Advantage® Graphene for Metal Roofs
30 Year Warranty - Product Information

ALLTIMES COATINGS
EXPERIENCE THE DIFFERENCE IN EVERY COAT

All you need to know:

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Exceptional corrosion resistance industrial roof coating

ADVANTAGE Gives you the edge

What is Advantage® Graphene for Metal Roofs?

A single component solvent free metal roof coating system with added Graphene for exceptional corrosion resistance using a moisture cured anti corrosion hybrid coating, that is damp tolerant during application and is easily recoated. It provides excellent UV and mechanical protection while working with the thermal movement required from temperature changes that are experienced throughout the year.

Why choose Advantage® Graphene for Metal Roofs

- ✓ Includes Graphene for exceptional corrosion resistance
- ✓ Damp tolerant during application
- ✓ Solvent, Isocyanate and VOC free
- ✓ Easy re-coating
- ✓ Impact resistant
- ✓ Applied in a single coat
- ✓ No shrinkage on curing
- ✓ Provides minimal trafficking of roof during application
- ✓ Microporous to allow substrate to breathe
- ✓ Can be applied at temperatures between 3°C and 60°C
- ✓ Flexible coating with elongation, to cope with thermal movement
- ✓ Long term reliability due to excellent adhesion and UV resistance
- ✓ Minimum weight gain after application
- ✓ High weather and UV resistance for this one coat system
- ✓ UK underwritten insurance

✓ **30 Year System Warranty**

✓ **Supporting Waterproofing & Repair Coating Systems:** 20 Year Metal Roofs, 15 Year Gutters, 15 & 10 Year Cut Edge Corrosion, 20 Year Asbestos, 15 Year Clear+ Roof Lights

✓ **Full UK Underwritten Insurance** (subject to contractor status)

✓ **Superior Contractor Support Every Step of the Way!**

✓ **Contractor Training & CPDs**

In Liquid Form

Feature:	Result:
Specific Weight:	SG1.1 @ 20°C
Application Temperature:	3°C to 60°C
Light Traffic Time:	Next Day
Skin Time @ 20°C / 65% RH:	2 - 4 Hours
Volume Solids:	100%
VOC:	0 g/Lt - VOC Free
Flash Point:	n/a
Viscosity:	14200/5350

In Cured Form

Feature:	Result:
Overcoatable:	Yes, with itself
Finish:	Sheen
UV Resistance:	Excellent
Wet / Dry Film Thickness:	200 µm
Service Temperature:	-40°C to 80°C
Hardness in Shore A:	Approx. 35
Tensile Strength:	1.5 N/mm^2
Tear Strength:	4 M/mm^2
Elongation at Break:	150 - 160%
Salt Test ISO 9227 5% NaCl @ 35°C:	5000 Hours - Pass

General Information

Feature:	Result:
Shelf Life:	12 months minimum in unopened tins, stored in a cool dry place out of direct sunlight
Coverage:	5m^2 per 1L
Pack Sizes:	5 & 15 Litres
Form:	Viscous coloured liquid
Colour:	Goosewing grey - other colours to order
Thinners / Brush Wash:	Flushing thinners - not containing water or white spirit
Airless Sprayer - Typical:	Tip Size: 17 - 19 thou. Pressure: Min. 3600psi (250bar)

Components

- Advantage® Adhesion Plus: 5L Tins
- Advantage® Sealant: 290ml Tube
- Advantage® Graphene for Metal Roofs: 5L & 15L Tins
- Advantage® Graphene Primer: 2.5L Tins

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Gridding & Measuring - How Much System Do I Need?

- Thorough preparation at this stage will ensure proper primer and coating coverage.
- When measuring please make sure that roof profiles are considered and added to the surface area accordingly.
- The Advantage® Graphene for Metal Roofs has a theoretical coverage rate of 5m² per 1L.
- As a guide, chalk areas on the roof corresponding to tins, so you can check the right coverage is being applied throughout application.
- It is advisable to use a wet film gauge. The coating is solvent free and has no shrinkage therefore the wet and dry film thickness will be the same. When spraying we advise a loss contingency margin of 30%.
- Remember a low dry film thickness will invalidate your warranty.

Coverage Guide

- Advantage® Graphene Primer: 4-5m² per 1L.
- Advantage® Graphene for Metal Roofs: Theoretical 5m² per 1L.
- Advantage® Adhesion Plus: 3m² per 1L.
- When spraying we advise a loss contingency margin of 30%.

Before You Start - Roof Inspection

- Ensure the substrate is structurally sound and stable.
- Remove all loose matter such as moss, lichen or other debris.
- Some previous coatings must be removed, please speak to our technical department for more information.

Preparation & Cleaning

Roof Cleaning:

- Power wash using 3,000/4,000 psi. water pressure minimum or clean surface thoroughly to ST3 standard, you will find this more efficient with a rotary cleaning head.
- All oil, grease and dirt must be removed prior to application.
- Remove stubborn dirt and flaking corrosion using hand tools as required.
- Some previous coatings must be removed, contact our technical department to discuss if in doubt.
- Observe standard decorative practice. Passivate (T-wash) new bare galvanised substrates.
- Check the roof for any remaining contaminants, as these will affect the long term adhesion of the coatings so must be dealt with before proceeding.

Roof Repair:

Once the roof is completely clean:

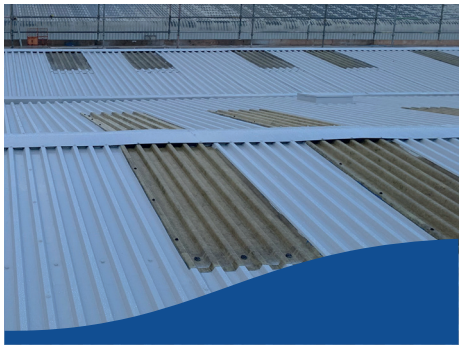
- Inspect the surface for holes, cracks and damaged areas.
- Make all repairs necessary to the roof surface using the Advantage® Sealant and Speed Patches if required on small holes and cracks.
- Larger holes and cracks may require embedding Alltimes Non-Woven Fleece.
- Tighten all bolts where possible and crop them so they are as short as possible.

Priming

- After preparation work is complete apply one coat of Advantage® Graphene Primer to all areas of surface rust and sheet ends to a minimum of 25mm past any corrosion or peeled paint, ensuring the underside is coated where possible.
- Allow 4 hours to cure until completely dry (dependent on time of year, it will cure quicker in winter). Lead surfaces should always be primed.
- Remove all sheet fixing caps if possible and apply Advantage® Adhesion Plus all over the fixings.
- If cappings are tight and there is no rust stain leaching out, apply Advantage® Adhesion Plus with a brush and avoid excessive brushing out. Allow 4 hours to cure.

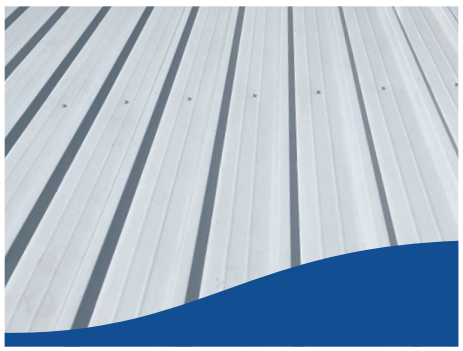
Sheet Ends & Over-Lap Preparation

- Clean and prepare all cut edges and laps to standard, see cut-edge corrosion guide.
- **Laps:** If moisture is present under laps, dry or blow dry using preferred method first and apply Advantage® Sealant to all over-lapping joints, pointing the cartridge up the slope and into the over-laps to achieve a minimum 5mm of sealant in to the joint. Immediately use a brush dipped in the Advantage® Adhesion Plus to tool the sealant into a slight ramp over the lap wet-on-wet. Take to a minimum distance of 25mm beyond the last firm edge point.
- **Edges:** After priming apply Advantage® Adhesion Plus to the edge of the sheets and work up well and under the sheets with a brush. Ensure the profile of the edge is not visible through the treatment.
- **Fixings:** Apply Advantage® Adhesion Plus over and around all the fixings.



Application (Post Priming)

- Mix the solution in the tin using a lowspeed (300 rpm) mixer.
- Ensure Metal Primer is completely dry before applying the top coat
- Once the above (preparation and priming) is completed. Apply Advantage® Graphene for Metal Roofs by preferred method, to a DFT of 200 microns minimum.



No responsibility can be taken by the manufacturers where conditions of use are beyond our control. All products should be used in accordance with the manufacturer's instructions. For further information please refer to the application guide and Material Safety Data Sheet. This information and guidance is given in good faith and without prejudice and liability, Technical and Safety Data must be observed. All coverages are given as a guide only, as volumes will vary with profile, porosity and method of application. Loss factors should also be taken into account.

Advantage® Graphene for Metal Roofs
30 Year Warranty - Introducing Graphene

ALLTIMES COATINGS
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What is Advantage® Graphene?

Advantage® Graphene is a lightweight, re-coatable roofing system. Graphene creates a 'tortuous pathway' for water molecules, oxygen and salt to pass through. Put simply, it forms a barrier that is virtually impenetrable, giving unparalleled protection for your metal roof against corrosion and rust.

What is Graphene?

Graphene is a single thin layer of graphite. In fact, scientifically speaking, it is a one atom thick layer of carbon atoms arranged in a hexagonal lattice. When isolated in this way Graphene takes on some miraculous properties. It's around 200 times stronger than steel, and on top of that, it is flexible, transparent, highly conductive and impermeable to most gases and liquids.

How does Graphene Work In A Coating?

With conventional coatings (like vinyl, acrylic, alkyd or PU, and so on...), the particles tend to be spherical. This allows for the free passage of moisture to the substrate, meaning they're more susceptible to rust and corrosion.

Manufacturers in the past have addressed this by creating a hybrid coating containing a laminar flake structure, and that does make a big difference by making the passage of water 7 times harder.

By adding Graphene into the coating in the form of platelets, it forms a barrier within the coating film itself which is up 120 times denser than any traditional coatings technology.

By using Advantage® Graphene the benefits are huge:

✓	Thin, flexible and impermeable	=	protection from moisture, UV radiation and other environmental factors
✓	High strength and durability	=	enhanced resistance against cracks, corrosion and wear so reduced maintenance costs
✓	Extended roof lifespan	=	long lasting solution
✓	Solvent, isocyanate and VOC free	=	good for the environment and contractor health
✓	One coat, mean less product needed	=	reduced costs, less time spent applying, less transportation and disposal costs
✓	Damp tolerant application	=	increases the working window

Graphene Key Facts:

- **200 Times Stronger Than Steel**
- **Thinnest Known Material In Existence**
- **Forms a Virtually Impenetrable Barrier**

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✓ **Testing:** ISO:9227 salt spray testing is already showing results in excess of 11,000 hours.

Advantage® Graphene for Metal Roofs
30 Year Warranty - Environmental Benefits

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Sustainability has been foremost in the development of Advantage® Graphene. It has a resulted in a coating that is:

- Solvent VOC Free
- Made to ISO 9227 Sandards
- Isocyanate Free
- 13501 Fire Rated

ADVANTAGE Gives you the edge

Why VOC Free Matters

What are VOCs: Volatile organic compounds are compounds that have a high vapour pressure and low water solubility. They are emitted as gases from certain solids or liquids and can cause major short and long-term adverse health effects.

Why are VOCs used: Their main purpose in solvent-based paints and sealants is to act as the medium to transfer the coating from the can to the surface, aiding the flow of the liquid. Some VOCs even preserve the coating in the can, preventing it from spoiling. Once the coating is applied, VOCs evaporate. And this can be damaging to both the health of the user and the environment. Advantage® Graphene is ideal for use on sustainability based projects or on sensitive, occupied buildings where the odours from solvent-based products would be disruptive. It also means less product dissapating into the atmosphere.

Health

The worse time for VOC exposure to contractors is in the application of coatings and sealants. Over-exposure to VOCs can cause health problems including asthma, skin irritation, headaches, nausea, confusion and eye irritation. Long-term exposure can even lead to an increased risk of liver damage, kidney damage and even cancer. By using Advantage® Graphene, harmful pollutants wont be ingested, helping foster healthier working practices. Particularly important if spraying, when the VOCs disperse in to the air.

Local Authority Projects

If working on government, school or hospital buildings, a contractor who uses VOC free products will be seen as more favourable and therefore more likely to win Local Authority projects.

Building Use Considerations

If working in a sensitive environment like food process/manufacturing, VOCs from other products can cause an unpleasant odour within the building if windows are open or being sucked in to air vents potentially contaminating produce.

Transportation

When transporting vehicles, any spillage from a product containing high VOCs could be potentially dangerous.

Futureproofing

In an effort to drive down carbon emissions in the industry, it's a good idea to start using VOC free products sooner, rather than later.

Advantage® Graphene is 100% Solids

As the coating is 100% solids it reduces the amount of product required which in turn means fewer tins of product, less wastage and less shipping of products.

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