

CANADIAN TECHNICAL BULLETIN 005

TARGET MARKET ROOFING

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Subject : Sika Sarnafil Roof Maintenance Guide

Implementing a Roof Maintenance Program

Ease of maintenance is one of the hallmarks of single-ply roofing systems.

Many published reference guides now make it even easier for a building owner to institute a semi-annual maintenance program to protect their roofing investment.

When a Sika Sarnafil warranty is supplied our warranty requires periodic maintenance inspections and provisions.

Warranties can be voided by the lack of regularly scheduled roof inspections and maintenance.

Periodic preventive maintenance can prevent small issues from becoming disruptive and expensive. Proper repairs to a roof system can prolong the roof's service life and enhance the value of the original investment made in it.

Several roofing contractors have set up roof maintenance and/or roof management programs to handle these concerns in an ongoing, professional way, freeing facility managers to concentrate on other areas.

Please note, if using a contractor for inspections, make sure they are an authorized Sika Sarnafil applicator and in most cases should be the original installer.

Regardless of who does it, regular inspections of the roof system should be made in both the fall and the spring; special inspections should also be made when extraordinary events occur, such as extreme storms or the installation of new rooftop equipment.

Basic roof inspection procedures

Prior to commencing the roof inspection, a detailed roof plan on which all defects or notes can be marked should be prepared.

If the inspection indicates that more than minor work is required, an inspection checklist is necessary to ensure thoroughness.

Begin the inspection by looking at the underside of the deck, if accessible, and at the outside of the building.



Look for cracks, stains, rusting, watermarks, efflorescence, wet spots, spalled mortar etc. or other signs of excessive moisture or deterioration. The observations may give clues to not only roofing problems but also other conditions affecting the performance of the building envelope.

The final and most important part is inspecting the roof itself. The keys to a competent roof inspection are thoroughness and attention to detail.

Caution! Sika Sarnafil Roof Membranes are slippery when wet or frost is present. Care must be taken when walking on roof surface.

The roof itself should then be visually inspected. The following key areas should be checked in this order:

- Cap flashings;
- Edge metal;
- Base flashings;
- Penetrations;
- Field of the roof;
- Ballast;
- Roof adhesives; and Surface coatings, if present.

Cap flashings, which are metal or other rigid covers at membrane terminations, should be inspected for:

- loose areas of attachment or loose or missing fasteners;
- loose or displaced sections of metal;
- deformed metal that could collect water and funnel it through an end joint;
- corrosion;
- missing or loose joint covers; and
- sealants showing signs of cracking, weather and/or aging.

Edge metal, installed at the edge of a roofing system to terminate the roof and provide waterproof flashing, should be checked for:

- loose areas of attachment or loose or missing fasteners;
- loose or missing stripped-in flashing;
- splits in the stripping at metal flashing joints;
- corroded metal;
- missing or displaced metal sections or joint covers;
- open joints and sealants displaying signs of cracking or weathering or aging.

Base flashings, which are roof membrane terminations at walls and curbs, should then be looked at. Watch for:

- a secure and sealed top termination;
- continuous adhesion of base flashing to substrate, with no loose membrane or extensive bridging;
- a covered top seal of the membrane base flashing;
- closed seams at the bottom of the base flashing at its attachment to the field membrane;
- sealed seams at vertical laps;
- sealants in good condition, without signs of cracking, weathering or aging; and
- base flashing material without signs of deterioration or building movements.

Penetrations are pipes, drains and other items that are inserted through the roof membrane. They must be flashed properly to assure a watertight roof. An inspector should examine the following:

- the drain clamping ring and drain strainer to ensure proper securement for a watertight seal at the membrane-to-drain interface;
- thorough adhesion of sealant inside pitch pockets and membrane adhesion around the outside of pitch pockets;
- pitch pockets containing adequate fill material to prevent water from collecting;
- pipe boot flanges sealed tightly to the roof membrane; and



- a tight seal and termination around pipe(s) at the top of pipe boots.

In the field of the roof, be sure that:

- No fasteners protrude against the membrane, causing a "tenting" effect; or that there are no visibly loose fastening points;
- the membrane contains no worn spots, deteriorated areas, or holes in the membrane;
- insulation panels are in their original positions; no buckling or warping,
- there are no changes in insulation or substrate firmness when the roof is walked on;
- adequate drainage is present; and
- around rooftop equipment, no areas have been degraded by equipment leaks or spills, or have been punctured by dropped tools or equipment parts from workers maintaining roof mounted equipment.

In ballasted systems, it is important to note:

The removal of ballast or concrete pavers to inspect the membrane is not part of a routine inspection. Ballast, if present, should be continuously redistributed, although occasional small bare spots, approximately the size of a person's foot, are generally acceptable. Use a push broom as necessary to cover the membrane and prevent uneven loading.

DO'S AND DON'TS OF ROOF MAINTENANCE

DO's:

- Do be aware that wise maintenance will prolong the life of any roof — even the best of them.
- Do perform inspections at least twice a year, preferably at the end of Winter and right after Summer, when roofs have passed through the periods of severest stress.
- Do conduct additional inspections immediately after unusual occurrences such as extremely heavy rains, high winds, hail, nearby fires, explosions, etc.
- Do check the building exterior for settlement or movement. Cracks in the wall are a warning of possible cracks in the roofing and flashing. Are overhangs, cornices, fascias and edging in good condition? Are gutters and downspouts



satisfactory? Breaks in roof edge elements can cause leaks and let wind get under the roofing membrane and cause blow-offs. Damaged or clogged gutters, roof drains, and downspouts can cause water back up on the roof.

- Do be certain that equipment servicemen going on the roof are warned against penetrating or dropping tools on the roof. They should be accompanied by your trained maintenance man to ensure no damage to the roof assembly occurs.
- Do assure that your roof is kept clean and free from debris.
- Do be advised that flashings, pitch pockets, gravel stops and all other roof penetrations are the source of most leaks. Pay extreme and careful attention to these items.

DON'TS:

- Don't allow unqualified personnel to maintain your roofs.
- Don't allow traffic on your roof unless accompanied by your informed maintenance man.
- Don't allow equipment servicemen to penetrate your roof without being certain that qualified personnel flash the penetrations. Sika Sarnafil should be notified prior to cutting the roof or altering it in any manner.
- Don't allow metal shovels or chopping devices to be used to remove snow and ice from roof areas. Salt can be used around the drains, gutters and or equipment to melt snow and ice.

The inspector should also pick up debris like paper, bottles, broken glass, tree limbs and vegetation and dispose of it properly. Likewise, he should also remove obstructions, such as leaves or dirt from roof drains and/or scuppers, ensuring that they flow freely. Clogged drains and/or scuppers can lead to excessive ponding on the roof, which frequently causes leaks or even roof collapse. However, caution should be exercised when clearing debris from drains because significant suction can be created by draining water; it can quickly suck tools into a drain.

If traffic patterns are developing across the roof, the owner should consult Sika Sarnafil to determine how to best protect the roof membrane from traffic. Several different walking pads or systems are available to address this issue.

Roof inspection may uncover the need for repairs in a variety of categories, including spot patches, emergency repairs, general repairs and permanent repairs.

If membrane repairs are needed, they should be performed by a professional roofing contractor specifically authorized by Sika Sarnafil. Not doing so could also void the warranty. And in keeping with typical warranty requirements, the manufacturer of a warranted roof system should be notified promptly about the need for repair(s)



and the procedures to be followed. Sika Sarnafil requires written notification to the warranty department within seven (7) days of discovery of any leak.

All procedures should be documented in order to create an informative history of a roof system's performance.

Checklist: Safeguards for top roof maintenance

- Keep roof clean and free of debris.
- Keep drainage systems clear and functional.
- Train maintenance personnel in the do's and don'ts of single plies.
- Restrict roof access to authorized personnel only.
- Limit penetration of the roof system for later equipment installation.

With all the helpful reference sources out there, maintenance supervisors can find plenty of useful roofing guides to help maximize system value. There's no excuse to let roofs stay "out of sight, out of mind."

Please contact Sika Sarnafil Canada Roofing Technical Department for further information.