

GARLAND FLUID-APPLIED ROOF SYSTEMS

Impressive Strength...Seamless Protection



EXPLORING YOUR OPTIONS... CONFIDENTLY



Roofs can leak. And while leaks can be frustrating and inconvenient, a leak doesn't always mean it's time for a completely new roof. Same with aging. As roofs age, the effects of constantly being exposed to the elements become more visible. That doesn't mean replacement is the only option.

Restoring your roof with a fluid-applied system can add years of robust, watertight protection and strength while simultaneously improving aesthetics and energy efficiency. Let your local Garland representative explain the numerous benefits restoration can offer so you can explore your options with confidence.

WHY CONSIDER FLUID-APPLIED SOLUTIONS



COST-SAVING BENEFITS

- Can cost up to 50% less* than a tear-off and replacement
- Can reduce energy consumption by up to 15%
- Opportunities for tax benefits and energy rebates



INSTALLATION ADVANTAGES

- Requires less labor and material
- Application is less disruptive and quicker than conventional roofing
- Can be easily applied with standard equipment



PERFORMANCE ATTRIBUTES

- Provides superior waterproof performance
- High impact resistant formulas available
- Easily maintainable and sustainable
- Creates a tight seal around difficult details like pipes, drains and curbs



ECO-FRIENDLY

- Select fluid-applied systems can extend a roof's useful life 20 years or more
- Avoiding a tear-off diverts waste from landfills
- Lower carbon footprint
- Reflective surfaces help reduce toxic greenhouse gas emissions

*Will vary by region due to variable costs of labor, bonding, etc.

MORE THAN A COATING

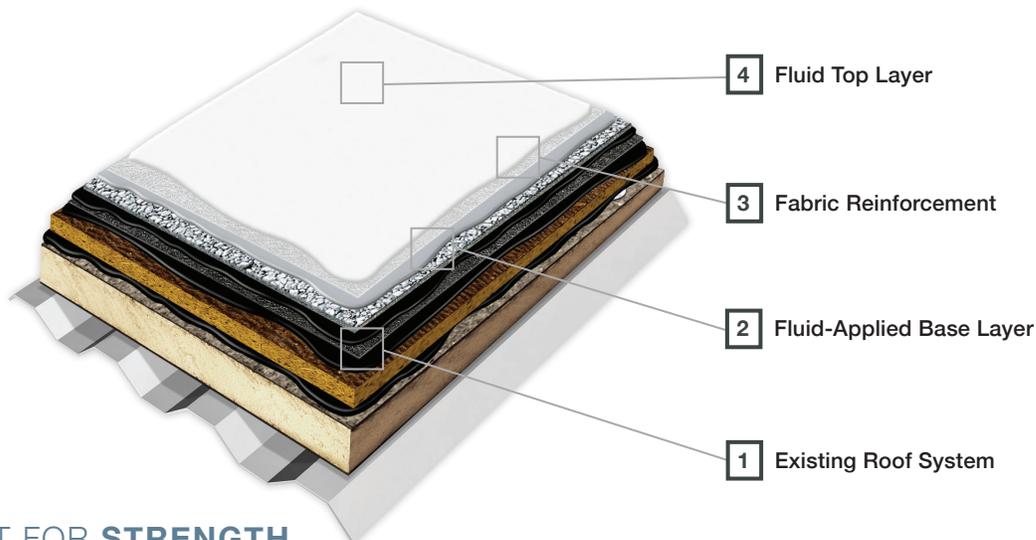
Fluid-applied roof membranes are often incorrectly categorized as maintenance coatings. Though similar in appearance, fluid-applied systems provide numerous distinctive benefits. These fabric-reinforced restoration systems exhibit impressive strength and provide seamless waterproofing protection to aged modified bitumen, built-up roofs (BUR), metal and single-ply roofs.

A HELPFUL DISTINCTION

A maintenance coating is used to extend the life of an **existing** roof cover.

A reinforced fluid-applied membrane is defined by the NRCA as an **additional** roof system.

FLUID-APPLIED ROOF SYSTEM	VS.	MAINTENANCE COATING
Roof system	NRCA DEFINITION	Protective coating
Waterproofing	WATERTIGHT PERFORMANCE	Water resistant
90 to 110	MILS OF CURED FILM	5 to 30
Fabric-reinforced	REINFORCEMENT	Not reinforced
10 to 20+ years	LIFE CYCLE	8 to 12 years
Restoration waterproofing warranty	WARRANTY	Material only warranty
Silicone, polyurethane, polyurea, PMMA	COMPOSITION	Acrylic and aluminum



BUILT FOR STRENGTH

Although the white membrane is often all you'll see of a fluid-applied system, it's not the full picture. The components beneath the surface contribute significantly to the overall strength of the system. The base layer provides tenacious adhesion to the original roof substrate while the fabric reinforcement bolsters the system's strength at roof transitions where stress and strain are the greatest. Each component works seamlessly together to ensure the system provides the trusted protection you deserve.

LIQUITEC® RESTORATION SYSTEM

LiquiTec is Garland's premier fluid-applied waterproofing system. With strength and durability comparable to that of truck bed liners, LiquiTec forms a virtually impenetrable roof surface protected against damage caused by hail, foot traffic, wind scour and other impact. LiquiTec, which is CRRC-rated, has a high solar reflectance, designed to shield roofs from UV damage. The fluid-applied system can be applied over aged modified bitumen, BUR, metal, and single-ply roof systems.

WHY LIQUITEC IS THE BEST CHOICE

LiquiTec has **zero VOCs** so it is ideal for sensitive applications where odor is a significant concern.

It is **extremely tough** and built to resist splitting and cracking to provide long-term watertight protection.

LiquiTec exceeds industry standards for **waterproofing performance**.

This two-component system **cures quickly**, allowing for faster installation and lower labor costs.

LiquiTec uses an innovative **two-component curing technology** so installation is less dependent on the weather to provide watertight protection more quickly.

Its bright white color **protects the roof** from UV damage while also reducing interior cooling costs and toxic greenhouse gas emissions.





LEVERAGING LIQUITEC'S STRENGTH

ASTM testing is the industry standard for evaluating the strength and performance of products. But what do those tests really tell us? We break it down with some relatable data to put into perspective the true strength of LiquiTec.

ASTM D5635

Dynamic Puncture Resistance: ability to resist moving object punctures

Result: LiquiTec resists the force of baseball-sized hail, verifying that the fluid-applied membrane can withstand extreme weather conditions.



ASTM D5602

Static Puncture Resistance: ability to resist dead loads

Result: A one square foot area of LiquiTec supports 13 tons – the equivalent of four pickup trucks parked in a one square foot area. LiquiTec is built to handle heavy loads on the roof without failing (e.g. snow, HVAC equipment, solar panel systems, etc.)



ASTM D522

Low-Temperature Flexibility: ability to resist cracking when cold

Result: LiquiTec resists cracking at temperatures as low as -60°F (-51.1°C), which is colder than the average winter temperature in the South Pole. This premier fluid-applied system maintains its high performance even in extreme temperatures.



ASTM D7281

Water Leakage Resistance: verifies waterproofing performance of roof membranes (fluid-applied membranes are not required to be tested at this standard)

Result: LiquiTec's membrane remained watertight when it was exposed to ponding water and typical roof movement, proving its durable and reliable protection.



WHITE-KNIGHT®/WHITE-STALLION® PLUS/WC

White-Knight/White-Stallion Plus/WC has been a longstanding staple in the Garland line, providing decades of proven waterproofing protection to smooth and mineral modified bitumen and single-ply roofs. This highly reflective, fluid-applied restoration membrane is infused with “moisture triggered” technology for a faster cure and superior strength and durability. White-Knight Plus and White-Knight Plus WC are listed with the Cool Roof Rating Council. The WC formula is VOC compliant in the South Coast AQMD.

ADVANTAGES

Saves labor costs - faster cure speeds up installation

Quicker protection - cures from the top down, providing faster rain resistance and the potential for over coats the same day

Seamless protection - monolithic membrane with pinhole mitigation ensures watertight protection

Durable - superior tensile and tear strength provides long-term performance even in harsh weather conditions

Reduces cooling costs - bright white surface helps decrease rooftop temperatures



COOL-SIL™ SILICONE RESTORATION SYSTEM

Cool-Sil provides outstanding resistance to ponding water, with a high reflective value that improves a building's energy efficiency. Cool-Sil also meets a high standard for environmental stewardship, with NSF P151 certification, which means that no chemicals are transferred from the coating to rainwater and runoff water is potable and safe for surrounding waterways and ecosystems.

Cool-Sil	Surface coat available in high-reflective white or gray, and can be applied via roller/brush/squeegee
Cool-Sil Primers	Single-Ply and Bleed Block Primers prepare existing roof for coating
Cool-Sil Safety Coatings	Yellow Walkway Coating and Granules reduce slips and mark off skylights, roof edges, and designated foot traffic areas



Can contribute toward LEED credits/NSF P151 certified to protect nearby waterways



Exceptional waterproofing and resistance to ponding water



High UV resistance and reflective qualities improve energy efficiency



thick and durable covering resists mold, mildew, and a wide range of conditions



Easy to apply, fully cures in less than four hours



GARLAND'S ADDITIONAL FLUID-APPLIED SOLUTIONS

Garland's fluid-applied systems offer some of the industry's toughest protection and are compatible with most existing roof assemblies. Our innovative products are built to exceed industry standards to ensure superior waterproofing performance.

CPR™ White Coating is a highly reflective fluid-applied membrane that provides excellent protection against UV and deterioration and can be easily applied over sloped, metal roof surfaces to provide lasting waterproof protection. It cures to a monolithic rubbery membrane with high tensile strength and remains elastic in extreme temperatures.

Energizer® BK is a cold-applied asphalt/coal tar blended fluid-applied membrane that provides natural resistance to moisture, chemicals, UV and aging. It's best suited for applications where heightened levels of chemical and ponding water resistance are required.

Energizer K Plus FR incorporates the incredible strength of KEVLAR® aramid fibers to add increased tensile strength, superior UV cracking resistance and added fire resistance to the fluid-applied membrane.

Energizer LO is a low odor asphalt/polyurethane waterproofing membrane that cures much faster than traditional asphalt coatings. It is intended for applications like hospitals, schools and food production plants where accelerated cure times and odor limitations are preferred.

Revitalizer™ is a heavy-bodied asphalt restoration system that seals, waterproofs, preserves and protects properly prepared smooth built-up or modified bitumen roof systems. When combined with fabric reinforcement, Revitalizer provides exceptional tensile strength and elongation.

Revitalizer Metal is an asphalt-based, fabric-reinforced fluid-applied restoration system designed to waterproof and prevent rusting of existing metal roof systems. The system readily conforms to surface irregularities and accommodates building movement.





WHICH SYSTEM IS BEST FOR YOU?

Determining the right solution for your roof is critical to its long-term success. The substrate chart below identifies ideal systems based on roof type. Lean on your Garland representative for expertise in product recommendations.

FLUID-APPLIED SYSTEMS SUBSTRATE COMPATIBILITY

	Modified Bitumen Mineral or Smooth	Asphaltic Smooth BUR	Coal Tar	Metal	Aged Single-Ply
LiquiTec	■	■			■
CPR				■	
Energizer BK	■	■	■		
Energizer K Plus FR	■	■			
Energizer LO	■	■			
Revitalizer	■	■			
Revitalizer Metal				■	
White-Knight Plus / White- Stallion Plus	■	■			■
White-Knight Plus WC	■	■			■
Cool-Sil	■	■		■	■

FIRST STEP TO RESTORATION: QUALIFICATION

Understanding the condition of your existing roof is the first step in determining if it qualifies for restoration. Garland representatives follow a stringent and thorough evaluation process, considering several factors such as the general condition of the roof's deck, surface, seams and insulation. Ensuring a solid foundation for the application of a fluid-applied system is key to its performance.

HOW WE QUALIFY YOUR ROOF

Roof Analysis

Gather information on the existing roof, such as type, age, preventive maintenance schedule, etc.

Evaluate the condition of the roof deck, roof surface, and seams and flashings, looking for areas that require repair

Identify the cause of leaking

Moisture Survey

Moisture survey and core cuts are conducted to identify any areas of wet insulation/roofing

Typically, roof restoration is an option if less than 25% of the insulation by area is wet (additional factors are always taken into consideration when recommending a solution)

Adhesion Testing

Ensures adequate adhesion and compatibility of fluid-applied systems with existing roof substrates

Select fluid-applied systems require more than four pounds per linear inch (pli) to ensure sufficient bond to the roof

Required to qualify for specific Garland's warranties.

CLEAR® ROOF ANALYSIS

Garland's roof core sample testing program is an additional resource available to qualify the roof for restoration. CLEAR – or Comprehensive Laboratory Effective Analysis Reporting™ – provides answers to questions such as:

- This roof is failing, but why?
- What type of roof is this?
- Does this roof need replaced?
- Is this roof a possible candidate for a moisture survey/restoration?
- What type of coating can be applied over this roof?
- Was there an application error during installation?
- Is repairing this roof worth the cost?

Reports provide factual information on the core sample tested, but will not make recommendations on whether to repair, restore or replace the roof.

GETTING YOUR ROOF **READY**

Roof preparation and proper application are critical to the performance of your fluid-applied system. The existing roof must be brought back to a sound, watertight condition before the new system can be applied. Garland's recommended process includes:

STEP 1: Removing and replacing any wet insulation

STEP 2: Conducting any subsequent repairs

STEP 3: Cleaning the roof of all contaminants, dirt and debris and ensure the roof is completely dry to obtain proper adhesion

STEP 4: Reinforcing seams to provide critical sealing at stress points

STEP 5: Restoring or replacing flashings as necessary



YOU CAN SAVE MORE THAN **MONEY**

While saving money is a nice perk, the benefits of restoring your roof extend beyond the financials. Lengthening the useful life of your existing roof keeps those materials out of landfills – a positive move for the environment considering some 40 million tons of roofing waste end up in landfills every year. Along with that, reflective fluid-applied roof systems help lower energy usage, subsequently reducing toxic greenhouse gas emissions.

OTHER BENEFITS

You can install another fluid-applied roof system over the original to extend the life-cycle of the initial roof system

The existing roof membrane and insulation is maintained and continues to provide waterproofing along with insulating value

The aesthetics of your building will be improved, increasing its value and appeal

Operations can continue during installation without interruption



COMPLEMENTARY PRODUCTS

Complete your fluid-applied roof system with Garland's accessory products, including primers, reinforcements and surfacing.

PRIMERS

Cool-Sil Bleed Block Primer

A high quality, plasticizer free, single component, water based, acrylic primer, applied over smooth asphalt roof surfaces to enhance adhesion of silicone roof coatings. Bleed Block Primer acts as a barrier between the asphalt surface and the silicone roof coating to prevent yellowing of the coating due to asphalt oils migration

Cool-Sil Single-Ply Primer

Designed for surfaces which traditionally present adhesion problems for silicone roof coatings, such as TPO and PVC, and can also be used over a variety of other substrates to enhance adhesion. It is a fast-drying primer that provides strong adhesion on weathered surfaces.

Garla-Block™ Primer

Enhance the adhesion of maintenance coatings and fluid-applied roof systems with Garla-Block Primer, a bleed-blocking, water-based acrylic primer that has no odor and is low VOC. Garla-Block can be used with polyurethanes, polyurea, water-based acrylics and aluminized asphaltic coatings and prevents discoloration caused by asphalt roof systems.

SURFACING OPTIONS

Add granules to your fluid-applied membrane to create non-skid walkways around high traffic areas, rooftop equipment or as safety markers around roof edges and skylights.

Garla-Prime®/VOC

A quick-drying, asphalt-based roof primer that resaturates felts to form a tough, elastic bonding surface for Garland coatings. It can also be used to prime metal, masonry, wood and bare concrete roof decks. Garla-Prime VOC is the low VOC alternative.

Rust-Go® Primer

A high-quality alkyd primer that serves as a rust inhibitive primer or a base primer to enhance adhesion of various coatings over metal substrates.

REINFORCEMENTS

Grip Polyester™ Firm/Soft

Grip Polyester is an incredibly strong reinforcement fabric used in fluid-applied restoration systems. It has superior tensile strength, excellent elongation and is unaffected by water immersion and UV radiation when saturated with fluid-applied products.

UniBond™ ST

Reinforce seams and penetrations on metal, modified bitumen and single-ply roof systems with UniBond ST to create an instant barrier. UniBond ST aggressively bonds to a variety of surfaces and is approved for use with select Garland fluid-applied roof systems.



FLASHINGS & DETAILS

Fluid-applied roof systems offer the advantage of providing seamless watertight protection at flashings and around penetrations, ensuring the elements remain where they were intended - on the outside of your building. The innovative design of the system and ease of installation ensures a monolithic finish from the wall to the field. Fluid-applied membranes easily conform to difficult details to create a tight seal around pipes, drains and curbs. The strength of the system at flashings and details is especially critical since these areas are at the highest risk for leaks.





QUALITY INSTALLATION MATTERS

The impact installation has on product performance can't be overstated. The highest quality product installed incorrectly won't provide the protection you were promised. At Garland, we view contractor selection as important as product selection. That's why we've built a strong network of skilled, trusted contractors you can rely on. The combination of a high-performance product carefully installed by a master in their craft is your best assurance of long-term protection.

Our local and regional contractors have been screened for indicators of success, including:



FINANCIAL SECURITY



PERSONAL INTEGRITY



**SAFETY PERFORMANCE/
COMPLIANCE WITH OSHA
AND HSE STANDARDS**



WORKER SAFETY



**STRINGENT COMPLIANCE
WITH GARLAND'S RIGOROUS
PERFORMANCE STANDARDS**



**APPROPRIATE
CERTIFICATIONS
AND LICENSING**



QUALITY WORKMANSHIP





SEAMLESS SERVICE

Roofing and waterproofing projects are oftentimes complex and overwhelming, and that's why your Garland rep is such an important asset. Having a trusted partner by your side during the process provides you with that extra level of confidence to know your decision is the *right* one.

- Garland reps are expertly trained in determining if your existing roof is a candidate for restoration
- They always make sure you understand the *why* behind a recommended solution and explain how it will solve your problem
- They work with their network of locally-based contractors to ensure a professional installation
- Garland reps are driven to do what's right for you, *always*

WHAT MAKES YOUR GARLAND REPRESENTATIVE DIFFERENT?

Employee owners: Garland reps are employee-owners with a vested interest in the company's overall success, which drives their dedication and commitment to customers.

Locally-based: Garland reps live in or nearby the communities where they work and use their knowledge of the local community, building codes and general construction practices to provide personalized solutions.

Proven processes: Our reps are committed to following Garland's proven 12-step process to ensure your project will be a success.

The Garland Way

Garland is an employee-owned company, which is why ownership is a part of every product we manufacture and service we offer. It is what drives Garland employees to always do what is right for their customers and their company. It has led to the development of numerous innovative and industry-leading products, has resulted in thousands of Garland systems being installed on facilities across North America and the U.K., and has helped us earn the trust of countless customers.

Through ownership, Garland has created a culture of employees who go above and beyond to provide customers with high-caliber building envelope products and a level of service unmatched in the industry. Ownership is what we believe has led to Garland's tremendous and continued success throughout our more than 125 years in business.

Get to Know Garland

- Founded in 1895 and headquartered in Cleveland, Ohio
- Employs more than 220 territory managers across the U.S., Canada and the U.K.
- Owns 90+ patents and over 400 trademarks in the commercial building market
- Manufactures nearly 95% of its roof products sold in North America
- Was among the first manufacturers to offer green roof systems in North America and remains an industry leader in green initiatives today
- Introduced the first high-performance modified bitumen roof system manufactured in North America
- Developed the industry's first 40-year roof membrane
- First in the U.S. commercial roofing industry to receive ISO 9002 certification
- Has been 100% employee owned since 2004
- Donates thousands of dollars to local and national charities each year

For more information, visit us at: www.garlandco.com

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