

There are ways to control cratering that include allowing paint that has been stirred or mixed to sit a few minutes to help disperse air bubbles that may have become entrapped.

Another recommendation is to reduce the nap thickness of the roller being used by one size. And it is important to stay within the manufacturer's recommended application temperatures.

Temperatures and viscosity, a measure on how the product “feels” when stirring and applying, are inversely related. Lower application temperatures cause the coating to thicken, meaning trapped bubbles diffuse slower to the surface and when they finally pop, the coating is too slow to backfill the depression. The ability to read and understand the weather is an important skill for any kind of contractor.



Photo 2: This photo shows cissing and dimpling, also known as fish eyes. This is caused by surface defects.

Cissing and Dimpling

Cissing and dimpling – also known as fisheyes – are similar to cratering, but the primary difference is what is causing the defect. Where bubbles or bubble remnants are the cause of cratering, surface defects cause cissing and dimpling. Cissing occurs when the coating exposes a small spot of the substrate, usually around 1-43 mm (0.4-0.12 inch) in diameter. Dimpling looks like cissing, but the substrate has not been exposed. The defects are observed easier over smooth surfaces, such as metal or single-ply roofs where residual processing oils or engrained greases near vent pipes could interfere with the coating wet out.

Cissing & Dimpling Can Include:

- Surface contaminants
- Unauthorized thinning and incompatible thinners.

The also have the ability to read and understand the weather, which is an important skill for any kind of contractor.



Photo 3: This photo shows grinning; another potential roof coating system failure.

Grinning

Grinning is related to the coating's opacity and describes the inability of the top coating to properly hide the previous coat or the original surface.

When the coating is applied too thinly, it does not reach its full strength and creates a weak spot in that area, a likely candidate for future issues such as tearing. Follow the manufacturer's application rate. There are some coatings that are formulated to cure or dry better at thin applications versus thick applications, and depending on the formula, those thin applications can be recoated in the same day.

Mud-Cracking

Mud-cracking, or just cracking, is a stress-related failure.

Just as not applying enough coating causes issues (see grinning), so, too, does applying too much coating at once. Again, read the provided manufacturer's application rate. While the manufacturer's representative should be able to help you choose the right roof coating for the application, the more information that you or the customer can provide about the system being installed and the condition of the roof will help ensure the proper choice is made.

Bubbling

Bubbling is a type of blistering that is caused by pressure applied under the coating; referred to as non-osmotic pressure. Bubbles form because of substrates and environmental conditions during applications.

Moisture-cured polyurethanes rely on moisture to progress the polymer formation of the resin while any solvents are flashing from the coating. The byproduct of this reaction is the formation of carbon dioxide (CO2), which must escape from the coating before the polymer becomes too thick.

Blistering

Blistering and bubbling are often confused for the same thing. In reality, a bubble is a type of blistering caused by a specific phenomenon, whereas a blister can form from multiple mechanisms. The primary force involved with blistering is pressure from moisture exerted through the coating, typically referred to as osmotic pressure.



Photo 4: This photo shows blistering, which occurs when there is pressure under the coating.

Key Takeaways

The common threads of this article can be summarized to four major points:

1. Surface preparation, cleanliness and dryness prior to a coating application is paramount to ensuring the coating will perform as it was formulated to do. It is also a step that is mostly in the contractor's control.
2. Mix the contents in the cans, buckets, or drums before use. Always assume raw materials settle in the package. By the time the contents of the pail or drum are poured out onto the roof, nearly 100 percent of the ingredients present. Some of that loss may include crucial additives that prevent bubbling, help with wet out, improve hide, or have other important properties.
3. Apply the coating at the recommended thickness, and if multiple coats are recommended, do not try to “save time” by lumping multiple layers into one coat. Most often, blisters or other surface defects can occur.
4. Pay attention to the weather. Temperature and humidity play a major role in how a roof coating will apply, cure, and start working. The application process does not end with hour as the coating dries, coalesces, or cures. Therefore, it is important to understand the weather conditions prior to and after the application. The manufacturer recommendations on application temperatures must be followed to get the most out of the cured film.

PROJECT HIGHLIGHTS



LOCATIONS:

HOUSTON

4545 Langfield Road
Houston, TX 77040
Ph. (713) 880-1432
Fax (713) 880-8255

DALLAS/FT. WORTH

2170 Diplomat Drive
Farmers Branch, TX 75234
Ph. (214) 273-9110
Fax (214) 273-9120

AUSTIN

2755 Business Park Drive
Buda, TX 78610
Ph. (512) 275-1600
Fax (512) 523-9350

SAN ANTONIO

146 Industrial Drive
Cibolo, TX 78108
Ph. (210) 822-6536
Fax (210) 822-8211

OKLAHOMA CITY

912 Messenger Lane
Moore, OK 73160
Ph. (405) 680-0506
Fax (405) 680-0508

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and Louisiana

ST. JOSEPH BRYAN FACILITIES - HOUSTON, TX

Remedial Roofing
Contract Amount: \$3,400,000 (approx.)
Owner: Commonspirit Health
Consultant: Price Consulting, Inc.
General Contractor: Chamberlin Roofing & Waterproofing
Scope of Work: Replacement of existing standing seam and modified bitumen roofing
Project Description: High-level Trauma Center

JOHN SEALY MODERNIZATION PHASE #3 - HOUSTON, TX

New Waterproofing
Contract Amount: \$892,000 (approx.)
Owner: University of Texas Medical Branch (UTMB) at Galveston
Architect: FKP | CannonDesign Architects, Inc.
General Contractor: Hensel Phelps
Scope of Work: Dampproofing, air barrier, sheet metal, joint sealants and thermal insulation
Project Description: Modernization of the John Sealy Hospital

ROADRUNNER BUILDING #3 - DALLAS, TX

New Construction Roofing & Waterproofing
Contract Amount: \$7,000,000 (approx.)
Owner: Compass Data Centers
Architect: HED Design
General Contractor: Brasfield and Gorrie LLC
Scope of Work: Fluid-applied waterproofing, expansion control, sheet metal flashing and joint sealants, self-adhered PVC roof assembly, expansion joint covers, scuppers; collector heads and downspouts for drainage and prefabricated coping metal
Project Description: High-profile Data Center

UT MAJOR RENOVATION HOGG MEMORIAL AUDITORIUM - AUSTIN, TX

New Construction Waterproofing
Contract Amount: \$281,000 (approx.)
Owner: University of Texas
Architect: McKinney and York Achitects & Jacobs
General Contractor: SpawGlass Construction
Scope of Work: Air barrier waterproofing, site sealants, masonry cleaning and interior plaster repairs
Project Description: Restoration of the Hogg Memorial Auditorium

ANITA MARTINEZ RECREATION CENTER - DALLAS, TX

New Construction Roofing
Contract Amount: \$481,000 (approx.)
Owner: City of Dallas Parks and Recreation Department
Architect: Crenshaw Consulting Group
General Contractor: City of Dallas
Scope of Work: PVC Roofing
Project Description: City of Dallas Recreation Center

ASCENSION SETON MEDICAL CENTER - AUSTIN, TX

Remedial Waterproofing
Contract Amount: \$239,000 (approx.)
Owner: Ascension Seton Medical Center
Architect: HKS, Inc.
General Contractor: HC Beck
Scope of Work: Single-ply membrane roofing
Project Description: High-profile Medical Center

WESTOVER HILLS BAPTIST HOSPITAL - SAN ANTONIO, TX

New Construction Waterproofing
Contract Amount: \$1,287,000 (approx.)
Owner: Tenet Healthcare Corporation
Architect: Earl Swensson Associates
General Contractor: Robins & Morton
Scope of Work: TPO roofing and metal coping and edging
Project Description: Baptist Neighborhood Hospital

For a complete list of specialty contracting services, visit www.chamberlinltd.com.

ROOFING/SHEET METAL

- Modified Bitumen/BUR
- Single ply
- Reflective coatings
- Vegetative roofing
- Metal standing seam
- Roof related sheet metal
- Tile

WATERPROOFING/CAULKING

- Joint sealants
- Membrane waterproofing
- Elastomeric wall coatings
- Traffic coatings
- Expansion joints
- Dampproofing/flashing
- Water repellents/metal flashing

BUILDING/GARAGE RESTORATION

- Concrete/Masonry restoration
- Exterior cleaning & coating
- Epoxy & grout injection
- Bearing pad replacement
- Structural repair
- Paver repair & replacement

ROOF MAINTENANCE/LEAK REPAIR

- Roofing & waterproofing expertise
- Leak repair specialists
- Preventative roof maintenance plans
- Roof & building envelope surveys
- Proactive Roof Asset Management
- On-call service 24 hours/365 days a year
- Free estimates



SPRING 2023

CHAMBERLIN
Roofing & Waterproofing

NEWSLETTER

The Village Town Center



This picture is an aerial-view taken intended to capture The Village Town Center in Dallas, Texas.

The Village Town Center, originally developed by Lincoln Property Company has expanded and grown immensely since it originally opened in 1968 and fully developed by 1972. The Village Town Center was the place to be in the 70's and 80's for all the recent graduates and young professionals. The Village Town Center has always been known for its eye-catching architecture and higher end amenity features.

Lincoln's founder Mack Pogue and an institutional partner, developer Phoenix Property Co., began working towards The Village Town Center's 1.1 million-square-foot expansion in November of 2017, completing it four years later in 2020 during the rise of COVID-19.

The 1.1 million-square-foot expansion was intended to redevelop a historical residential community that needed to be modernized to match the current era. The extent of the redevelopment included a total of 330 new luxury apartments and townhomes, several new restaurants, The Village Golf Club including 18-holes of golf, two golf simulators and a bar, a boutique-style hotel, a two-story gym, an upgraded country club, several retail spaces, green spaces and more, making The Village Town Center an ideal place for anyone in the heart of East Dallas to live. All the Village sits over five large below-grade parking structures to reduce most of the on-grade parking. There will be even more to come in the future, since it isn't fully built out yet.

(Continued pg. 2...see The Village)

CONSULTANT'S CORNER



Jason Smith
Senior Scientist
The Garland Company

Even Smart Roof Coatings Can Fail

A coating lacks intelligence. It does not have sentience. A coating cannot decide to wet out over one area and not on another area, even if those areas are 5 feet (1.5m) apart. A coating cannot sense rain coming and know to speed up the cure rate and skin over before the first drops start to fall.

Because coatings lack intelligence, it is the formulator's job to bring together the necessary raw materials to give

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SCOPE

Chamberlin Roofing & Waterproofing's main role in The Village Town Center's completion was through New Construction Waterproofing. Our scope included 147,755 SF of below grade waterproofing, 212,000 SF of rubberized hot-asphalt waterproofing, 345,500 SF of air barrier and 9,000 SF of pedestal pavers. Chamberlin used the following manufacturers and their products for production: Carlisle self-adhered sheet membrane for the below grade application, Tremco rubberized asphalt waterproofing systems, Henry permeable sheet air barrier and Wausau pedestal pavers. Our suppliers for our part of The Village Town Center were All-Tex and Silicone Specialties Inc. (SSI).

SCHEDULING & TEAMWORK

When there is multiple hands-on deck scheduling can be a tough task to tackle. In The Village Town Center's case, "there were multiple buildings under-going work, with one superintendent assigned to each one," said Chamberlin Roofing & Waterproofing Senior Superintendent, Jose Ortiz. There were 70-75 Chamberlin employees

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on-site, with their own safety team member on-site as well. Luckily through getting to know everyone on the project, all the manpower were collectively able to come together and collaborate with each other. This helped all the different teams execute great communication for the entirety of the project.

COVID-19

The Village Town Center was unfortunately going through its expansion when COVID-19 hit the United States. This not only resulted in sick employees, but it also meant the manpower on-site were forced into a new lifestyle where they needed to adapt and adjust to the CDC guidelines; as well as abide by new safety protocols. Another result of COVID-19 during this project was the new difficulty of getting project materials on time. There was a large slowdown of available project materials, as well as labor. Luckily, The Village Town Center was not a project that had any suspensions or terminations due to COVID-19. It was fortunate to have this project be completed in a timely and safe manner, to protect everyone involved with production.



Chamberlin crew working on a weather barrier installation.



Chamberlin using electric field vector mapping, to help check for waterproofing membrane for breaches.

SAFETY FIRST

Chamberlin is dedicated to ensuring safety, quality and teamwork in both the office and in the field. Throughout this project Chamberlin crew members wore appropriate Personal Protective Equipment (PPE) for all scopes of work on The Village Town Center. This included their hard hat, vest, long-sleeves, long pants, gloves and protective eyewear.

An additional tool used during The Village Town Center project was Chamberlin's Safe Performance Self-Assessment (SPSA) process. SPSA combats the risks of unforeseen conditions that arise during the workday and encourages workers to stop before beginning any and all tasks and go through the following mental steps:

1. Assess the risk. What could go wrong? What is the worst outcome if something does go wrong?
2. Analyze how to reduce the risk. Do I have all the necessary training and knowledge to do this job safely? Do I have all the proper tools and Personal Protective Equipment (PPE)?
3. Act to ensure safe operations. Take the necessary action to ensure the job is done safely. Ask for assistance, if

needed. Taking time before starting a task to recognize potential hazards and identify preventative measures that can be taken helps protect employees and those working around them from potential hazards becoming incidents. This was especially pertinent on this project given the close proximity to all of the other trades and workers around our Chamberlin employees.

Safety will always take top priority at Chamberlin to ensure the safety and well-being of our employees and those working with us.

MISSION ACCOMPLISHED

Although the Chamberlin crews and other trade employees working alongside us had to undergo adverse circumstances with COVID-19, they were still able to complete this project with zero safety incidents. Chamberlin's attention to organization, and teamwork among everyone working on The Village Town Center helped us complete all of our scopes in a high-quality manner!



This image was taken during the installation of the Wausau pedestal pavers.



This image was taken after Chamberlin was finished installing the Wausau pedestal pavers.

Employee Profile
Shane Hubbard
Senior Operations Manager
For Roofing & Waterproofing
Houston, Texas



Where it All Started:
Shane grew up in Central Illinois and worked there before starting his career at Chamberlin Roofing & Waterproofing. At the time Shane was seeking employment opportunities at a new company. At the time, he had two uncles who worked for Chamberlin and they went out of their way to help him get in with the company. Shane started out as a helper in the field with the company. From there he grew in the field, which then lead him to where he is with the company now, as a Senior Operations Manager for both the roofing and waterproofing departments.

A Day in the Life:
A typical work day for Shane usually looks action packed and busy. Shane stated that having a busy life style isn't always a bad thing. Shane regularly has different people coming to his office to talk to him, he looks at that as an opportunity to help develop the people around him, no matter where they are at in their career at Chamberlin. Shane also spends a large portion of his day discussing current projects and process, as well as discusses potential issues.

Outlook:
In Shane's opinion, customer service is one of the most important parts of any company. He believes that it is extremely important to provide the best of everything we can to our clients. Not only does this give our clients the best experience possible, but it gives them a way to know that they can trust the quality in our work. Clients don't only choose a company based on their work, they also choose a company based on the relationship they have with them, making customer service that much more important. Another huge thing for Shane is maintaining proper safety protocols at all times during the work day, whether that be here in the office or out in the field. Ensuring that our employees, clients, public and others we work alongside remain safe at all times and is a prerequisite to what we do. Shane stated that he has seen his fair share of accidents in the industry over the years and believes that holding safety to the highest standard possible is the key to success.

Notable Projects:
Shane has contributed to several notable projects during his time at Chamberlin. A handful of those projects include: The Minute Maid Stadium, NRG Stadium, Exxon Campus and Lambeth House, a 12-story exterior facade reclad, an active retirement and assisted living facility in New Orleans, Louisiana.

Greatest Personal Accomplishment:
Shane's greatest personal accomplishment outside of work is finding a proper work-life-balance, that allows him to put his family first on a regular basis. Shane comes from a large family. He has five children and seven grandchildren, with number eight on the way. Family time is everything to Shane and he likes to spend time with them most when he isn't busy at work.

Life Without Chamberlin:
If Shane didn't have Chamberlin in his life, he would most likely still be pursuing construction on some level, because he enjoys what he does in the construction industry. If he wasn't pursuing construction he would start to do woodworking full-time. He actually has a fully stocked 30X40 metal building that allows him to do this now as time allows.



Photo 1: This photo shows mud cracking, which may be caused by a variety of issues related to stress.

the coating the best chance of longevity in whatever environment it will be applied and exposed to in its "working life."

Some coatings are labeled "smart" because they are purposely designed to receive a signal from a stimulus (e.g., light, pH, pressure, or temperature), which, in response, induces a chemical or physical process, such as a color change, a current conduction, or a self-heal.

The extent of the coating's "smarts" does not exceed the limit of the ability of the raw materials to perform these chemical or physical processes. Even the smartest coatings can fail for the same reasoning as any other coating on the market. This article aims to show how roof coatings fail and to aid the contractor in determining root causes of these failures before calling the manufacturer. The information gathered from these observations allows the contractor to contact the manufacturer from a position of knowledge to help solve problems faster. A faster solution is a better solution!

Types of Roof Coating Failure

There are a myriad of failures that can and do plague roof coatings, so we have focused on a few common failures here.

Cratering

Cratering occurs during a coating's drying or curing process when a bubble is popped on the surface of the coating, but the coating only partially flows back into the space left behind. The bubble forms here for a number of reasons.

Featured Chamberlin Superintendent



During the completion of The Village Town Center project, Jose Ortiz, was our Senior Waterproofing & Caulking Superintendent assigned to the job. Since then, Jose has helped complete several other waterproofing projects for our Dallas office.

In recent months, Jose Ortiz, has been promoted to the Dallas Waterproofing Field Operations Manager position. Not only is this promotion well-deserved, but Jose has the proper knowledge, drive and commitment to help build upon the success of this office for years to come. We look forward to see what the future holds for Jose at Chamberlin Roofing & Waterproofing. Congratulations Jose, we are so proud of you!