Why you should consider Weatherskin for roof coatings
The document prepared here is fairly long. While details are important, sometimes cutting to the chase is equally important for time constraints. After analyzing GACO S20/2100, Aldo 386, and Sika Sarnifil, the 2 most commonly used roof coatings to date, we have come to the conclusion that there are pros and cons to all of the options, including the Weatherskin WSM4 and WSM6 membranes. However, we feel that our products have an advantage in several areas for your needs. Notably, the WSM6 and WSM4 membranes are eco-friendly/green, use soap and warm water clean-up, are cold applied, withstand 146 freeze/thaw cycles per season, handle rapid and extreme temperature swings (-58F to +195F) in a 24 hour period, have zero VOC’s, resist mold, fungus, mildew, hail and snow, and more. We can do everything the GACO S20/2100 or the Aldo 386 or the Sika Sarnifil can do, and in many areas even better, plus we are the only one that is a true environmentally green choice.
INTRODUCTION

The Weatherskin Corporation grew from an idea. Building custom homes, three friends saw a flaw in the process and asked 2 questions:

1. Why are we contaminating the ground with a corrosive product, which is proven harmful to users, fails in the sun, fails to water-proof its substrate, and can’t be tinted?
2. Why can’t a waterproofing coating be an aesthetically pleasing product; instead of a layer you need to hide from the weather and the eye?

The idea was simple. There was a serious flaw in the outdated thinking about petroleum-based coatings & waterproofing; one which they could eliminate by creating a superior, green, water-based, water-proof, soap and water clean-up, membrane. A membrane that could be textured, colored, and altered for different appearances, functions, and uses. A product that protects the investment it’s on, the environment that it’s in, and outperforms anything else on the market.

After researching the complexities of smart materials, the team contracted the industry leader in smart-polymer and resin chemistry. That company had been formulating special use coatings for industries like oil & gas for over 25 years and the original chemistry had been around since 1988. This chemistry was re-worked to solve the roofing issues that the City of Calgary was experiencing on the Saddledome, the local sports stadium. That company only saw a small fraction of what this product was capable of. When Weatherskin purchased this entire line of chemistry in 2016, we took over all the warranties for the Saddledome and the airport hangars and other installations of the membrane and then took the chemistry to the next level.

The testing and product history proved that these were the right people to bring Weatherskin to life. The partners found that the properties of these materials far exceeded any standard paints, elastomerics, and rubber or tar based membranes on the market. Where the chemical formula to create a standard acrylic roofing product is roughly 7 pages of formula, Weatherskin is over 70. This product is much more complex, because it needs to function at a far greater level than products originating out of the Southern United States. And all of the tests proved that the investment in the creation of this custom blended Smart Membrane had paid off, we had created a better product that lasts longer and isn’t as harmful to the environment.

In addition to the membranes, we added an industrial strength, high traffic, zero-VOC epoxy flooring solution to balance out the coating portfolio. And in the very near future, anti-graffiti and fully submersible coatings, adhering to the same performance standards and environmental principles, will be introduced by Weatherskin.
It's simple. To protect you. Whether you’re a homeowner, contractor, property manager, architect, tenant, or another industry professional, Weatherskin offers you and your project protection. Protection from the elements like water, snow, ice and sun. Protection from harmful radon gasses, toxic mold, corrosive spills and fire. Protection from VOC’s, waste, emissions and environmental damage. Protection from product failures, over-charging, miseducation and bad service. We care about what we produce, why we produce it and how we install it. We care about the structures our products coat and the assets, the people and the environment that rely on them.
WHY WEATHERSKIN

WHY GO GREEN

We understand the importance of conservation and are committed to playing our part by producing and applying products that are environmentally sound. In addition to our eco-friendly product line, Weatherskin practices green application; our product has almost zero VOC’s and is safe for not only the environment, but also for the people and animals who may come in contact with it.

WHY WEATHERSKIN WORKS

Weatherskin coatings work because of the quality and versatility of each one of the products. Weatherskin delivers the highest caliber coatings to the construction market-place with a performance that will always exceed expectations in life-span, adhesion, aesthetics, and ease of application. The function of each coating is proven by rigorous testing, quality control and industry/consumer earned trust. Our commercial and industrial grade coatings are trusted by names like the U.S Department of Labor, the Mining Health & Safety Association, and the Canadian Food and Drug Administration. We provide application contractors with only the highest quality products.

- Weatherskin Flooring products are proven to last on the inside of manufacturing facilities, aircraft hangers, big box stores, and garages.
- Weatherskin Foundation coating is trusted to ensure the protection of buried holding tanks, foam/concrete/ICF foundations, and mine-shafts.
- Weatherskin Wall coatings have been proven on the walls of hospitals, restaurants, event centers, malls, hotels, grow rooms, and skyscrapers.
- Weatherskin Roofing is used to protect the inventory and assets of manufacturing plants, schools, food production facilities, and government buildings.
WEATHERSKIN’S PROPRIETARY PRODUCT LINE IS IN FULL COMPLIANCE WITH:

- FDA (Food and Drug Administration)
- CFIA (Canadian Food Inspection Agency)
- CHFA (Canadian Health & Food Administration)
- CDSA (Controlled Drug & Substances Act)
- FDR (Food & Drug Regulations Act)
- NHPD (Natural Health Products Dept)
- NCR (Narcotic Controlled Regulations)
- ACMPR (Health Canada)
- LEED (Leadership in Energy and Environmental Design)
- USGBC (United States Green Building Council)
- CaGBC (Canadian Green Building Council)

WEATHERSKIN’S PROPRIETARY PRODUCT PERFORMANCE TESTING PERFORMED THROUGH:

- ASTM (American Society for Testing & Materials)
- UL (Underwriters Laboratories)
- ULC (Underwriters Laboratories of Canada)
- ISO (International Organization for Standardization)
- CFIA (Canadian Food Inspection Agency)
- AMETEK Brookfield
- INTERTEK Canada
PRODUCT LINE OVERVIEW

WEATHERSKIN MEMBRANE PRODUCTS

**WSM1**
*Above Ground Interior / Exterior*
Replaces existing paints with a far superior alternative.

**WSM2**
*Below Ground / Foundation*
No more tar which is harmful and doesn’t last as long.

**WSM3**
*Tank and Vessel*
Protect sprayed-in polyurethane foam coated structures.

**WSM4**
*Metal Roof*
Becomes an integral piece of the metal substrate.

**WSM6**
*Flat Roof*
Allows for substrate movement, sudden temperature fluctuation, and breathability.

**WSM7**
*Magnesium Oxide Board*
A multi-use, extremely durable acrylic coating.

**WSM8**
*Mine and Safety*
An interior coating ideal for mine shafts, agricultural, and medical facilities.

**WSM9**
*Clear Coat High Traffic*
Wall and ceiling coating for rooms that require heavy wash cycles.

WEATHERSKIN EPOXY PRODUCTS

**WS101**
*Water-based Interior*
Water-based, waterproof, low odor, two step epoxy coating system.

**WS102**
*Interior*
Industrial grade, non-solvent based, eco-friendly, zero VOCs two-step epoxy.

**WS103**
*Exterior*
UV resistant non-solvent based, eco-friendly, zero VOCs epoxy.

**WS104**
*Flexible*
Self-leveling 100% solids tint-able epoxy coating.

**WS105**
*Low Viscosity*
Low viscosity high build formula.

**WS106**
*Green Concrete*
Specially formulated for green, damp concrete applications.

**WS107**
*Poly Aspartic*
Excellent bonding strength, exceptional durability and seamless protection.
WEATHERSKIN ROOFING MEMBRANES

WSM4 and WSM6 are our 2 roofing membranes. Both membranes are formulated to withstand the abuse of extreme temperatures from -58F up to 195F, coupled with rapid changes in temperature in a 24 hour period, 146 freeze/thaw cycles per season, extreme UV exposure, hail, snow and ice. They are both easily repairable in field, are cleaned up with soap and warm water, resist mold, fungus, bacteria and mildew, are non-toxic and landfill disposable, with virtually zero VOC’s. WSM4 and WSM6 are almost identical formulas, with the only difference being the altered bonding agent for metal adhesion in the WSM4 Metal Roof product. Therefore the performance specs are the same.

WSM6 / WSM4 ROOF SYSTEM STRENGTHS

- The white topcoat performs with an 84+ solar reflectivity rating. Compared to a dark roof, it can slash air conditioning usage by up to a third.
- The liquid components are environmentally friendly, with minimal VOC’s usage.
- It creates a tough, fungi/mildew resistant, solar reflective and UV resistant roof coating, that moves vertically according to temperature and underlying structure.
- For flat or graded roofs.
- Can be applied over PVC (polyvinyl chloride) or PVDF (polyvinylidene fluoride) roofing membranes.
- The liquid components can be applied directly over asphalt, metal, plywood, polyurethane foam and concrete substrates.
- Light weight.
- Cold applied - no fire hazard.
- Reduces cooling costs and inside temperature.
- Reduces roof surface heat, aging and weathering.
- Reduces rapid roof expansion and contraction.
- Stabilized from UV light, fade resistant.
- Provides a tough, rubbery surface.
- Durable and seamless film resists wind driven rain, sleet, snow, hail, mold, mildew and airborne dirt.
- Excellent elastic properties.
- Withstands extremes in thermal cycling, maintains flexibility through the year.
- Resists aggressive atmospheric conditions; exhaust gases, acid rain, airborne pollutants.
- Inhibits growth of mildew, fungus, moss and algae.
- Non-flammable.
- Custom colors available.
WEATHERSKIN ROOFING MEMBRANES

A QUICK COMPARISON TO MOST COMMON ROOFING MATERIALS:

<table>
<thead>
<tr>
<th>Material</th>
<th>Average Material Lifespan</th>
<th>Seamless?</th>
<th>Solar Reflective?</th>
</tr>
</thead>
<tbody>
<tr>
<td>PVC</td>
<td>15-30 YEARS</td>
<td>LIMITED</td>
<td>LIMITED</td>
</tr>
<tr>
<td>TPO</td>
<td>7-20 YEARS</td>
<td>NO</td>
<td>LIMITED</td>
</tr>
<tr>
<td>EPDM</td>
<td>10-15 YEARS</td>
<td>LIMITED</td>
<td>NO</td>
</tr>
<tr>
<td>TAR &amp; GRAVEL / BUR</td>
<td>15-20 YEARS</td>
<td>YES</td>
<td>NO</td>
</tr>
<tr>
<td>PEEL &amp; STICK MEMBRANE</td>
<td>5-10 YEARS</td>
<td>NO</td>
<td>NO</td>
</tr>
<tr>
<td>WEATHERSKIN</td>
<td>20-30 YEARS</td>
<td>YES</td>
<td>YES</td>
</tr>
<tr>
<td>ROLLED ROOFING (SBS)</td>
<td>10-15 YEARS</td>
<td>NO</td>
<td>NO</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Material</th>
<th>Green Product?</th>
<th>Tear Off Required?</th>
<th>Flexible?</th>
</tr>
</thead>
<tbody>
<tr>
<td>PVC</td>
<td>NO</td>
<td>YES</td>
<td>YES</td>
</tr>
<tr>
<td>TPO</td>
<td>NO</td>
<td>YES</td>
<td>NO</td>
</tr>
<tr>
<td>EPDM</td>
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<td>ROLLED ROOFING (SBS)</td>
<td>NO</td>
<td>YES</td>
<td>NO</td>
</tr>
</tbody>
</table>

WSM6 – FLAT ROOF

WSM6 Lite Elastomeric Roof Membrane is a liquid-applied, reinforced, high build, low gloss cold roofing system. As an elastomeric acrylic smart membrane, WSM6 is a perfect fix for sealing any minor cracks and imperfections. With exceptional aging properties, future ruptures, cracks and delaminating are prevented, increasing durability and providing long-lasting protection for any polyurethane foam insulated structures. Its unique molecular structure allows for substrate movement, accommodation to sudden temperature fluctuation, is able to perfectly utilize its tensile strength and elongation abilities and allow the substrate to breathe, preventing damage from moisture and activated salts present. WSM6 creates a strong, solar reflective and UV resistant coating able to withstand fungi and mildew while providing cushion to the structure underneath, going beyond the capabilities of traditional roofing systems.
WEATHERSKIN ROOFING MEMBRANES

WSM6 USES:

- Is used for flat roofs, low pitched roofs and roofs with grade
- May be applied directly over asphalt, metal, plywood, polyurethane foam, concrete and polyvinyl chloride (PVC) waterproofing membranes and rubber roofs, for EPDM.
- Keeps structure cool in warmer temperatures by resisting increasing surface temperatures, reducing air conditioning costs
- Protects roof substrates and substructures from leakage and moisture intrusion
- Allows substrate to breathe, reducing damage caused by moisture and rot
- Reflects UV rays
- Lowers thermal shock

WSM4 – METAL ROOF

WSM4 Metal Specific Membrane is an easy-to-use, liquid-applied, waterproofing material specially designed to protect metal roof surfaces. As an elastomeric acrylic smart membrane, WSM4 becomes an integral piece of a substrate. It bonds well and increases durability and protection for any metal surfaces. It has a unique molecular structure, that allows for substrate movement, and accommodation for sudden temperature fluctuation, is able to perfectly utilize its tensile strength and elongation abilities and allow the substrate to breathe, preventing damage from moisture and air born pollutants, including fungi, mold, and bacteria. All application is by experienced, independent certified applicators.

WSM4 Metal Specific Application Membranes provide superior coverage on steel roofs. Standard colors are black, white, and grey. With specialty colors available, depending on minimum lead times and volume.

- Roofing substrates based from metal or aluminum
- Walls, vertical, metal or aluminum
- By reducing maintenance costs and building up keep
- Prolonged protection of substrate
- Rejuvenate old or worn surfaces
- Resists UV radiation
- Prevents future leakage or moisture intrusion
For this section, we wanted to do a head to head comparison of the roof coating choices the industry has been most reliant upon and show how our WSM6 (and WSM4) compare: GACO Silicone S20/2100, Aldo Aldocoat 386, and the Sika Sarnafil PVC sheeting (in the colder weather climates.) Based upon our real world product interactions, and doing some research online, here is what was said about most silicone and polyurethane elastomer coatings, and PVC sheeting.

**SILICONE COATINGS (GACO S20/2100)**

Silicone is not a particularly durable surface. Not only can it get very slippery when wet, it’s also easy to tear. Roofs that have some foot traffic on them are often not kind to a silicone coating. However, most roofs often need to have maintenance personnel on them for various reasons; Electricians, HVAC repairmen, and even something as simple as tracking back and forth to clean leaves out of a drain can damage a silicone roof coating.

Although not as expensive as a complete tear-off, silicone coatings are usually more expensive than their acrylic counterparts. They also require solvent clean up and more specialized equipment than other types of roof coatings.

There are multiple instances where we saw silicone roof coatings compromise their quality within a matter of years due to normal wear and tear.

Silicone has some serious drawbacks to consider:

- The initial installation costs can be much higher than other commercial roof coatings – a silicon-based commercial roof coating is often at least twice as expensive as an acrylic-based commercial roof coating.
- Silicone roof coatings tend to collect dirt and debris easier than other roof coatings.
- If you need to apply another coat, you have to use a compatible silicone-based coating.
- Silicone roof coatings are messy to install and repair.
- If you have to remove it, silicone roof coatings are stubborn!
- Over time silicone tends to retract from roofing edges and contract into a curl. This means exposed roofing substrates that are no longer waterproof or moisture-proof.
Silicone coated roofs have one notable advantage, their ability to deal with ponding water for quite a while. Because silicone is not water-based, it can contain water for quite a long time without breaking down. This creates the temptation to use them as a “quick fix” when more in-depth work needs to be done, but this is not necessarily the best way to address roofs with ponding water.

Ponding water is a bigger problem than just a potential leak where the water accumulates. All roofs should be positively drained within 48 hrs. and when this does not occur structural issues will likely need to be addressed in the future. For instance, insulation materials and roof boards can sag under wet conditions. Over time, this deterioration as a result of prolonged water exposure will make the ponding problem even more severe.

Because silicone coatings can handle the prolonged exposure to ponded water, there can be a temptation to use them as a stop-gap measure when the real issue is structural. If the structural issues are not repaired, other long-term damage can result. As the water continues to accumulate, the excess weight can continue to stretch the roofing material, bow the support structures, and unbalance the roof even if the water leakage is stopped.

This added pressure can pull the roof material away from the edges of the roof encouraging new leaks to form. If silicone coatings are used in this way, their much renowned ability to deal with ponded water becomes a liability instead of a benefit.

The initial high cost of silicone roof coatings extends to the re-coating process. The only thing that will adhere to a silicone coating is a similar silicone coating. Although some claim this does not need to be done as often as other coating systems, once a silicone-based coating is applied, the roof system is committed to staying within those types of systems. Even though the adhesion characteristics of silicone normally act in its favor, they can pose a problem if the coating must be removed. It can be a very costly and labor-intensive process. That is because silicone is highly resistant to any other material sticking to its surface once the applied substance finishes curing. If any repairs are needed for a commercial roof with a silicone coating, it can be very difficult to make any material stick to the silicone surface.
POLYURETHANE ELASTOMER COATINGS (ALDO COAT 386)

While Aldo Coat 386 can be used stand alone, it is designed to be used as a system with a base layer of SPF (Spray Polyurethane Foam), then Aldocoat 384 and then Aldocoat 386. They also recommend going over all the seams first with Aldocoat 385. In the end this system adds up to a lot of work (and costs.) Plus the top coat of molecularity dense polyurethane in the 386 doesn’t allow for substrate to breathe, leading to issues of vapor being trapped below, leading to mold and mildew issues.

It is recommended to use it on top of SPF, as polyurethane bonds to polyurethane best and you really don’t want to have any water passage risk when you are coating a sponge (the base SPF layer.) But when used without the SPF base layer, you still get the vapor transmission issues as the top coat (386) still blocks all water and water vapor both ways.

Here are photos of liquid polyurethane (very similar to Aldo 386) top coat failures we have found. On SPF:
Liquid polyurethane on a non-spongy roof surface (not SPF) and already repaired/caulked:

PVC SHEETING (SIKA SARNAFIL)

While Sika claims their Sarnafil coating is superior in many regards to most PVC sheeting used today, the following still generally apply.

Sarnafil, just like all other PVC coatings, is not seamless. EPDM, TPO, PVC roof system would have a heat-welded seam. Every ten thousand feet of roof would have approximately 15,000 lineal feet of potential seam failure. Older PVC can be difficult to repair, as the hot air welds used when it is new do not “take” easily, and few sealants adhere to it for long, creating a recurring issue.
If any liquids are used within the building, or a humid environment is found inside, due to the non-breathable nature of the sheeting, they will cause condensation between the roof steel and Thermo-Plastic / PVC sheeting and its insulation. Saturated insulation renders it useless to control hot and cold temperatures within the building and can lead to other problems with mold, etc.

While Sarnafil has multiple fastening options, that increase cost like the Adhesive or RhinoDeck, using normal mechanical fasteners a 100,000 sq. ft. area thermo-plastic / PVC roof requires over 60,000 fastener penetrations. Fastener penetrations that have broken the galvanized finish on the roof panel can begin to completely rust out. From the start of the system installation to reinstallation at the end of the warranty term, a Thermo-Plastic roof will introduce an average of 120,000 penetrations into a 26 gauge metal panel.

All roof products deteriorate over time, and PVC has a tendency to shrink, pulling the seams, lifting corners and potentially causing leaks. And older PVC roofs in cold weather are prone to shattering and puncture. As a result, the National Roofing Contractors Association recommends no foot traffic on PVC when the outside air temperature is below 50 degrees. I know Tim said you test new products for freeze shattering, but what about when they are older?

An assembled roof system changes the fire characteristics of an entire facility, increases insurance costs, and increases weight. EPDM, TPO, and PVC roof system requires a structural engineer to recertify any building over 20 years old for weight calculations. And thermo-plastic membranes do not have UL or FM wind uplift testing on pre-engineered buildings nor are they able to maintain a Class A fire rating.

Also, PVC and other PVC products such as pipe and vinyl siding are looked upon with some disdain from an environmental perspective due to chemical release of bio-accumulative toxins (notably dioxin) during manufacture and disposal.

While it is difficult to compare products head to head, as documentation / references vary amongst manufacturers, job site requirements differences, installation methods vary, etc. we have attempted to compile such data and have added an attachment to the end of this document. Here are the results of that comparison.
## Roof Coatings Comparison

<table>
<thead>
<tr>
<th>ALDO 386</th>
<th>GACO S20/2100</th>
<th>SIKA SARNAFIL</th>
<th>WEATHERSKIN WSM6/WSM4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Better Cost</td>
<td>No primer needed</td>
<td>Easy, non-toxi, clean up</td>
<td>Non combustable</td>
</tr>
<tr>
<td></td>
<td>More Solids</td>
<td>Fabric - increase tear resistance</td>
<td></td>
</tr>
<tr>
<td></td>
<td>More Solids</td>
<td>Fabric - increased durability</td>
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<tr>
<td></td>
<td></td>
<td>Fabric - increased adhesion</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>Fabric - increased tensile strength</td>
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</tr>
<tr>
<td></td>
<td></td>
<td>Non combustable</td>
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<tr>
<td></td>
<td>Longer shelf life</td>
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<td></td>
</tr>
<tr>
<td></td>
<td>More flexible</td>
<td>Lab tested for freeze/thaw</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Stronger body</td>
<td>Lab tested for ponding water</td>
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<tr>
<td></td>
<td></td>
<td>Higher range of temperature</td>
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<tr>
<td></td>
<td>Very Impermeable</td>
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<tr>
<td></td>
<td>Very Impermeable</td>
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<td></td>
<td>Adhesion Tested</td>
<td>Adhesion Tested</td>
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<td></td>
<td>Faster Cure</td>
<td>Faster Cure</td>
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<td></td>
<td></td>
<td>Faster Cure</td>
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<td></td>
<td></td>
<td>More resistant to growth</td>
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</tr>
<tr>
<td></td>
<td>Lower application temp</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Slightly higher reflectance</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Slightly higher emittance</td>
<td></td>
</tr>
</tbody>
</table>
It’s simple. To protect you. Whether you’re a homeowner, contractor, property manager, architect, tenant, or another industry professional, Weatherskin offers you and your project protection. Protection from the elements like water, snow, ice and sun. Protection from harmful radon gasses, toxic mold, corrosive spills and fire. Protection from VOC’s, waste, emissions and environmental damage. Protection from product failures, over-charging, miseducation and bad service. We care about what we produce, why we produce it and how we install it. We care about the structures our products coat and the assets, the people and the environment that rely on them.

**SHIPPING**

Weatherskin WSM4 and WSM6 both come in 5 gallon pails, kits of 5 gallon pails, the WSM4 also comes in 55 gallon drums, and kits of multiple 55 gallon drums. Our reinforcing fabric comes in rolls 4 feet wide, by 300 feet long. All orders can be shipped directly to your location, or to a shipping depot, or directly to the job site. Any orders placed that are a full pallet in size or larger in a single order, ship for FREE. Please allow 4-5 business days for orders of standard stock colors to be processed, shipped, and arrive at the destination. Custom colors will require extra time.
The stress load from the gravel and the constant leaking due to ponding water and poorly protected scuppers/terminations signified a complete tear-off which would be an enormous cost and inconvenience to a school with year-round operations.

Weatherskin came to the rescue, removing as much of the gravel as possible. The remaining embedded gravel would stay behind. First, all the terminations, scuppers and perimeters were properly sealed and protected with high tensile fabric interlaced into the first 2 coats of the Weatherskin membrane.

- **47%** cost savings over a re-roof application
- **18-25%** rate reduction in cooling costs
- **$0.00** over cost
- **21+** work days saved vs. other applications
- **34+** tons of weight removed from the roof
- **15+** years added to the lifespan of roof
Strands of fibreglass and sand were mixed into the 2 base coats of Weatherskin on the roofs main body. This created a structural layer that tied the remaining gravel into the body of the coating to keep it from puncturing the top-coats.

- **250% tensile strength**
- **84% reflectivity of UV light and heat**

Any seams in the tar paper that have the potential to become trouble areas or deficiencies later were sprayed first to ensure they would be completely sealed by the basecoats. Even a single void in the coating can cause issues later, but they are easy to spot when you’re applying light grey over a black substrate.

- **100% water-proof**
- **100% fungi resistant**
Even the fence posts and support blocks for the gas-lines and h-vac’s get incorporated into the system, to ensure that even under 2 feet of snow the roof stays protected. Roof terminations are always treated with a special amount of care, as they are common culprits for leaking. The final coats are white, reflecting the UV and heat which will save on cooling costs over time.

Even where the embedded gravel was still prominent, the end coating of Weatherskin has immersed it under a tough blanket that can be walked on and easily serviced without causing any problems. The Weatherskin team will re-visit this roof every year it is warrantied to protect the client and their investment.

- 146 freeze/thaw cycles annually
- 0 seams/voids
- 0 toxic emissions
- 0 landfill waste
The white topcoat performs with an 84+ solar reflectivity rating. Compared to a dark roof, it can slash air conditioning usage by up to a third.

The liquid components are environmentally friendly, with minimal VOC’s usage. It creates a tough, fungi/mildew resistant, solar reflective and UV resistant roof coating, that moves vertically according to temperature and underlying structure. For flat or graded roofs.

Can be applied over PVC (polyvinyl chloride) or PVDF (polyvinylidene fluoride) roofing membranes.

The liquid components can be applied directly over asphalt, metal, plywood, polyurethane foam and concrete substrates.

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Cold applied - no fire hazard.

Reduces cooling costs and inside temperature.

Reduces roof surface heat, aging and weathering.

Reduces rapid roof expansion and contraction.

Stabilized from UV light, fade resistant.

Provides a tough, rubbery surface.

Durable and seamless film resists wind driven rain, sleet, snow, hail, mold, mildew and airborne dirt.

Excellent elastic properties.

Withstands extremes in thermal cycling, maintains flexibility through the year.

Resists aggressive atmospheric conditions; exhaust gases, acid rain, airborne pollutants.

Inhibits growth of mildew, fungus, moss and algae.

Non-flammable.

Custom colors available.

These residents were not happy. Literal lakes had formed above their heads and every seam on this SBS roof was a potential failure. The drainage no longer performed properly, the material was buckling and leaks were occurring.

The management company needed a solution fast and couldn’t evacuate tenants to perform a re-roof. As the insulation and structure were remediated internally, Weatherskin set out to remove all the seams and leaks immediately by going over-top of the old substrate with our flat roof, 5-layer system.

- **41%** cost savings over a re-roof application
- **20-34%** rate reduction in cooling costs
- **$0.00** spent on removal of old roof and waste
- **$0.00** over cost
- **0** days of resident evacuation vs. re-roof
- **7+** days in times savings vs. other application
All of the flashings were removed and the trouble spots were flooded with Weatherskin day 1. The verticals, scuppers, drains and vents were attended to immediately afterwards. The Weatherskin team stopped the immediate problem by day 2 on the job and was ready to get to work on applying the complete system.

High tensile fabric is used in between base-coat layers 1 and 2. It gives the system structure, added flexibility, added adhesion and creates a blanket over the entire roof.

- **15+ years added to the lifespan of roof**
- **20+ leaks were stopped completely**

- **250% tensile strength**
- **84% reflectivity of UV light and heat**
Roofing substrates based from metal or aluminum

Walls, vertical, metal or aluminum

By reducing maintenance costs and building up keep

Prolonged protection of substrate

Rejuvenate old or worn surfaces

Resists UV radiation

Prevents future leakage or moisture intrusion

WSM4 – METAL ROOF

WSM4 Metal Specific Membrane is an easy-to-use, liquid-applied, waterproofing material specially designed to protect metal roof surfaces. As an elastomeric acrylic smart membrane, WSM4 becomes an integral piece of a substrate. It bonds well and increases durability and protection for any metal surfaces. It has a unique molecular structure, that allows for substrate movement, and accommodation for sudden temperature fluctuation, is able to perfectly utilize its tensile strength and elongation abilities and allow the substrate to breathe, preventing damage from moisture and air born pollutants, including fungi, mold, and bacteria. All application is by experienced, independent certified applicators.

WSM4 Metal Specific Application Membranes provide superior coverage on steel roofs. Standard colors are black, white, and grey. With specialty colors available, depending on minimum lead times and volume.

The fabric is always laid out in the opposite direction of the SBS seams. After the fabric has been immersed into layers 1 and 2 and has cured, you can inspect the layers for deficiencies and flood any areas that require extra material.

All layers of the membrane carry up the roof’s perimeter and over the edge, ensuring your protection doesn’t stop at the flashing. All the terminations essentially become part of the roofing system itself as they are incorporated into the coating. This leaves no potential trouble-spots and adds extra security against snow build-up and ice-dams forming.

7 additional roofs provided by client

100% fungi resistant

100% water-proof

146 freeze/thaw cycles annually
The initial installation costs can be much higher than other commercial roof coatings – a silicon-based commercial roof coating is often at least twice as expensive as an acrylic-based commercial roof coating.

Silicone roof coatings tend to collect dirt and debris easier than other roof coatings. If you need to apply another coat, you have to use a compatible silicone-based coating.

Silicone roof coatings are messy to install and repair. If you have to remove it, silicone roof coatings are stubborn! Over time silicone tends to retract from roofing edges and contract into a curl. This means exposed roofing substrates that are no longer waterproof or moisture-proof.

The flashings were re-installed just in time. The next big rain-storm was on the way that very day and not a drop of water passed through the new roof, keeping the residents happy and dry.

Because of the prompt solution Weatherskin provided, our team moved on to the other 8 buildings in this multi-family complex. Some had already experienced small leaks, others hadn’t yet, but the client felt that for the price, timeliness, and security it was well worth it to protect their investment by using the Weatherskin flat roof, 5-layer system on the entire complex. Now Weatherskin is the first call they make to quote the other 100+ condo buildings, apartment buildings, and skyscrapers the client manages across North America.

- 0 seams/voids
- 0 toxic emissions
- 0 landfill waste

5 year ongoing service warranty with annual report
Silicone coated roofs have one notable advantage, their ability to deal with ponding water for quite a while. Because silicone is not water-based, it can contain water for quite a long time without breaking down. This creates the temptation to use them as a “quick fix” when more in-depth work needs to be done, but this is not necessarily the best way to address roofs with ponding water.

Ponding water is a bigger problem than just a potential leak where the water accumulates. All roofs should be positively drained within 48 hrs. and when this does not occur structural issues will likely need to be addressed in the future. For instance, insulation materials and roof boards can sag under wet conditions. Over time, this deterioration as a result of prolonged water exposure will make the ponding problem even more severe.

Because silicone coatings can handle the prolonged exposure to ponded water, there can be a temptation to use them as a stop-gap measure when the real issue is structural. If the structural issues are not repaired, other long-term damage can result. As the water continues to accumulate, the excess weight can continue to stretch the roofing material, bow the support structures, and unbalance the roof even if the water leakage is stopped.

This added pressure can pull the roof material away from the edges of the roof encouraging new leaks to form. If silicone coatings are used in this way, their much renowned ability to deal with ponded water becomes a liability instead of a benefit.

The initial high cost of silicone roof coatings extends to the re-coating process. The only thing that will adhere to a silicone coating is a similar silicone coating. Although some claim this does not need to be done as often as other coating systems, once a silicone-based coating is applied, the roof system is committed to staying within those types of systems. Even though the adhesion characteristics of silicone normally act in its favor, they can pose a problem if the coating must be removed. It can be a very costly and labor-intensive process. That is because silicone is highly resistant to any other material sticking to its surface once the applied substance finishes curing. If any repairs are needed for a commercial roof with a silicone coating, it can be very difficult to make any material stick to the silicone surface.

METAL ROOF CASE STUDY - BREWERY

This brewery needed a solution for the multitude of failures on its metal roof. The galvanized metal was wearing down, the roof was absorbing massive heat from the sun which was negatively affecting the building’s cooling costs.

The fasteners were backed out, the neoprene washers had deteriorated, gutter liners were peeling and ice-damning had worn-away at all of the joint and termination caulking. They had tried to solve the leaks by hiring numerous reputable roofers, yet year after year the roof continued to spill water into their brewery.

| Cost savings over a re-roof application | 61% |
| 24-37% rate reduction in cooling costs | |
| 4760 linear feet of seams, joints and laps mended | |
| 15,000+ screws and washers replaced | |
| 0 hours lost to shutdowns or operations delays | |
| $15,000.00 under cost | |
Weatherskin first had to be able to easily access the roof. It is always helpful to be friends with a scaffold company because within 24 hours the site access was set-up and material was delivered to the site.

First our experienced team inspected every square inch of the roof, marking all the potential fail points with fluorescent tape so they wouldn’t be missed during the first steps of application.

- 45+ days in times savings vs. other application
- 15+ years added to the lifespan of roof
- 50+ leaks were stopped completely
- 250% tensile strength
After the roof had been prepped and sanded, the spray equipment was brought onsite and all problem areas, especially the seams, were sprayed black. This ensured these areas would not be missed and would get the extra layers of protection over the main body of the roof.

The seams needed special care. After being re-caulked with polyurethane to bring them back to their original state, Weatherskin applied high tensile, extremely flexible fabric over-top of these areas, ensuring that as the roof expands and contracts no cracking would occur in the final coating on top of these troublesome areas.
The first coat of white Weatherskin coating was applied to tie the project together. At this time, the gutters were re-lined and other terminations were incorporated into the roof with polyurethane and fabric. As usual, special attention was given to the vertical walls, caps, h-vac units, terminations and vents. Ponding often occurs against these obstructions as they block the flow of water and can create massive ice and snow build-ups.

As the project came to a close, the roof looked brand-new at a fraction of the cost of doing a full replacement. The white blanket makes it extremely easy to re-service the roof. Any future deficiencies can be spotted from far away and only take minutes to repair versus days of trying to trace a problem leak back to the source.
Weatherskin was contracted to seal EVERY other roof this client had available because of our dedication to solving their problems. The Weatherskin team demonstrates care and integrity by visiting and inspecting the roof on an annual basis. The clients are now saving money on cooling the facility and have been able to put their focus away from the roof and back into brewing the best beer in North America.

5 year ongoing service warranty with annual report