

# PROTEC EVOLVE SYSTEM SINGLE-PLY MEMBRANE OVERLAY

## (WATERPROOFING SYSTEM ONLY)

OUTLINE SPECIFICATION / NBS CLAUSES

Ref: PP10106  
Version: 3.1



**POLYROOF**  
ADVANCED LIQUID ROOFING

Part of  
**Roberts  
Group**

# PROTEC EVOLVE SYSTEM TO SINGLE PLY (OVERLAY) GUIDANCE DOCUMENT

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This document is a guide to assist in the production of tender documents. It is the responsibility of the client to add and delete clauses as relevant to the contract. Nothing in this proposal or any other literature produced by or on behalf of Polyroof Products Ltd is to be regarded as constituting a contract binding in law between Polyroof Products Ltd and any customer. The only contract which Polyroof will enter into is that contained in the Polyroof guarantee which takes effect only when issued in writing by Polyroof to the customer. Specimen guarantees are available on request.

## 1 Introduction

The following outline specification is based on application of the advanced Protec Evolve System to single-ply. Please note that this outline specification is based on preliminary discussions only. We welcome the opportunity to discuss your project further to finalize a proposal that is tailored to your exact requirements.

Further useful information in relation to the Protec Evolve System is available from the following website links:

- Literature and third-party accreditations:  
<https://polyroof.co.uk/products/protec-evolve/>
- Guarantees: <http://polyroof.co.uk/about/polyroof-guarantees/>

## 2 Specification Summary

### 2.1 Overview

The following outline specification is for a new waterproofing system only. No improvements to thermal performance will be made and any existing condensation problems will remain. Options on thermal upgrades are of course available on request.

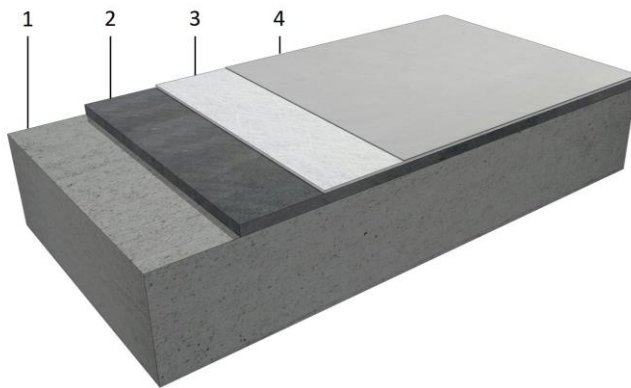
#### 2.1.1 Existing Construction

1. Existing roof build-up
2. Single-ply membrane\*

\*Due to the large number of types of single-ply membranes in existence, it is essential to carry out adhesion tests to determine suitability for coating before proceeding with the application of the new waterproofing system. Please consult Polyroof Products Technical Department on +44 (0) 800 801890.

NB: Core samples will be required prior to the commencement of any works to determine the exact construction and its condition and to confirm that the roof design complies with current building regulations standards.

#### 2.1.2 Proposed Construction



1. Existing roof build-up
2. Existing Single Ply Membrane – made good as required\*
3. 1<sup>st</sup> Coat Protec Evolve Resin (Cirrus Light Grey) and Polymat 450 reinforcement
4. 2<sup>nd</sup> Coat Protec Evolve Resin (Cirrus Light Grey or Nimbus Dark Grey)

\*Adhesion tests are required to determine suitability for coating before proceeding with the application of the new waterproofing system. Please consult Polyroof Products Technical Department on +44 (0) 800 801890.

## 2.2 Preparation

### 2.2.1 Falls & Drainage

This specification utilises existing falls and any problems of standing water will remain. While standing water is not detrimental to the Protec Evolve System it could be hazardous to foot traffic in icy conditions. Options for improving the existing falls are available upon request from Polyroof Technical Services.

No provision to improve drainage has been made within this specification. It has been assumed that current drainage capacity is adequate.

### 2.2.2 Inspection/Removal

The existing build up is to be inspected for defects, made good where required and retained.

For any wet or saturated insulation or decking careful consideration should be given to a complete strip or the installation of permanent roof ventilation. Areas where the insulation or underlying substrate has collapsed or is defective or decayed, should be cut out, repaired, and reinstated on a like-for-like basis to provide a good solid base for the coating system.

Any lightning conductors are to be temporarily lifted prior to commencing works and then reinstalled upon completion by competent personnel. IMPORTANT: Lightning conductors must not be fixed directly through the new waterproofing membrane.

### 2.2.3 Surface Preparation

Due to the large number of types of single-ply membranes in existence, it is essential to carry out adhesion tests to determine suitability for coating before proceeding with the application of the new waterproofing system. Please consult Polyroof Products Technical Department on +44 (0) 800 801890.

Special attention should be given to any solar reflective coatings (especially aluminium pigmented). Adhesion tests will be required to determine if full or partial removal of the paint will be required. Please consult Polyroof Products Technical Department on +44 (0) 800 801 890.

All surfaces to be coated (including any coatings, repairs or test areas) are to be inspected and made good where required to provide a sound substrate for the new waterproofing system.

Wet or saturated substrates should be thoroughly dried out before any products are applied.

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Thoroughly clean down all areas to be treated, removing dirt, debris, surface lying water, mould growth and moss, etc.

Treat any areas of fungal growth or moss with Polykill W Anti-Fungal Wash to ensure all spores are destroyed. Powerwash to remove residues.

Any areas of loose or dis-bonded single-ply membrane should be suitably re-fixed prior to coating. Any localised damage should be repaired or made good as appropriate.

Thoroughly clean all surfaces with Acetone prior to application of the main system.

NB: For preparation of any other surfaces please refer to the Protec Evolve Manual issued by Polyroof Products Limited.

## 2.3 Protec Evolve Application

### 2.3.1 Overview

Protec Evolve is a flexible, cold liquid applied, seamless polyester methacrylate waterproofing system which is ideally suited for long term waterproofing of flat roofs. The system has low-odour making it the ideal waterproofing system for sensitive areas such as the refurbishment of schools and hospitals. The system should be applied in accordance with the current application manual issued by Polyroof Products Limited.

### 2.3.2 Approved Contractors

Protec Evolve should only be applied by contractors in possession of a current approval certificate. The contractor must provide an approved applicator to supervise the Protec Evolve work and the approved applicator must remain on the site until the works are complete. Confirmation of approval can be sought by calling Polyroof Products Ltd Technical Services on +44 (0) 800 801 890. A final inspection shall be carried out by a Polyroof technician prior to a guarantee being issued.

### 2.3.3 Weather Considerations

The system should not be applied if the air temperature is outside the range of 2degC - 30degC (NB: The system can be installed down as low as 2degC deck temperature with the addition of Product Accelerators). The system must not be applied in damp or cold conditions which could cause surface condensation; during frost or if there is a risk of rain.

### 2.3.4 Pigment Colour

Protec Evolve is a 2-coat application. The product is pre-pigmented and is available in Cirrus Light Grey and Nimbus Dark Grey. The recommended colour for the first coat is Cirrus Light Grey for optimum application performance. The system may be finished using either Cirrus Light Grey or Nimbus Dark Grey as the second coat.

### 2.3.5 Primer Coat (Subject to Adhesion Tests)

Due to the large number of types of single-ply membranes in existence, it is essential to carry out adhesion tests to determine suitability for coating and correct primer type before proceeding with the application of the new waterproofing system. Please consult Polyroof Products Technical Department on +44 (0) 800 801890.

NB: For priming of any other surfaces please refer to the Protec Manual issued by Polyroof Products Limited.

## 2.3.6 Detailing

**Pre-formed Polyroof GRP Trims (Optional):** Pre-formed Polyroof GRP trims must be mechanically fixed on the horizontal fixing arm to a suitable structure at 150mm maximum centres using approved fixings. In addition, drip or upstand trims with a face depth equal to or greater than 150mm must be mechanically fixed to the trim support batten at 300mm maximum centres using 18mm galvanized clout nails (large headed). All angles shall be mitred and all joints should be reinforced with Protec Evolve Resin and 2 layers of 75mm wide Polymat 450. Allow to cure.

Important Notes:

- For drip or upstand trims additional support must be provided in the form of trim support battens and butt straps at the trim joints.
- On exposed sites all trims must be face fixed regardless of size.

**Other Details:** To any other details requiring local reinforcement apply Protec Evolve Resin and 75mm wide Polymat 450. Allow to cure. NB: Apply 25mm dis-bondment tape to any cracks or joints subject to movement prior to application of local reinforcement.

## 2.3.7 First Coat Application

Apply 1<sup>st</sup> coat of Protec Evolve Resin (Cirrus Light Grey) and Polymat 450 at a minimum coverage rate of 1.3 - 1.5Litres/m<sup>2</sup> (0.66 - 0.77m<sup>2</sup>/Litre). Allow to cure.

NB: Please note that all coverage rates are indicative only and it is the contractors' responsibility to ascertain the exact coverage rates on site.

## 2.3.8 Second Coat Application

Apply 2<sup>nd</sup> coat of Protec Evolve Resin (Cirrus Light Grey or Nimbus Dark Grey) at a minimum coverage rate of 0.5Litres/m<sup>2</sup> (2.0m<sup>2</sup>/Litre). Allow to cure.

## 2.3.9 Anti-Slip Finish (Optional)

Protec Evolve is designed to accept pedestrian foot traffic associated with normal maintenance operations; however, optional anti-slip finishes are available. Specifications are available upon request from Polyroof Products Ltd Technical Services.

## 2.3.10 Inspection

On completion of each coat check for pinholes / misses and rectify.

## 2.3.11 Protection of Finished Membrane

In the event of other trades working on or adjacent to the roof area, the client must make adequate provision to prevent damage to the roofing system, by other trades. Site specifics should be discussed with the Approved Contractor.



### **2.3.12 Additional Items**

Should the client wish to install additional items such as paving slabs or timber decking, please consult Polyroof Products Ltd Technical Services prior to the commencement of any project.

Prior to the installation of additional items, the contractor should ensure that Polyroof Technical Services are contacted and given the opportunity to inspect the membrane before it is covered. Please note that should an inspection of the Protec Evolve System ever be required in the future it would be the client's responsibility to remove the additional items back to the membrane.

## 2.4 Roof Details

Please note site investigation may be required to identify all roof details and to determine the required action to ensure they are left in a fully watertight condition. A range of CAD details are available for download from: <http://polyroof.co.uk/products/protac-system/>

Detailing Notes:

- All redundant roof details are to be removed prior to the commencement of works. The roof area underneath is to be made good as required, ensuring that it matches the build-up of the surrounding roof area.
- Roof termination details should have a minimum 150mm upstand height above the finished surface of the roof and should be terminated into a chase or have a suitable cover flashing or weathering flange. Any details where this cannot be achieved will require periodic inspection and maintenance.
- Care should be taken to ensure all roof details are fully prepared and primed in accordance with the Protec Evolve Manual.

## 3 NBS Clauses (Uniclass)

The following are indicative only and should be read in conjunction with the outline specification in Section 2. For a details NBS Specification, please contact Polyroof Technical Servicers on +44 (0) 800 801 890

Ss\_30\_40\_30\_40

### Liquid-applied cold roof covering systems

#### Systems

#### Ss\_30\_40\_30\_40 Liquid-applied cold roof covering systems

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1. Description: Protec Evolve to Single Ply (Overlay)
2. System manufacturer: **Polyroof Products Ltd**
3. Contact details
  - 3.1. Address: Furness House  
Castle Park Industrial Estate  
Flint  
Flintshire  
United Kingdom  
CH6 5XA
  - 3.2. Telephone: **+44 (0)1352 735135**
  - 3.3. Web: [www.polyroof.co.uk](http://www.polyroof.co.uk)
  - 3.4. Email: [technical@polyroof.co.uk](mailto:technical@polyroof.co.uk)
4. Product reference: **Protec Evolve Overlay Roof Systems (Single Ply Overlay)**
5. Preparation
  - 5.1. Horizontal work: Please consult Polyroof for guidance and insert requirements
  - 5.2. Skirtings and vertical work: Please consult Polyroof for guidance and insert requirements
6. Liquid-applied waterproofing
  - 6.1. Type: Low odour cold liquid-applied Protec Evolve resin with catalyst (two coats).  
Protec Evolve first coat application: 1.3 - 1.5 Litres/m<sup>2</sup>. Protec Evolve second coat application: 0.5 Litres/m<sup>2</sup>.
  - 6.2. Reinforcement: Polymat 450 (first coat).
  - 6.3. Surface protection (Optional): Paving (with pedestals). Decking (with pedestals). Polyroof Anti-slip.
7. System accessories (Optional): Polyroof pre-formed GRP trims. Polyroof pre-formed internal outlets. Polyroof pre-formed through wall outlets. Structural repair mortar. Polyroof high-density PIR. Rockwool Hardrock Multi-Fix recovery board. Protec Matrix - detailing system. Polyroof PR rooflights. Polyroof fixing plates for PV cells. Polyroof fixing plates for balustrades systems. Polyroof fall arrest systems.
8. Colour: Cirrus Light Grey. Nimbus Dark Grey.
9. Fire performance: Achieves Broof T4 classification in accordance with BBA certificate 09/4676.
10. Cure time: 30–60 minutes.
11. Application temperature: 2–30°C. Product Accelerators must be used between 2-7°C deck temperature.

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12. **Substrate:** Existing Build-up and waterproofing made good. Single Ply primed with SP Primer 202 (subject to adhesion tests).
13. **Fall:** Utilise the falls of the existing roof.
14. **Certification:** BBA certificate number 09/4676.
15. **Slip resistance:** Tested to BS 7976-2.
16. **Installation:** Installation by Polyroof-approved contractors.

## 4 Health & Safety

### 4.1 Personal Protective Equipment (PPE)

Should be worn at all times. Refer to Material Safety Data Sheets for advice.

In addition to PPE, barrier cream and hand cleaner may be used for secondary protection and cleaning of exposed areas of skin.

### 4.2 Material Safety Data Sheets (MSDS)

It is your responsibility to ensure that all relevant MSDS documents are on site at all times. MSDS documents are provided with your first order; additional copies of these sheets are available on request from Polyroof Technical Services. You can download the current versions from the Polyroof Approved Contractor Zone.

### 4.3 Risk Assessments / Method Statements

It is the responsibility of the contractor to ensure that adequate risk assessments (including COSHH assessments) and method statements are carried out prior to commencement of works.

### 4.4 VOC / Odour Control

Most products contain volatile components, such as solvents; these components evaporate from the system during and post application. Some of the volatiles within certain products have a strong odour and others such as within our Protec Evolve system have a low odour. Some volatiles require hazard control measures and these are stated on the MSDS sheets. Some hazardous VOCs (Volatile Organic Content) are assigned a 'Workplace Exposure Limit' (WEL): the legal maximum concentration in the air that an individual may be exposed to within a prescribed period of time. Some of these hazardous materials have also been assigned a 'Derived No Effect Level' (DNEL). Historic tests carried out on typical flat roofs indicate that neither the operatives fitting the system nor people within or in the vicinity of the building to which the system is applied, will be exposed to concentrations in excess of the WELs, the actual concentrations will be significantly lower.

It should be borne in mind that, whilst some of these VOCs have a strong odour and can be detected at low concentrations, the fact that they can be smelt does not mean individuals are exposed to hazardous levels.

The contractor carrying out the work is obliged to carry out a risk assessment and ensure sensible precautions are taken, such precautions would include checking the isolation of air intakes to the building and ensuring the avoidance of working within confined spaces: both could otherwise increase the exposure levels beyond those of our testing. It should also be noted that a low odour product such as Protec Evolve has a lower level of malodorous VOC's and this does not eliminate the need for a risk assessment.

To assure the occupants of the building, who may be concerned about an unfamiliar smell, warn them of the likelihood before work commences.

#### **4.5 VOC Measuring**

In sensitive areas it is usually possible to monitor the atmosphere for levels of VOC's, and potentially hazardous fumes by using specialist testing equipment. With most products portable site testing equipment may be used that will give an immediate indication of the concentration of specific solvents in the atmosphere. This can show that the appropriate WEL or DNEL, is not being exceeded. In rare circumstances the services of specialist industrial hygiene companies may be required.

The contractor's risk and COSHH assessments should identify if there is a need for atmospheric monitoring.

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