



# SprayCork Product Manual





# CorkSol SprayCork Product Manual

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Note: This document supersedes all earlier versions of the Thermocork User Manual



## Section A. Product Guide

## **1. Product Description**

CorkSol SprayCork is a sustainable, multi-featured building coating material, suitable for the exterior and interior surfaces of walls above damp proof course level and pitched roofs. It is spray-applied in a seamless thin layer.

The product is manufactured from organic cork granules blended with solvent-free resins, mineral fillers, stabiliser and inorganic additives.

The product's multiple technical features include thermal insulation, acoustic insulation, weather resistance, fire resistance, vapour permeability, durability and elasticity.

The product is available in a large range of colours and can be used as a top coat for decorative purposes. The product is available in two grades: Fine and Extra Fine. Fine grade contains cork granules in the range 0.5-1.0mm. Extra Fine grade contains cork granules in the range 0.1-0.3mm.

The product is available in a range of 28 standard colours which are derived from two base colours – white and natural.

The product is designed to be applied in at least two layers, at an overall minimum applied thickness of 4mm for Fine grade and 3mm for Extra Fine grade.

The product has significant eco-sustainable benefits, primarily due to its major constituent being cork granules. Cork material is the bark of the Mediterranean cork oak tree, and is harvested by hand from these trees. No trees are felled in the process. After each harvest, the process of bark regeneration causes the trees to increase their rate of CO2 absorption. Hence cork production is a carbon-negative activity and highly sustainable. Cork forests also support much highly-skilled, well-paid agricultural work in the Mediterranean basin, they resist desertification and they sustain great bio-diversity beneath their canopy.

The product benefits from a 25 year warranty when correctly applied.

## **2. Manufacture**

CorkSol SprayCork is manufactured by a batch blending process.

The product is manufactured in accordance with a Quality Management and Control process which is certified to BS EN ISO9001:2015.

## **3. Delivery and Storage**

CorkSol SprayCork is supplied in 12Kg recycled plastic tubs, bearing the product name, grade of material, base colour of material, manufacturing batch number and manufacturing date.

Each tub contains two components – dry cork granules and resin. A third component – colour pigment – may also be supplied in the tub.

The product may be delivered as individual tubs or on pallets of 36 tubs.

The product must be used within 24 months of the date of manufacture, as shown on the label on the tub.

The product must be stored in a sealed airtight container, out of direct sunlight.

The product must be stored at all times between the temperatures of 0 and 40 °C.

#### 4. Use

CorkSol SprayCork is suitable for use as a spray-applied coating to exterior and interior surfaces of walls and pitched roofs.

Typical uses include: Exterior makeovers, cracked render repairs, coastal exterior coating, internal mould and condensation control, external or internal wall insulation on traditional solid walled properties, thermal bridge eliminator, acoustic insulation, fire separation, industrial roof repair, asbestos encapsulation, conservatory roof upgrade.

The application of SprayCork increases both the technical function and environmental credentials of many wall types and construction systems.

<b>Suitable Substrates (when prepared in line with the Application Manual)</b>		
<b>Exterior Walls</b>	<b>Interior Walls</b>	<b>Roofs</b>
Sand/cement render	Gypsum plaster	Stone and artificial stone slates
Sand/lime/cement render	Lime plaster	Brick tiles
In-situ or pre-cast concrete	Plasterboard	Steel and aluminium panels
Brick	In-situ or pre-cast concrete	Asbestos cement panels
Stone	Brick	Glass
Asbestos cement panels	Stone	Clear acrylic and polycarbonate sheets
Wood	Wood	
Metal sheets	Artex	

<b>Suitable Substrates (when prepared in line with the Application Manual)</b>		
<b>Exterior Walls</b>	<b>Interior Walls</b>	<b>Roofs</b>
Render board/SIP panels	All substrates above when painted with gloss or emulsion paints	
Pebbledash/Roughcast		
All substrates above when painted with gloss or emulsion paints		

Application to many other substrates may be possible. Please refer to CorkSol UK Ltd directly for advice.

All substrates must be solid, sound, clean, dust-free, grease-free and dry, prior to application. Refer to section B5 below for surface preparation.

The product is not suitable for application to silicone based renders, coatings or fillers.

The product is not suitable for use on exterior horizontal surfaces. Exterior surfaces must be at an angle of more than 4 degrees beyond the horizontal.

When used internally, the product may be skimmed over with gypsum plaster or lime plaster, once dry.

## **5. Application Requirements**

Due to the specialised spray techniques and equipment required for successful application, CorkSol SprayCork should only be applied by CorkSol UK Approved Applicators.

## **6. Durability**

In normal conditions, two to three coats of CorkSol SprayCork at an overall depth of 6mm, properly applied by CorkSol Approved Applicator to the substrates listed in section 4 above will perform satisfactorily externally for 25 years, and will have good colour stability for many years.

In areas of poor air quality the coating may become dirty and, to maintain its appearance, more frequent cleaning may be necessary.

There will be a gradual change in colour which will not be excessive, but the coating will be discoloured by water runs and care should be taken to ensure that normal architectural details for shedding water clear of the building are present and functioning.

The coating may be abraded, particularly at ground floor level, by carelessness in use, e.g. if bicycles or gardening tools are repeatedly leant against it.

## 7. Weather Resistance

The product tends to shed water and will considerably reduce the amount of water penetrating through to the substrate.

## 8. Technical Performance

Feature	Performance Description	Test Data
Sustainability	The major constituent is cork granules. Cork is the bark of the Mediterranean Cork Oak tree. No trees are felled when the cork is harvested. The harvesting of the bark causes the tree to absorb CO <sub>2</sub> at a faster rate as it regenerates its bark. SprayCork contains enough cork to offset 4Kg of CO <sub>2</sub> emissions per square metre applied. In total the world's cork forests absorb 20 million tonnes of CO <sub>2</sub> annually, provide great bio-diversity, resist desertification and provide some of the best paid and skilled agricultural work in Europe.	4Kg of CO <sub>2</sub> emissions offset for each square metre applied (Price Waterhouse Coopers Ecobilan (2008), Portuguese School of Agronomy (2006))
Thermal Performance	The product contributes to improved thermal performance by limiting heat loss through walls and roofs and improving air tightness. The U values achieved will depend on the overall construction. In in-situ tests, when applied to uninsulated solid walls, heat loss is reduced by 30%.	30% heat loss reduction through stone walls (ISO EN9869-1:2014) Thermal conductivity 0.066W/mK (EN12667:2002)
Behaviour in relation to fire	The product's C Class fire rating means that it can be used on the exterior of buildings up to 18 metres high and on the interior of buildings of unlimited height	Walls C-s2, d0 (EN1350-1:2007) Roofs C-roof (I1) (EN13501-5:2005)
Vapour Permeability	The product is vapour permeable to Class 1 enabling traditional buildings which are designed to breathe through their walls to continue to do so after application	Equivalent air layer SD 0.2m - Class 1 (EN1504-2:2005)
Acoustic Performance	The product shows a good acoustic absorption coefficient across a broad range of audio frequencies, and a 38dB overall reduction in sound pressure levels.	38dB reduction in sound pressure levels (EN10534:2001)



Feature	Performance Description	Test Data
Flexibility / Elasticity	The product demonstrates strong performance in resisting cracking on impact or when the building moves or settles due to the product's high degree of elasticity and tensile strength.	Elongation to break 27-38%. Ultimate Tensile Strength 0.19-0.39MPa
Resistance to Condensation and Mould Growth	The product can limit the risk of surface and interstitial condensation, and the formation of mould, due to a combination of its thermal, vapour-open and anti-fungal properties. An assessment of additional ventilation requirement should be made in each case.	Internal wall surface temperature increases by up to 3 °C on when applied to uninsulated solid walls (ISO9869-1:2014 in situ)
Weather Resistance	The product tends to shed water and will considerably reduce the amount of water penetrating through to the substrate when applied externally	
Impact Resistance	The product has adequate resistance to impact damage and strong performance in resistance to cracking on impact	
Resistance to Algal Growth	The product reduces the risk of algal growth due to cork's natural properties and the anti-algal additives contained in the product.	
Resistance to Sea Salts	The product demonstrates long lasting resistance to sea salts in the air due to the natural properties of cork in this regard. Hence the product is suitable for coastal use.	

## 9. Maintenance

CorkSol SprayCork is designed to be a low maintenance product, which is naturally resistant to cracking, to discolouration, to fungal and algal growth and to attack by sea salts.

If the product suffers physical damage through impact, excessive building movement or natural wear and tear, it can be patch repaired. Contact your CorkSol Approved Applicator.

If the product becomes discoloured from whatever cause, then it can be cleaned with a domestic water jet with the nozzle not closer to the surface than 1m. A soft brush can also be used. If the staining cannot be removed by this process then contact your CorkSol Approved Applicator for a patch repair.

Although CorkSol SprayCork demonstrates good colour stability, patch repairs cannot be guaranteed to give an exact colour match.

The product can be re-coated without removing the existing coat. The existing surface should first be cleaned and prepared in line with section B5 below.

## 10. Product Warranty

A product warranty lasting 25 years from the date of installation is available, based on the following terms:

The application is carried out by a CorkSol UK Approved Applicator in accordance with the Application Manual.

The Warranty documentation (available from CorkSol UK Ltd) is fully completed and submitted back to CorkSol UK within four weeks of completion of application.

The warranty does not cover fair wear and tear, physical damage, act of god, significant building movement, application to unsound/unsuitable surfaces.

The warranty provides for the supply of sufficient free materials delivered to a UK address to make good any failed areas.

All externally applied products will suffer from colour fade over time. Although this product demonstrates good colour stability in comparison to many paints and renders, no warranty can be given in this regard.

## 11. Colour Range

The product is available in a range of 28 standard colours.

A bespoke colour mixing service is available subject to minimum order value and extended lead time.

Product colour swatches are held by CorkSol Approved Applicators. Printed colour swatches, showing indicative colour shades, are available on request.

Colour Group	Colour Name	Base Material
Greys	Cloud	White
	Pebble	White
	Haze	White
	Ash	White
	Cobble	White
	Slate	White
	Charcoal	White
	Pitch	White
Neutral	Ice White	White
	Arctic White	White
	Frost	White
	Cotton	White
	Vanilla	White
	Ivory	White
	Oyster	White
	Sand	White
Colourful	Blush	White
	Stone	Natural
	Lemon	White
	Mist	White
	Lavender	White
	Sage	White
	Ochre	Natural
	Sky	White
	Heather	White
	Olive	Natural
	Earth	Natural
	Denim	Natural



## Section B. Application Manual

## 1. General

The product should be applied only by Corksol Approved Applicators. Any other form of application will invalidate the product warranty.

The product should be applied in at least two layers. It is recommended that the product should be applied to a total depth of 4-6mm.

Each coat should be no more than 3mm in depth.

Each 12Kg tub should yield 8-10sqm at 4-6mm finished depth when applied to a smooth substrate.

## 2. Weather Conditions for External Application

The product should only be applied in temperatures between 5 and 40 °C.

Care should be taken to avoid spraying the product during rainfall, or immediately prior to forecast rainfall. During the first 24 hours after application, the product should be protected from heavy rain. Any damage due to rain falling on wet product can be rectified by spraying another coat of product once the rain damaged coat is fully dry.

Care should be taken when spraying in high winds, when it is more difficult to achieve a high quality finish, and the risk of over-spraying unwanted surfaces increases. Any such unwanted overspray should be wiped off with warm water and a soft cloth prior to drying. In the case of dried-on over-spray, UPVC solvent cleaner may be used, following instructions. Unacceptable finish quality can be rectified by spraying another coat of product once the wind affected coat is fully dry.

The product can be applied in direct sunlight.

## 3. Equipment

Successful application of Corksol SprayCork requires a well-maintained compressor, spray gun, hose and hopper, all in line with the specifications below. Regular cleaning and maintenance of all equipment is essential to keep the quality of application high.

**Compressor minimum requirement:** 2.2kW at 240V, air supply 200 litres/minute at 5 bar, maximum pressure 10 bar, speed 1400 rpm.

**Spray Gun minimum requirement:** Professional gravity gun with 5 litre polyethylene hopper, with injected bushes, airflow regulator, nozzle diameter 6mm, working pressure 5 bar. Compressed air hose, 10mm diameter, maximum length 5m, fittings and clamps reinforced with high performance synthetic thread.

**High performance equipment:** Professional cork spray gun without local hopper, with injected bushes, airflow regulator, nozzle diameter 6mm, working pressure 7 bar. High capacity hopper located at compressor for uninterrupted material feed. Compressed air hose, 20mm diameter, maximum length 50m, fittings and clamps reinforced with high performance synthetic thread.

**Cleaning of Equipment:** Spray gun should be thoroughly cleaned at least every hour of use and before any material dries in. Cleaning should be with water and brush. It is recommended that spray guns are disassembled for cleaning.

If product dries in the equipment, cleaning should be by immersion in water with detergent powder for 24 hours, followed by brushing with a stiff brush or scouring pad.

#### **4. Preliminary Work**

A site survey should be conducted prior to commencing any work to assess access for vehicles, material storage and high-level working platforms, and any site specific risks.

Access to electrical power, clean water and drainage should be established before starting work.

The client should be made aware of the features and benefits of the product and the method used for its application.

#### **Masking**

Before commencing spraying, all surrounding surfaces should be masked off to avoid accidental over-spray.

Particular attention should be paid to masking off electrical points and switches, ventilation grilles, alarm sensors etc. Where fittings on the substrate can be easily removed and re-fitted post-application, this should be done.

Masking materials should only be removed when the product is fully dry. Removing masking tapes from wet product can cause fraying of its edges.

Removal of masking tapes should be with a steady, consistent motion to avoid damage to the masked surfaces and to the finished product.

In the case of the product being accidentally over-sprayed onto unwanted surfaces due to failed masking, this should be cleaned off by soap and warm water when the product is still wet. In the case of the overspray being dry a solvent based cleaning product should be used with care on suitable surfaces.

#### **5. Preparation of Substrate**

The substrate to be sprayed should be sound and solid. Any loose substrate must be repaired or reconstituted, and allowed to dry, before application of the product.

The substrate to be sprayed must provide a good mechanical key and not be silicone treated.

The substrate to be sprayed must be thoroughly cleaned, dry and grease-free, with all dust, loose material and organic material removed, before application.

It is recommended that the prepared substrate is treated with a Corksol approved primer coat before application. Please contact Corksol UK for details.

Specific substrate preparation instructions are shown in the table:

Substrate Type	Substrate Condition	Preparation Required
All substrates	Dirty or dusty	Remove with high pressure water jet and brush if required. Allow surface to dry.
	Algae, moss or fungal growth	Remove with commercially available algae remover or fungicide. Allow surface to dry.
	Painted or similar thin top coat	Sand or scrape back to ensure all loose and flaky paint is removed. Treat with Corksol approved primer before application.
Sand cement render	Hairline cracks, less than 2mm wide with sound, solid edges	Confirm cracks remain less than 2mm wide with solid, sound edges along full length after cleaning. If so, the product can be applied directly over such hairline cracks.
	More substantial cracks & any cracks with unsound edges	Knock out to a solid, sound edge. Fill with CorkFiller or similar flexible mortar. Sand back to a smooth, even surface. Allow to dry.
Stone or brick	Loose pointing	Knock out, re-point and allow to dry
Pebbledash	All conditions	Thoroughly check for any unsound areas. If found, knock out and re-constitute. Allow to dry.
Silicone treated substrates	All conditions	Remove silicone treated layer and re-constitute substrate.
Wallpaper	All conditions	Remove wallpaper and sand back to a smooth, even surface.
Sandy or highly water absorbent substrates	All conditions	Use Corksol approved primer.
Low suction substrates	All conditions	Use Corksol approved primer.
Releasing salts, efflorescence or other elements which may reduce adhesion	All conditions	Brush off salts, clean with high pressure water, apply anti-sulphate treatment, allow to dry, apply Corksol approved primer.

## 6. Mixing

### Mixing Equipment:

The following equipment is required for mixing the product.

- 50 litre (or larger) flexible plastic container with no internal ridges or lips
- Electric mixer 1.8kW
- DLX152mm mixing rod
- Trowel
- Scraping knife

### Mixing Step 1:

Pour the dry cork granules into the 50 litre container. Knock out any clumps so that the dry material moves freely and evenly. Ensure all cork granules are used.

### Mixing Step 2:

Pour the resin on top the cork granules in the 50 litre container. Mix the resin and the dry cork together using a 1.8kW electric mixer with a DLX152mm mixing rod running at 500-800 rpm until a homogenous paste is obtained.

The paste must have a fluid consistency (see picture). Add a little clean water if necessary to ensure the paste is fluid, but be aware that the addition of too much water will increase drying times.

### Mixing Step 3 (if colour pigment is required):

Shake the colour pigment container well and pour its contents into the mixture. Add a very small amount of clean water to the empty pigment container, shake well with the lid replaced, so that all pigment residue is removed from the container sides. Pour this residue into the mixture.

Mix mechanically until a homogenous, fluid paste with an even colour is obtained.

Using a trowel, scrape material from the edges of the mixture and from the bottom rim of the container into the main body of the mixture, and mix in. This process ensures that all uncoloured material is eliminated and that the mix consistency is completely even.



## 7. Spray Technique

Before commencing external work, consider the weather conditions. Air temperature must be not lower than 5 °C and not higher than 40 °C. Spraying should not be attempted in rain. Care must be taken when spraying in high winds or when there is a risk of imminent rain.



The product should be spray applied in a minimum of two layers, with proper drying time allowed between each – see section 8 below.

The spray gun should always be held perpendicular to the substrate and at a minimum distance of 350-600mm from it.

The product must strike the substrate flush at 90 degrees to it, to ensure even coverage and a good finish.

The spray action should be a fluid movement, without pauses, and with a consistently steady speed of movement, to ensure a consistent thickness.

Spraying should begin at the highest part of the substrate and work its way in fluid motions down to the lower parts of the substrate.

The spray equipment should be thoroughly cleaned after the application of each layer.

The first layer should be the thickest one. It is recommended that the first layer is at least 2mm but not more than 3mm in depth.

A visual check for the first layer is that the substrate below should be fully covered and should not be visible through the product.

The second and subsequent layers should be of similar, or slightly lesser, thickness to the first layer.

If, after two layers, uneven or glossy areas are visible, these can be removed with a final fading pass.

For the fading pass, the distance of the application gun from the substrate should be increased to at least 800-1000mm, and the gun should be moved in a circular motion at a faster speed than for the earlier layers. The gun must remain perpendicular to the substrate so that the product strikes it at 90 degrees.

The fading pass should continue until the finished visual effect is of a completely even colour and surface texture.

When spraying internally where wind is not an issue and where thermal performance is to be maximised then spray pressure should be turned down to a minimum (4 bar) and distance from the wall should be increased to a full 600mm.

## **8. Drying**

The product can be air dried.

The product must always be touch dry between application of layers.

The indicative drying times given below may be impacted by the type of substrate, the thickness of layer and the grade of product used.

The time needed for air drying will depend on ambient temperature and relative humidity. In warm, dry conditions, the product will be touch dry in 2 hours, and a second coat can be applied 6-8 hours after the first coat. In cooler or more humid conditions, the product may require 12-24 hours to become touch dry.

## **9. Disposal**

Disposal should be in line with Material Safety Data Sheet, available on the Corksol UK website.

## **10. Repairs**

Due to the product not needing a wet edge, patch repairs are possible. Any damage caused by rain or wash offs can be touched up with an overspray.

If a waste pipe has been drilled in the wrong area, fill the hole with relevant base material, tape around the patch and spray the patch to the relevant depth level, remove tape and fade softly around the area for 1 sqm. Please note, the original colour will fade over time so an exact colour match cannot be guaranteed.

Patch repairs can also be applied to any small indentations caused by accidental damage. This can be done by applying new cork with a sponge without the need for an overspray.

## **11. Health and Safety**

A Material Safety Data Sheet (MSDS) is available on request from Corksol.

A full risk assessment and method statement (RAMS) should be produced before project start.

The wearing of Personal Protective Equipment (mask, goggles, gloves) is recommended during spray application.

When applying the product on or around asbestos material, specific health and safety regulations apply. Please consult the Health and Safety Executive (HSE).

Applying the product will often require working at height and the use of high level access equipment. Consult the Health and Safety Executive (HSE) for recommended working practices and ensure all operators are suitably trained.

If the product gets in the eyes or on the skin, wash thoroughly with water and seek medical advice.

The product is not hazardous and has no hazardous ingredients.





**cork sol.**  
Sprayed Cork Coatings



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