerable around joins and flashings - as with Bitumen Felt roofs and, to some degree, GRP Fibreglass.

With Vanguard, however, it's a totally different matter. The waterproofing membrane and flashing details are so resilient, there's virtually no maintenance needed throughout the roof's natural life. You might want to have it cleaned now and then, with soapy water. But you won't need to check for structural flaws. Enjoy your weekends instead...