

No.26.2 Non Granulated Membranes

Temporary Exposure of Non-Granulated Reinforced Bitumen Membranes

Non-granulated reinforced bitumen membranes incorporating polyethylene film, Termotene film or sanded finishes are designed to form part of a complete waterproofing system and should not be regarded as permanently exposed weathering surfaces.

Following installation, these membranes should be covered by the specified insulation, ballast, paving, green roof build-up or other designed finish within Moy's recommended exposure period. Although the membrane will remain weatherproof during construction, prolonged exposure to ultraviolet (UV) radiation and elevated temperatures will accelerate the natural ageing of the exposed bituminous surface.

Moy's published exposure period should therefore be regarded as the **maximum permissible exposure under normal climatic conditions**, rather than the intended construction programme.

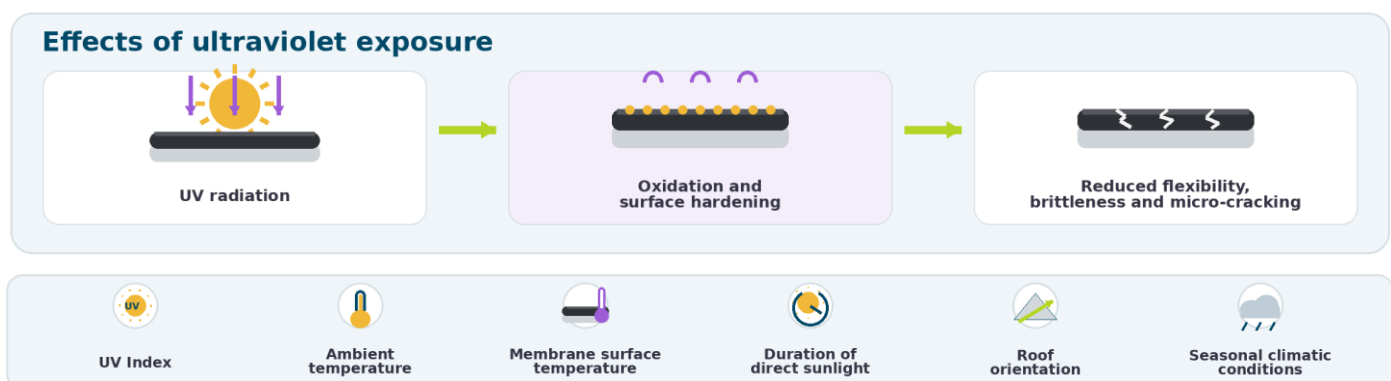
Effects of Ultraviolet Radiation

Ultraviolet radiation initiates oxidation of the exposed bituminous compound from the moment the membrane is installed. Continued exposure gradually alters the physical properties of the membrane by reducing flexibility and increasing surface hardness.

Prolonged UV exposure may contribute to:

- Surface oxidation and weathering.
- Loss of flexibility.
- Increased brittleness.
- Surface crazing and micro-cracking.
- Reduced resistance to thermal movement.
- Premature ageing of the waterproofing system.

Although deterioration may not initially be visible, the effects are cumulative and cannot be reversed.



Influence of Weather Conditions

The rate of membrane ageing is governed by environmental conditions and should not be assessed solely by the number of days the membrane remains exposed.

Several factors influence the rate of deterioration, including:

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- UV Index.
- Ambient temperature.
- Membrane surface temperature.
- Duration of direct sunlight.
- Roof orientation.
- Seasonal climatic conditions.

Periods of cool, overcast weather will typically result in slower degradation than prolonged periods of clear skies and high solar radiation.

Elevated Risk During Hot Weather

Particular consideration must be given during periods of prolonged sunshine and elevated temperatures.

Dark-coloured bituminous membranes readily absorb solar radiation and can reach surface temperatures significantly higher than the recorded ambient air temperature.

The combination of elevated membrane temperatures and increased UV intensity accelerates oxidation of the exposed bitumen and can substantially reduce the effective temporary exposure period.

With increasingly frequent periods of high summer temperatures being experienced throughout the UK and Ireland, construction programmes should not rely upon the maximum published exposure period where prolonged hot or sunny weather is forecast.

Completed waterproofing areas should be protected or covered at the earliest practical opportunity.

Construction Planning

Installation should be programmed to minimise the duration that completed waterproofing remains exposed.

Waterproofing works should not proceed significantly ahead of follow-on trades where avoidable, and delays caused by programme changes or site logistics should not result in prolonged exposure of completed membrane areas.

Where abnormal weather conditions occur during construction, exposure periods should be reviewed accordingly.

Inspection Prior to Covering

Where membranes have remained exposed for an extended period, a visual inspection should be completed before installation of subsequent roof build-up components.

Inspection should confirm that the membrane remains free from:

- Mechanical damage.
- Contamination.
- Excessive surface weathering.
- Deterioration to laps or detailing.

Should there be any uncertainty regarding the condition of the waterproofing membrane following extended exposure, Moy's Technical

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Department should be consulted before further works proceed.

Moy's Position

Non-granulated reinforced bitumen membranes are supplied on the basis that they will form part of a completed waterproofing system and are not intended to provide a permanently exposed waterproofing finish.

Exposure beyond Moy's recommended duration, particularly during periods of elevated UV radiation or sustained high temperatures, may adversely affect membrane performance and could influence the applicability of any associated system warranty where installation guidance has not been followed.

Summary

To maximise the long-term performance of the waterproofing system:

- Non granulated bitumen membranes including AVCL's, Base Layers and Cap Sheets should be exposed no longer than 4 weeks.
- Lexshield can be exposed to UV rays for up to 10 weeks.
- Avoid unnecessary delays between waterproofing and completion of the roof build-up.
- Exercise additional caution during periods of elevated UV levels and high temperatures.
- Inspect membranes where exposure has been extended.

Seek technical advice where recommended exposure periods are likely to be exceeded.

Temporary exposure periods

Maximum periods under normal climatic conditions

Non granulated bitumen membranes

including AVCL's, Base Layers and Cap Sheets

No longer than 4 weeks

Lexshield

Up to 10 weeks



Exercise additional caution during periods of elevated UV levels and high temperatures.