



## **American Quality Roofing, Inc. & Manufacturers'** **Maintenance Recommendations:**

### **PREVENTIVE MAINTENANCE PROGRAM:**

#### **Don't neglect your Roof Maintenance just because you have a new roof!**

A preventive maintenance program is simply a program of scheduled inspections and subsequent corrective action. The purpose is to maximize the life expectancy of the roofing system, thus providing maximum protection to building and contents and minimizing overall costs, while protecting your original roof guarantee.

The basic elements of a preventive maintenance program for roofs are:

- Regular visual inspections to determine the current condition of the roof membrane and flashings.
- Immediate repair of any defect before it allows moisture to enter the roof system or building interior.
- Non-destructive moisture detection to determine if moisture has infiltrated into the insulation of the roof system.

A vital part of the condition of the roof system is whether or not the insulation remains dry. A roof may appear to be in excellent condition from the surface, but may have areas of saturated insulation, which severely affect the thermal efficiency of the roof.

(Non-destructive moisture detection of roof systems has developed into a sophisticated technique that can provide accurate analysis of roof insulation condition. Two commonly used systems are nuclear meter and infrared thermography. Both systems require trained skilled operators, specific weather conditions, specific roof types, and professional analysis.) Visual inspection by a trained person is the key to a successful maintenance program.

### **INSPECTION:**

Roofs should be inspected at least twice a year — Spring and Fall — and also after any significant weather or construction or severe weather event.

The inspection should be preceded by the preparation of a detailed roof plan on which all defects or notes can be marked. If the inspection indicates that more than minor work is required, an inspection checklist is necessary to ensure thoroughness. Call your professional roofing contractor to perform the required maintenance work.

√ Begin the inspection by looking at the underside of the deck, if accessible, and also 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 — be prepared to get dirty!

√ Spring inspections permit observation of possible winter damage and allow for maintenance to be scheduled and completed during the best possible weather.

√ Fall inspections can disclose requirements for preventative measures that should be taken in preparation for the oncoming winter.

√ Extra inspections should be made after major storms or after any construction activity that could affect the roofing system.

√ **If you need help: □ CALL A PROFESSIONAL!**

## **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 also 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* recognize that exposure of roof felts (bare spots) on a gravel surfaced roof can lead to quick deterioration. This requires immediate attention by qualified personnel.
- *Do* be advised that flashings, gum pans, gravel stops and all other roof penetrations are the source of most leaks. Pay extreme and careful attention to these items.

### ***CALL A PROFESSIONAL!***

### **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

## **REQUIRED MAINTENANCE ITEMS:**

In order to maintain the validity of a Guarantee, the building owner must properly maintain:

### **Drains, Gutters and Downspouts**

Clear away any debris that may impede their function. In addition, if they are clogged and cannot be readily cleared, get professional help. Make sure that any drain screens installed are still in place and functioning as intended.

### **Gravel Surface or Ballast Erosion**

If the gravel has been eroded in certain areas, the unprotected bitumen coating will start to deteriorate. This erosion is common in corners of the roof that face the prevailing winds. Other causes are foot traffic, forced air discharge from ventilators, ice action, and water spillage from higher roof elevations washing gravel away. The eroded areas should be regravelled as soon as possible.

### **Reglets**

These joints are designed to be the first line of defense against water penetration. Proper caulking should always be maintained in these reglets.

### **Caulking of Metal Flashing**

Caulking of joints in metal flashings such as copings, counter flashing, roof top units, curbs, expansion joints etc., requires regular inspection, cleaning and recaulking, or replacement caulking. Always use a caulking material that you have checked out to be compatible with all components in contact with the caulking.

### **Gum Pans / Pitch Pockets**

A potent source of trouble, these high maintenance items should always be filled and "crowned" with roofing cement or compatible sealant to shed water. Their waterproofing ability depends on keeping them full and free of cracks.

18 26-Jun-2006

### **Plumbing Caps**

Check to make sure plumbing caps on vents are in place. Replace if necessary. Do not just hammer or bend lead stacks. Use the proper cap.

### **Insulation Boards**

In a protected membrane assembly, the insulation and ballast system may be designed to "float" under heavy rainfall conditions. If, under these circumstances, some of the gravel ballast is displaced and the scrim sheet is exposed, ballast can be added or moved to prevent floatation and to provide cover. Cautionary Note: If ballast is added, ensure that the added weight does not compromise the integrity of the roof structure. If there is any doubt at all, contact a structural engineer for a professional opinion.

### **Roof Traffic**

It is important to ensure that maintenance personnel who require access to roof-top equipment do not cause any damage while working on the roof. A roof should never be used as a patio or sun deck unless proper protection has been provided.

In addition, roof-top equipment and protrusions such as ventilators, plumbing stacks, etc., should never be used as anchors to tie down aerials, satellite dishes and the like.

### **Rooftop Alterations**

Always contact your professional roofer to seal and flash any new rooftop equipment or for any other alterations to the roof system. Any unauthorized alterations to the roof could result in voiding your Guarantee. Alterations must be inspected and in accordance with your city building department.

### **Roof Spills**

Your professional roofer should clean any accidental spills of material to the roof system, such as oil-based products, as soon as possible. If there is an on-going potential for this kind of spill, such as around a vent from a kitchen exhaust, call your roofing professional to recommend a long-term solution.

### **Change In Use / Occupancy**

If the use of a building has changed due to a change in owner or tenant, consider its effect on the roof system. For example, an increased humidity condition beyond the limits of the roof system's vapor retardant could allow moisture transmission from within the building's interior into the roof system. This, in turn, could lead to premature problems and the possible failure of the roof system.

## **MANDATORY MAINTENANCE FOR *STEEP ROOFING*:**

- √Do keep drains and gutters clean.
- √Foot traffic on steep roofs should be minimized both for safety reasons and to avoid physical damage.
- √Granule erosion on asphalt shingles will lead to early deterioration of the shingle.
- √Caulking of flashings must be regularly inspected and maintained.
- √Improper ventilation of attic spaces may result in curling and blistering/buckling of asphalt shingles.
- √Install zinc strips to prevent moss build-up. Power washing the roof removes moss and other debris but may erode granules on asphalt shingles, and may also promote premature degradation of cedar roofing.
- √If asphalt shingle tabs are loose, re-tab with a cement recommended by the shingle manufacturer.

## **CEDAR SHAKE & SHINGLE MANDATORY MAINTENANCE:**

√ Ensure ventilation is available, year round. Areas with louvers, ridge vents, roof vents, and soffit vents need to be kept clear and never blocked off. Adequate ventilation ensures heat and moisture do not build up in the attic area. Adequate ventilation also prevents water from accumulating at the bottom of the roof and then freezing (ice damming).

√ Zinc or copper strips nailed at the ridge cap can be effective to control moss. Reaction between rain and the zinc or copper forms a mild solution that is carried down sections of the roof. The optional use of these strips can be eliminated if you are using preservative treated cedar.

√ Overhanging branches should be kept trimmed away from the roof. This will prevent leaves, small branches and other debris from building up and keeping the roof wet.

√ Gutters and downspouts need to be cleaned regularly, usually in the spring and fall. Downspouts (leaders) should run directly to the ground or to another gutter below. Never let a downspout drain directly onto a lower roof surface.

√ Do not allow leaves, branches or other debris to build up on the roof. Both surface areas and keyways (spaces between shakes and shingles) need to be kept clear. Cedar needs to breathe, and therefore needs to be kept clean.

√ High-pressure power washing will cause significant roof damage and is therefore not recommended. Garden hose pressure and a soft bristle brush can easily remove most debris.

√ Topical treatment of installed cedar roofing is not recommended. Many treatment products may damage cedar roofs. Products that make erroneous claims of 10-year effectiveness, provide fire-retardant claims, are a sealant, water-proofer or plasticizer and should not be used on cedar roofing.

## **LOW SLOPE ROOFING MANDATORY MAINTENANCE:**

### **ROOF DRAINS:**

Positive drainage is essential. Keep roof drains and surrounding area clean to avoid clogged drains. Also, check all drain clamping rings for proper attachment.

### **PITCH PANS:**

Keep pitch pans full at all times. Check for shrinkage of filler material and refill when needed. Check for proper attachment and sealing of the entire pitch pan assembly.

### **METAL FLASHINGS:**

Check these areas regularly. Flashings must be properly attached and sealed so they will remain water-tight at all times. Watch out for loose counter flashings, bad chalking, loose copings, and bad joints. Pay close attention to the condition of all, metal, including rust damage caused by wind or other outside sources.

### **ROOF COATINGS: (SURFACING)**

Check all smooth surfaced roof systems for weathering of the surface coating. These systems require periodic surfacing by a professional roofing contractor. frequency will vary depending on climatic changes and environmental conditions, as well as the type of coating being placed (1-2 times a year).

### **PARAPET CONCRETE WALLS:**

Check walls and copings to keep them watertight. Repair bad mortar joints, caulking, tile or stone copings, etc. This type of deterioration can appear to be a roof leak.

## **OTHER ROOF EQUIPMENT**

Check and maintain all A/C units, ventilators, grease traps, skylights, and other equipment. Make sure they are not discharging any fluids onto the membrane or causing roof leaks due to improper performance.

## **GENERAL APPEARANCE:**

Keep your roof clean and free from all debris including bottles, cans, leaves, braches, rocks, dirt, old machinery, leftover construction materials, grease oil, etc. which can become a projectile in a hurricane force wind.

## **WHY CHOOSE A PROFESSIONAL ROOFING CONTRACTOR ?**

When selecting a contractor to construct, renovate or repair a commercial, industrial or residential roof, the lowest bidder is not always the best, or the most economical choice for the building owner.

The roof over your school, office, factory, store or home is an extremely important investment. Since everything important to you is under that roof, keep the following criteria in mind when searching for a roofing contractor or reviewing a quote:

1. Does the contractor have experience with the specified roofing system and do they have the equipment necessary to install it?
2. Does the contractor have both a proven financial and technical track record?
3. Can they provide proof of insurance coverage? Do they have a paid up Worker's Compensation Board account and a proper business license to perform work in the jurisdiction involved?
4. Does the contractor have sufficient trained and qualified staff to do the job properly? about each of these points because they are qualified to handle the jobs they bid on.

## **WHEN IT'S TIME TO REROOF:**

### **DON'TS:**

- *Don't* permit products of unproven quality to be used on your roof.
- *Don't* be taken in by "Cure-All" products, which can be applied by anyone.
- *Don't* take bids on projects without adequate, uniform specifications.
- *Don't* re-roof over an existing roof unless a careful evaluation is made, and a qualified consultant or standards authority gives prior approval.
- *Don't* expect a guarantee to keep the water out of your buildings. Guarantees do not cover many of the problem areas of your roof.
- *Don't* think that the lowest price is always the best. Be certain you will not be faced with a number of change order requests for extras after a project is awarded.
- *Don't* deal with firms who cannot stand behind their work and will not be available when you need them. Remember that no product is better than the applicator.

### **DO's:**

- *Do* hire a professional roofer who uses MIAMI-DADE approved materials.
- *Do* call a member of NRCA (National Roofing Contractor's Association)
- *Do* request a Guarantee

## GLOSSARY OF COMMON ROOFING TERMS:

**Alligatoring:** Shrinkage cracking of the bituminous surface of built-up roofing or the exposed surface of smooth-surface roofing, producing a pattern of deep cracks with the scaly look of an alligator's hide.

**Asphalt:** A highly viscous hydrocarbon produced from the residuum left after the distillation of petroleum used as the waterproofing agent of a built-up roof.

**Ballast:** An anchoring material (such as rounded river rock, gravel, or pre-cast concrete pavers), which is used to resist wind, uplift forces and hold roof membranes in place.

**Bitumen:** A generic term for either the asphalt or coal tar pitch used in the roofing industry.

**Blister:** A spongy, raised portion of roofing membrane, ranging in size from 25 mm (1") in diameter and barely detectable to as much as 4.6 m<sup>2</sup> (50 ft<sup>2</sup>) in area and 300 mm (12") high. Blisters result from the pressure of entrapped air or water vapour.

**Built-up Roofing:** A continuous, semi-flexible roof covering, consisting of laminations or plies (**BUR**) of saturated or coated felts alternated with layers of bitumen. Surfaced with bitumen, and in some cases covered with aggregate.

**Cant Strip:** A continuous strip of triangular cross-section, fitted into the angle formed by a structural deck and a wall or other vertical surface. Used to provide a gradual transition for base flashing and horizontal roof membrane.

**Emulsion:** An intimate mixture of bitumen and water, with uniform dispersion of the bitumen globules, achieved through a chemical or clay emulsifying agent.

**EPDM (Ethylene Propylene Diene**

**Monomer):** A synthetic rubber sheet used in single-ply roof membranes.

**Felt:** A fabric made by the interlocking of fibers. Roofing felts are manufactured from cellulosic fibers (organic felts), asbestos fibers (asbestos felts), or glass fibers (glass-fiber felts). Felts are either saturated, or saturated and coated with bitumen.

**Fishmouth:** An opening formed by an edge wrinkle in a felt where it overlaps another felt in a built-up roofing membrane.

**Flashing:** Connecting devices that seal membrane joints, drains, gravel stops and other places where the membrane is interrupted. Base flashing forms the upturned edges of the watertight membrane. Cap or counter flashing shields the exposed edges and joints of the base flashing.

**Flood Coat:** The top layer of bitumen in an aggregate-surfaced built-up roofing membrane.

**Gravel:** Coarse granular aggregate, having rounded edges, resulting from the natural erosion of rock.

**Gravel Stop:** Flanged device, normally metallic, designed to prevent loose aggregate from washing off the roof; it also provides a finished edge detail for the built-up roofing assembly.

**Gum Pan (or A flanged, metal container placed around a column or other roof penetrating pitch pocket):** element and filled with bitumen or flashing cement to seal the joint.

**Loosely Laid Membranes,** which are not attached to the substrate except at the perimeter **Membrane:** of the roof. They are held in place with appropriate and adequate ballast.

**Modified Bitumen:** Asphalt enhanced by the addition of polymer modifiers to increase cold temperature flexibility and warm temperature flow resistance and stability.

The most common modifiers are SBS (styrene butadiene styrene) and APP (atactic polypropylene).

**Parapet:** The part of any wall entirely above the roof.

**Ply:** A layer of roofing membrane. A four-ply membrane has at least four plies of felt at any vertical cross section cut through the membrane.

**Primer:** A liquid bituminous material applied to a surface to improve the adhesion of heavier application of subsequently applied bituminous materials.

**PVC (Poly Vinyl**

**Chloride):** A thermoplastic sheet material used for single ply roofing membranes.

**Reglet:** A groove in a wall or other vertical surface adjoining a roof surface for the embedment of counter flashing.

**Single Ply Roofing Membrane:** Roofing membranes that are field-applied using a pre-manufactured sheet of single-layer membrane material (either homogenous or composite) rather than multiple layers.

**Slope:** The ratio between the measure of the rise and the horizontal span.

**Spall:** a small fragment, splinter, chip, or ore

**Smooth-Surfaced** A built-up roofing membrane surfaced with a coating of hot asphalt,

**Roof:** asphalt emulsion or asphalt cutback.

**Square:** A roof area of one hundred square feet.

**Substrate:** The surface upon which the roofing membrane is placed — structural deck or insulation.

**Vapor Retarder:** A material designed to restrict the passage of water vapor through a wall or roof assembly.