

# MAINTENANCE MANUAL AND INSPECTION OF SWISSPOR WATERPROOFING SYSTEMS

(Polymer modified bitumen membranes and relative waterproofing systems)

## Table of content

A.	INTRODUCTION.....	2
B.	ACCESS TO THE ROOF.....	2
C.	DIRECTIVES FOR THE PROCEDURE OF INSPECTION.....	3
C.1	Timing.....	3
C.2	Inspection procedures .....	3
C.3	Maintenance guidelines for the inspection:.....	4
C.4	Record of the inspection: .....	4

---

## A. INTRODUCTION

---

The materials deteriorate over time as a result of stress and environmental factors, such as temperature, the harmful effects of freeze/thaw cycles, snow, hail, etc.

Consequently, in order to maintain their watertight properties, roofs need to be periodically checked by an expert (at least a certified roofing professional) that, after a careful inspection that follows some specific standards, assess the status of the roof and, if necessary, suggest the corrective operations necessary to ensure that the waterproofing system maintains its properties in the long term.

Aim of this brief manual is to give a general guidance to help you use and maintain correctly the swisspor modified bitumen membranes and the roofing systems that they are part of. This document can be used as a guideline for preparing a comprehensive and specific inspection and maintenance schedule to be done by an expert.

The roofing inspection, in some countries, follows some specific standards/rules that are specifically defined by some codes of practice. In some others are instead based on the common practice, the technique in force and the state of the art.

In the particular case of the UK, the standards governing the roof inspection, are defined by the following documents:

BS 6229 : 2003 "Flat roofs with continuously supported coverings". Code of Practice

BS 8217 : 2005 "Reinforced bitumen membranes for roofing". Code of Practice

---

## B. ACCESS TO THE ROOF

---

The access to the roof must be granted only to authorized personnel that have previously received a suitable training and who have been warned about the hazards and risks that can be encountered on the roof. The roof must always be accessed in full safety, in compliance with the accident-prevention regulations enforced in the country.

To avoid falls from heights, suitable collective protective equipment must be provided (parapets, scaffolding, etc.) and/or, as an alternative, personal protective equipment (anchor points, life lines, safety harnesses, etc.) must be used. All personnel accessing the roof must be equipped with personal protection equipment that are necessary for the task.

---

## C. DIRECTIVES FOR THE PROCEDURE OF INSPECTION

---

### C.1 Timing

A flat roof inspection shall be performed at least every six months and preferably in spring and autumn. During the spring inspection the attention shall concentrate on the detection of winter related roof damage. The autumn inspection shall be bound to ensure that roof is clear from any potential dirt or debris that could alter the correct functioning of the waterproofing system before the approach of winter.

A special inspection should also be carried out if one or more of the following situations has occurred:

- New equipment installed on the roof such roof lights, antennas, etc.
- Unusual weather conditions, such as very high winds, heavy snow and earthquakes;
- Following fire, vandalism or other known damage to an adjacent roof area.
- Recent construction on or adjacent to the roof;

**WARNING:** The positive result of an inspection could be the essential condition for the implementation or the prolongation of an existing guarantee of the roofing elements. It is therefore advisable reading carefully the guarantee conditions in order to determine when and by whom this inspection shall be done.

### C.2 Inspection procedures

Inspections should include building interiors, external details, components and rainwater goods.

The starting point of an inspection should be the interior of the building. Internal walls and ceilings should be checked for leaks, and signs of water staining. A floor plan, relating to the roof plan, should be developed to identify roof level problems.

The exterior walls, rainwater goods, eaves and soffits should also be included in the inspection routine, and signs of movement and cracks should be noted.

The roof should then be inspected, by checking the following roof components:

- cap flashings: metal or other rigid or semi-rigid coverings of membrane terminations, including counter flashings, expansion joint covers and copings;
- edge details: metal or other rigid or semi-rigid components used to terminate, waterproof and provide wind uplift protection at the perimeter of the roofing system;
- membrane flashings: roof membrane termination at walls, water checks, kerbs and gutters;
- penetrations and protrusions: pipes, drains, rooflights and all other items that penetrate the roofing membranes;
- main waterproofing: the main membrane roofing system.

### C.3 Maintenance guidelines for the inspection:

- Remove from the roof the debris that could have been accumulated there (e.g. leaves, paper, nails, bottles, cans, boards, bricks, etc.).
- In order to significantly reduce leaves continually blocking drainage ways make sure that there is a least 1.0 meter clearance outside the roof edge. In case of necessity, cut the tree limbs that overhang the roof to guarantee such clearance.
- Clean roof drains, gutters and gullies from all the materials that can obstruct them and make sure that the water flows freely from the roof. Within 48 hours after the last rainfall no standing water should remain on the roof surface
- Examine that all the metal areas are not rusty or damaged and repair or remove the roof mounted equipment that has fallen into disuse or become redundant since these can be a potential damage to the roof membranes. In particular, examine the roof equipment, such as; air conditioning units, condensers, exhaust fans, antennas and other articles. Check potential oil leaks from equipment, damaged flashing or spare parts. All units must be checked to ensure they are strong, watertight and will not be moved by wind. Ventilation of the roof spaces, if any, and of the building or rooms under the roof should also be checked.
- Ensure that the slate flakes or granules and other materials designed to protect the roof membranes from the degradation of the UV rays are in place and evenly cover the surface of the membranes (the loss of mineral granule from the upper surface of the membranes is typical and not a manufacturing defect). Redistribute the flakes or the granules on the surfaces where these have displaced by the action of wind or water flow. Re-coating is an integral part of the maintenance schedule of any roof system that employs a surface coating material.
- Check the building for movement or excessive settlement. Misplacement or omission, or the need for expansion joints could cause splits or stress in the roof system / coating, greatly reducing the life cycle of the system.
- Ensure flashings to all supporting plinths and cradles of ductwork are checked and maintained in good condition. They should not be penetrating the membranes or restricting drainage.
- Ensure sealants and/or mastics at counter flashings, termination strips and other locations are in good condition and effective.
- Check and ensure that the pointing to chases at the top of skirtings is sound, i.e. not loose, missing or badly cracked.
- Corrective measures should be taken to improve ventilation or the roof construction in cases of excessive condensation.

### C.4 Record of the inspection:

A record of the inspection including the data and the check list indicated further in this document (vide Annex A) and the observations of the occupants of the building in relation of the status of the roof shall be kept. It is advisable that the inspection is performed by a professional and, in this case, it shall be completed with his observations on the status of the roof and, if the case, of the corrective operations that are necessary to perform to ensure that the waterproofing system maintains unaltered its waterproofing properties.