

Sphere 1 Circular

The Sphere 1 Concrete Issue

Fall 2022
Vol. 22 No. 3

BOARD OF DIRECTORS

CHAIRMAN

RON FOLTZ
CORNERSTONE TOOL & FASTENER
TALLAHASSEE, FL



VICE-CHAIRMAN

MARIA POLIDORO
ACE TOOL
WANTAGH, NY



TREASURER

JOE WIBBENMEYER
NU WAY
ST LOUIS, MO



SECRETARY

SEAN ACKERMAN
THE TOOL NUT
YORKTOWN HEIGHTS, NY



DIRECTORS



SCOTT BROWN
HAHN SYSTEMS
INDIANAPOLIS, IN

SUZANNE BRUNNEMER
MANN TOOL AND SUPPLY
WEST COLUMBIA, SC



JEFF TANNENBAUM
TANNER BOLT & NUT
BROOKLYN, NY

ANDREW HARTMAN
HARTMAN INDEPENDANT CO.
CANONSBURG, PA



RANDY DALE
R.S.DALE CO, INC.
STERLING HEIGHTS, MI



DAYTON[®]
SUPERIOR
BUILDING STRENGTH[™]



Form follows function is a long-embraced architectural axiom born from the philosophy of Louis Sullivan, a Chicago-based architect credited for designing some of the first skyscrapers. The belief is simple. The function of a building (or anything, for that matter) should be the guiding design principle.

Another name in architectural design, Frank Lloyd Wright, expanded upon the theory with the idea of form and function being one. Working in concert, form and function can provide a defined, purposeful aesthetic. Even today, this conviction is applied to not only architectural design, but also art, product development and yep, you guessed it – the use of exposed aggregate.

What is the function and form of exposed aggregate?

One of the most significant advantages it offers is enhanced traction over standard brushed concrete in both commercial and residential applications. From sloped entryways or driveways to common spaces such as walkways, crosswalks, patios, pool decks and other recreational areas, an exposed aggregate can serve a practical purpose while presenting an upscale aesthetic.

But beyond the attractive surface also lies increased durability. Exposed aggregate can better withstand the elements and surface traffic due in part to a lower concrete to water ratio than brushed concrete. This also contributes to exposed aggregate requiring less maintenance and therefore being more cost-



effective long term.

When using exposed aggregate, it is recommended to consult your local ready-mix company for their recommendations on the right mix design and available aggregates to achieve the desired performance requirements and finish (micro, medium or full depth).

Once the mix design is established, selecting the preferred grade of surface retarder is critical to achieving the desired finish. Some surface retarders, such as Top-Cast®, provide color-coding grade from 01 White which provides a very light acid etch up to 250 orange, providing a 1” – 1.5” depth to ensure ease of selecting the appropriate grade.

While micro, medium and deep etches will have different recommendations for prime performance, the application of a surface retarder such as Top-Cast is easy. However, it is important to follow the proper preparations, application steps and finish actions to ensure a successful application.

For example, applying a site saver product such as the quick-drying Top-Cast® SS 100 serves to protect surrounding surfaces from splatter, color, cementitious toppings, cures and retarder overspray by adhering to surfaces surrounding the concrete placement. Applied the same day as concrete placement, the site saver can be easily removed when the concrete surfaces are washed, normally the next day.

Regardless of the etch depth selected, you’ll want to prepare the surface retarder prior to the pour. For Top-Cast®, a minimum of 3,500 psi concrete mix with a 4” – 5” slump is recommended

Continued on page 3

Board Chairman's Message

As I write this, I’m just getting back from our board meeting and STAFDA trade show in San Diego. The board meeting was a time of great interaction and sureness as Rob and Mike introduced the additional staff and reviewed the integration of our rebate tracking, and other support services as they migrate in house. It is a herculean task, and I’m very proud and confident in the team assembled to accomplish this.

This is an investment in both technology and staff to provide greater accountability, security and accuracy across all of our operations. As with all infrastructure investments, there will be some additional costs that will even out over the next couple of years, and will actually result in maintaining or lowering our overhead burden through projected efficiencies.

Sphere 1 and STAFDA have been entwined since our very beginning twenty-three years ago in 1999. Early that November the original founding board members agreed to sign the paperwork and loan that launched our Cooperative.

Our first real organizing effort followed shortly thereafter

at the annual STAFDA convention that same November in Denver, Colorado. To this day a large portion of our membership and all of our board are STAFDA members. In fact, our board currently shares two of our board members with the STAFDA board of directors. It is obvious STAFDA holds a very special place in S1’s history and legacy. As with every STAFDA I have attended, the interaction with colleagues and our vendor partners was rewarding and very beneficial. And for those of you who stayed late enough on the second day and heard my name called, I won the Traeger grill!

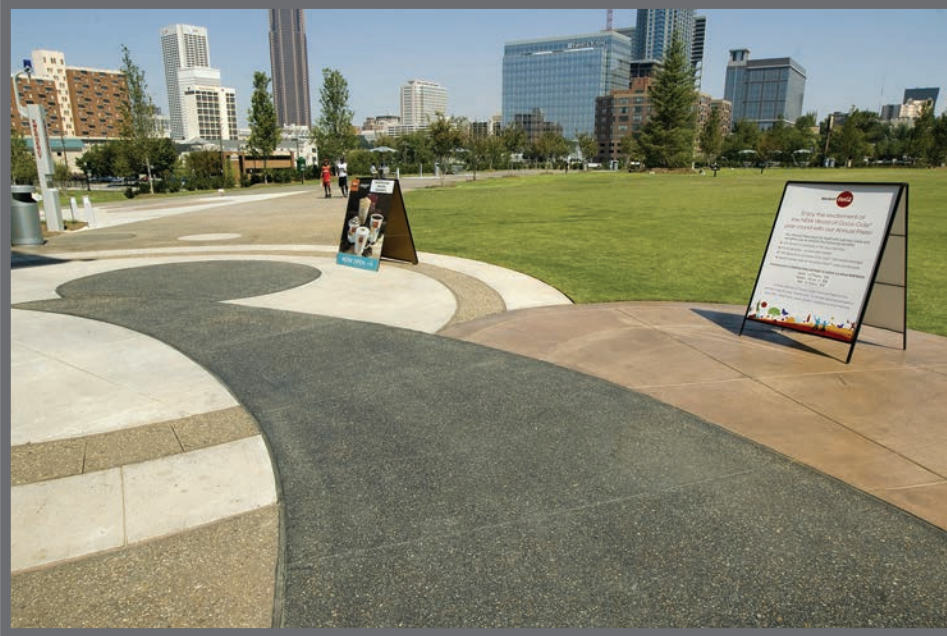
Looking forward to seeing our members and vendor partners this coming May in Indianapolis.

As you read this, we are in the midst of the holiday season. A time to remember, be grateful, and spread warmth and cheer.

Wishing you and yours all the best,

Ron





to achieve the correct etch. Mixes with more or less cement may yield different results. After the placement steps are complete, it is time to apply the surface retarder. This is a key time in the process and an early application is always the better option.

Once the surface retarder is applied generously to the surface has a complete hiding coat, drying time is generally 1-2 hours determined by temperature and humidity. At this point, an extender product (such as Top-Cast® EX 200) may be used over the surface retarder to aid in etch retention, extended wash times and to assist moisture retention in the surface to allow the surface retarder to be more easily removed.

Surface retarder removal can begin in as little as 4 hours in some cases. The concrete surface must be adequately hardened to resist the cleaning process. Generally, removal takes place within 12 to 16 hours depending on job site and weather conditions.

When considering the form, in addition to the function of exposed aggregate, it is worth taking the use of color into account. Color further perfects the artistic visual appeal of exposed aggregate resulting from the right ix design, correct placing and finishing techniques and a high-performance surface retarder.

Whether commercial or residential, exposed aggregate offers a cost-effective fusion of practical, yet versatile functionality enriched by an irrefutably stunning curb appeal.



Vendor Spotlight

BRONZE SPONSOR



Vendor Spotlight

BRONZE SPONSOR



CONCRETE CURING: WHAT IS IT, AND WHY IS IT IMPORTANT?

What is concrete curing? **Concrete curing** is a step during construction where you maintain the moisture and temperature in the freshly placed concrete so that your concrete can develop properties like strength and durability. American Concrete Institute (ACI) 308R Guide to External Curing of Concrete defines curing as “an action taken to maintain moisture and temperature conditions in a freshly placed cementitious mixture to allow hydraulic cement hydration and, if pozzolans are used, pozzolanic reactions to occur so that the potential properties of the mixture may develop.”



Continued on page 5



ACI 308R specifically discusses the principles and practices for external curing of concrete. External curing refers to practices used to cure the concrete topically, whether that is by creating a physical barrier to prevent moisture loss, or by supplying additional moisture loss. Internal curing (IC) was originally defined by ACI as a means to supplying water throughout a freshly placed cementitious mixture. The process produces reservoirs that readily release water as needed for hydration, or to replace moisture lost through evaporation or self-desiccation.

Please note that internal curing is not to be used as a replacement to external curing practices. Internal curing can be used in combination with external curing to make concrete more robust.

28 DAYS LATER

Twenty-eight days signifies the critical developmental stage of your

concrete's life. The first 28 days sets up your concrete for its service life ... with success or failure. The end result depends upon your concrete mixture and your curing protocol. **Curing is a fine art.** Cured correctly, concrete maximizes potential for strength, integrity, and longevity. Here's the impact proper curing has on your concrete

- Strength
- Permeability
- Abrasion resistance
- Volume stability
- Minimizes early-age cracking
- Increases resistance to freezing and thawing and deicing chemicals

One or a combination of the following conditions can impair the quality of freshly mixed or hardened concrete by accelerating the rate of moisture loss and rate of cement hydration or otherwise causing

Continued on page 6



Vendor Spotlight

DIAMOND SPONSOR

Makita
XGT
BEYOND LIMITS
40V | 80V max
THE POWER OF A
75.6cc
GAS SAW*

40V / 80V max (40V max X2)
XGT™ Brushless 14" Power Cutter
*Compared to EK7651H

**NO GAS, NO FUMES, NO PULL-STARTS,
ZERO LIMITATIONS.**

S1-1122 MA-10364-22



Vendor Spotlight

BRONZE SPONSOR

Magnolia Brush
Manufacturers, Ltd. • Clarksville, Texas
The Choice of the Professional Since 1907

Sphere 1 Members Premium
Source for all types of brushes,
brooms, and applicators for
construction and industrial
professionals.

WWW.MAGNOLIABRUSH.COM
P | 1.800.248.2261 F | 1.800.427.5231
ORDERS@MAGNOLIABRUSH.COM
(orders only)



Vendor Spotlight

DIAMOND SPONSOR



**THE NEW STANDARD
IN FRAMING**



SENCO

WR Meadows *Continued from page 5*

detrimental results:

- High ambient temperature
- High concrete temperature
- Low relative humidity
- High wind speed

CONCRETE CURING IN HOT WEATHER

Please note - in hot weather, correct concrete practice and following the recommendation of ACI 305 is highly important when placing concrete. Properties of concrete can be compromised during hot weather because of increased heat of hydration and increased evaporation rate of moisture from the concrete. These could lead to problems such as:

- Severe strength loss
- Thermal cracking (cracks from the concrete curing too quickly)
- Hair checking (very fine, surface cracking that creates a weak surface)
- Shrinkage cracks
- Resistance to weathering

Special mention must be made when

curing concrete in hot weather and ACI 305 is the guide to follow.

Three external curing methods are:

• **Preventing moisture loss** with a physical barrier: plastic sheeting, curing blankets, or liquid-membrane curing compounds,

• **Supplying additional moisture** with ponding, fogging, sprinkling, or water-saturated burlap

• **Supplying heat and additional moisture** with heating coils, electrically heated forms, or blankets.

CURING COMPOUNDS: The most economical way to cure a slab is using liquid membrane-forming compounds also known as curing compounds. As the name implies, curing compounds are liquids that are applied onto fresh concrete surfaces and then dry to form a membrane that will reduce water loss from the concrete substrate. These products comply with ASTM C309 and AASHTO M 148 or ASTM C1315 when tested in accordance to ASTM C156 and AASHTO T 155.



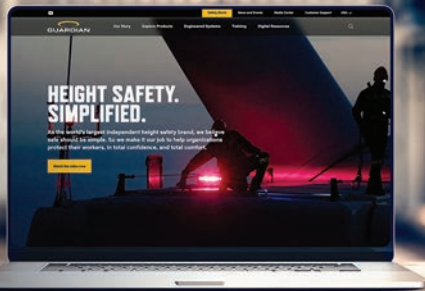
Vendor Spotlight

BRONZE SPONSOR

GUARDIAN

CLICK, CLICK, BOOM!

Check out our new website.



HEIGHT SAFETY.
SIMPLIFIED.

guardianfall.com





Slab Bolster Epoxy



**Slab Bolster
Tipped/Dipped**



Slab Bolster Upper



**Individual High Chairs
Dipped**

– Plastic vs Metal – Why Plastic is Sweeping through the Construction Industry

In today's ever-changing construction world, contractors are constantly faced with many challenges. Of paramount importance is the age-old question, "What costs me more, labor or material?" While that question—and the resulting challenges—is often answered "Well it depends," the better question is usually, "How can I get more out of my labor and what are the best materials to complete the job on time and under budget?" Today, rebar supports (simply known as bar supports) are a classic example of the labor vs material discussion. Typically, contractors view bar support *placement* within the context of labor vs material because they are always faced with the choice of spending more money on the material to place continuous rows of bar supports vs spending more money on the labor to place rows of individual bar supports. Purchasing five foot pieces of slab bolster upper and placing them in continuous rows to pour a slab of concrete costs much more in material than purchasing smaller individual high chairs and trying to place them into continuous rows. Individual chairs are a fraction of the cost of any five foot continuous product but the manpower to place them in perfect grid patterns to catch every piece of rebar is a nightmare in terms of labor cost.

While each contractor eventually resolves this particular question of labor vs material when selecting continuous vs individual bar supports, what about the thought process behind the best *material* available to them? Historically, metal bar supports,

Continued on page 8

Metal Bar Support Advantages

- Continuous (5') metal bar supports still tend to be stronger than the equivalent plastic bar support.
- Require less warehouse space to stock.
- Lower transportation costs due to density calculation.
- Less susceptible to extreme temperatures although plastic has come a long way here.
- More readily manufactured domestically in larger volumes and special orders.



Slab Bolster Grey



Plastic Slab Bolster Upper



Plastic Cradle Chair



Unichair® Plastic

Plastic Bar Support Advantages

- No corrosion whatsoever which is critical for applications like tilt-up, precast, and wood decks.
- Individual plastic bar supports now tend to be stronger than the equivalent individual metal bar support.
- More cost-effective when comparing equivalent products with the exception of slab bolster upper.
- Lightweight and easier to handle on the jobsite.
- Innovative design to provide better solutions and increased value than metal.
- Support longer life spans for completed structures.

made from wire rod, have been the primary “go-to” for all types of bar supports. Wire rod can be cut, bent, welded, tipped, dipped, and coated to satisfy the engineering requirements of proper height, strength, configuration, and corrosion resistance. Thus metal bar supports check all the boxes, are generally available, and are reasonably priced especially when the questions falls back to solving the classic “labor vs material” tradeoff just described above. So if that is the case, why is the larger construction industry moving so heavily to plastic bar supports when metal bar supports satisfy all the main requirements? The answer as it turns out, is varied and nuanced.

First as a caveat, while plastic bar supports are growing rapidly in popularity across the country, metal bar supports still are, by far, more prevalent today. Part of this reasoning is due force of habit, that old school mentality of “I have always done it this way and my guys are used to it.” Part of it is still some cost savings apples to apples between metal and plastic, a topic that will be discussed in more detail shortly. Part of it still is general availability or at least, availability to meet the job requirement that plastic cannot quite service. Part of it also is storage and shipping costs where plastic clearly requires more space to stock and more cost to transport. Finally part of it is just pure education about the total value plastic can offer that many in the industry do not realize. So what are the primary advantages of plastic over metal? It comes down to these basic areas: **corrosion prevention, strength vs weight, cost savings and value, and creative design.** I will explore each of these advantages with examples and why these advantages matter in our industry. Also at the end of this article I include a list of advantages that each type has over the other as an educational tool to help dealer sales personnel understand how to sell metal vs plastic.

Plastic Advantage #1: Corrosion Prevention

Put simply, plastic can never rust. How many times have we walked in a parking garage downtown or underneath an elevated deck, looked up, and seen little orange “caterpillar” feet or worse yet, exposed rebar right at the concrete surface? Sure, steel and concrete provide us with critical structural connections to build our world but they can also lead to massive structural problems when not installed and maintained properly over time. Unfortunately, we have seen several instances in recent years of various bridge collapses and the catastrophic collapse down in Surfside, Florida. The point here is that steel, even when coated, can only provide corrosion resistance; plastic on the other hand, provides total corrosion prevention. It is no surprise then that many engineers in coastal cities have shifted away from metal to plastic for bar support specifications and contractors, knowing the same, have switched their every day purchases to plastic from metal. Similarly, many northern states have also seen the deleterious impact that salt has on concrete and steel during the harsh winter months and have started to recommend more plastic bar supports. Several state departments of transportation also include plastic bar supports on a separate “Qualified” or “Approved” products list within their

documents, including states like Iowa, Ohio, Pennsylvania, and especially the state of Florida. One final point has been the increased use of fiberglass rebar to replace traditional steel rebar in concrete. Fiberglass rebar has seen a dramatic increase in specifications and thus it only makes sense that plastic bar supports would accompany fiberglass rebar in concrete slab packages to remove any concern over corrosion.

Plastic Advantage #2: Strength vs Weight

Significantly lighter than metal, plastic will always have this advantage in its favor, especially when it comes to the ease of handling and placing bar supports. But sometimes, less weight can mean less strength. The strength of plastic bar supports has always been an issue for contractors who tend to view them with a skeptical eye against metal. However, the strength of plastic bar supports has changed dramatically in recent years due to the design (more on that later), improvements in the injection

mold process, and material mix. The material mix is of special note because most plastic bar supports today are made as a composite. A composite is finished material that is made from two or more different raw materials that, when combined, are stronger than either of the individual raw materials by themselves. In the world of plastic bar supports, common examples today include a mix of virgin resin with recycled post-consumer plastic, ABS (Acrylonitrile Butadiene Styrene), and various fibrous materials. When combined with the advancements in plastic injection molding, the result is more consistent strength and performance from plastic bar supports than ever before. On a related note, much work has been done with plastic mixes to enhance strength in more extreme hot and cold temperatures as mandated by testing requirements in various states. In addition, destructive load testing in the industry has shown that some plastic bar supports can actually achieve greater loads than their corresponding metal counterparts!

For example, some individual high chairs, especially at smaller heights, have been shown to achieve over 2000 lbs of direct loading which exceeds metal high chairs at the same heights. The bottom line is that plastic bar supports, when made of quality materials and design, should never sacrifice strength for lighter weight.

Plastic Advantage #3: Cost Savings and Value

While I have always subscribed to the theory that “It’s not the price of the product but the value for the dollar,” it’s important to note that in an apples to apples comparison, certain plastic products are actually less expensive than their direct metal counterparts. When you then add in the notion of “value for the dollar,” it is often the case that plastic wins in both. For example, if an application requires a slab bolster that must be fully coated for maximum corrosion protection, the best choices in metal are epoxy coated or mill galvanized wire. In either case, plastic slab bolster typically will

Continued on page 10

be less expensive apples to apples than either metal option. As stated previously, when you then compare *corrosion prevention* from plastic vs *corrosion resistance* from epoxy coated or mill galvanized, the value of the plastic slab bolster exceeds that of either metal product. To continue with the example, compare plastic slab bolster with metal slab bolster with either plastic tipped or plastic dipped feet. Metal slab bolster with plastic tipped feet hover around the same price level as plastic slab bolster but plastic slab bolster tends to be slightly less expensive than either metal slab bolster with plastic tipped/dipped feet depending on the geographic market. However, going back to the earlier example of “caterpillar” feet exposed on the underside of concrete, the plastic tips can still fall off today and the plastic dipped feet can cure together and later rip off or break off over time, exposing raw steel that will corrode. While the tipping and dipping processes have improved across the industry, plastic never runs this same risk of corrosion. This

advantage is at the center of the changes in specifications we have seen in many southern coastal markets where metal tipped/dipped slab bolster is no longer used for certain applications like residential terraces on high-rise structures. Even if metal tipped/dipped were slightly cheaper, the long-term value of plastic slab bolster greatly outweighs the pennies of savings.

Plastic Advantage #4: Creative Design

Ultimately the greatest value derived from plastic bar supports comes from the remarkable design innovation that metal is not able to achieve. As 3D printing continues to expand our capabilities, our industry continues to reap the benefits of turning mental ideas and “napkin” sketches into amazing and useful products in minutes. Once in 3D form, small tweaks can be made to address practical field concerns immediately. From there, composite mix and mold designs can be crafted to bring the real product to life and injection molding

then enables mass production on a very economical scale. New plastic bar support patents are widespread throughout the industry as contractors push dealers and manufacturers to find better value. For example, plastic bar supports can do the following unlike metal: provide various cradle shapes, be dual height, adjust heights, and stack on top of each other or on top of other product designs. Plastic bar supports can also be bent into circles, snap and lock around rebar, connect ends in unique ways, and be made stronger than steel. All of these innovations are pushing the limits of what plastic bar supports can do and are filling the new product pipeline in the industry. Clearly, this creative design will continue to drive value for many years to come.

Ray Sullivan
Vice President of Sales and Marketing
OCM Inc.

Vendor Spotlight
GOLD SPONSOR



Jack of all STANDS

FOLDING PIPE JACKS feature an adjusting screw and hardened steel locking ring. A patented internal safety stop creates a 1" safety zone preventing hand injuries.

- Legs fold for compact storage and portability.
- 2,500 lb. (1135 kg) weight capacity.
- 1/8"-24" (3-610 mm) pipe diameter capacity.
- Outer surfaces powder coated to resist corrosion.



REED
 PIPE TOOLS & VISES
 SINCE 1896
 Reed Manufacturing Company
 Erie, PA USA
 www.reedmfgco.com

Vendor Spotlight
BRONZE SPONSOR



Precision. Durability. Reliability.



See our complete line of precision laser products including laser levels, grade lasers, point & line, pipe and even specialty lasers.

SPECTRA PRECISION
 It's what we do.

1(888) 527-3711 | spectraprecision.com

Vendor Spotlight
PLATINUM SPONSOR



ERIN ROPE CORPORATION

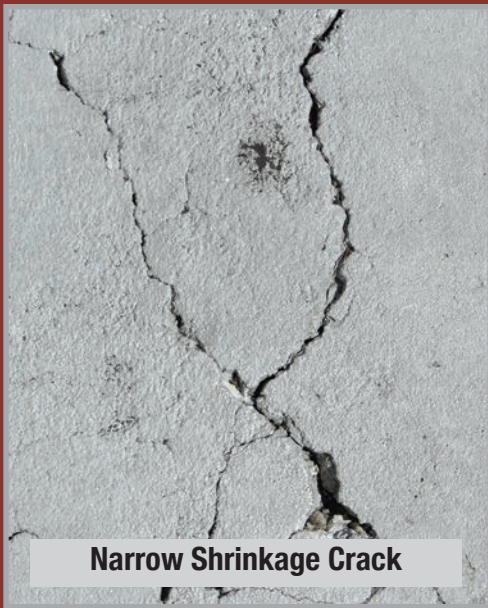
PROUDLY MADE IN THE USA

HIGH-QUALITY ROPE & PULLING PRODUCTS

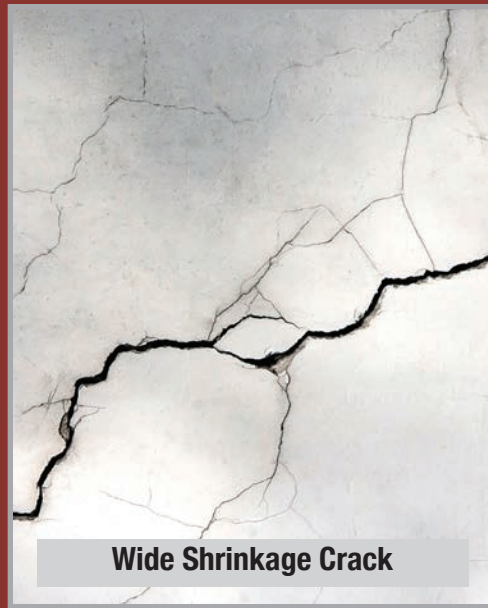


CONTACT US TODAY

sales@erinrope.com
708-377-1084



Narrow Shrinkage Crack



Wide Shrinkage Crack



Spalling



Diagnosing Cracked Concrete and Remedies

You can get into trouble making too many assumptions in the construction industry. When it comes to concrete, a wrong assumption could mean not catching a serious structural problem.

When it comes to in-place concrete, problems may range from purely aesthetic, to structural failures that require the concrete be torn out and replaced. In most cases, there is room to do a temporary concrete repair, that is economical and will alleviate the situation while budgeting for the more permanent solution. The key is to diagnose the concrete problem and plan on how to proceed before any materials are procured

In this article we will focus on Concrete Crack Diagnosis. All concrete diagnosis begins with visual inspection. Make notes and take pictures.

Let's Get Cracking

There is an old adage in the concrete repair community, "There are two classes of concrete complaints: cracks and everything else!"

The reason cracked concrete holds the #1 slot in the concrete repair arena is simple: **ALL**

CONCRETE CRACKS. While concrete is incredibly strong in its compressive strength, it is extremely weak in its tensile strength. The tensile strength of hardened concrete is only about 1/10th that of its compressive strength. Cracked concrete is normal. For the record, a control joint in concrete is a controlled crack put into slab to help guide where the concrete will crack and, in an effort, to make it crack in a straight line.

Diagnosing cracked concrete and the remedy one chooses to apply depends upon its severity, i.e., aesthetic versus structural.

When diagnosing the type of crack in concrete, it will fall into one of these categories or a combination thereof:

1. Plastic Shrinkage
2. Cracking or Map Cracking
3. Drying Shrinkage Cracks
4. Expansion
5. Crusting
6. Settlement

Continued on page 12



Vendor Spotlight

**BRONZE
SPONSOR**

What do you need to do today?
COMPACT IT!



Wacker Neuson is the original compaction brand. From the first vibratory rammer to dozens of industry changing innovations, no other brand offers the rammers, plates and rollers that keep your business on solid ground.

Contact your Wacker Neuson representative for details.



**WACKER
NEUSON**
all it takes!

www.wackerneuson.com



Vendor Spotlight

**PLATINUM
SPONSOR**

STABILA®



#03420

NEW LAX 600G

3 x 360° MULTI-LINE LASER

www.stabila.com | (800) 869-7460

OLDCASTLE *Continued from page 11*

7. Heaving – Root or Frost Heave
8. Overloading
9. Premature Loading
10. Corrosion Induced
11. AAR – Alkali Aggregate Reaction

Aesthetic Cracks

Hairline cracks are surface cracks which are aesthetically displeasing, to be sure, but they are too thin to be of structural concern. The two prevalent types of surface cracking are plastic shrinkage cracks and crazing, also known as map cracking.

Plastic shrinkage cracks are thin jagged lines that run parallel to each other, randomly across a slab. Crazing or map cracking presents earns its name by looking like the lines on a road map – they can run in any direction and often intersect. Both of these surface phenomena happen when the concrete is setting and the rate of evaporation of surface water is higher than the rate of replenishment of upward rising water, known as bleed water. It is caused by wind and humidity. Think of it as wind chapped skin on your hand. As you flex your hand the chapped skin may crack.

It is best practice to leave hairline cracks alone. Simply seal the surface with a film-forming sealer such as Sakrete Cure 'N Seal, or in the case of map cracking, one might employ a water-based concrete stain.

Structural Cracks

Once a slab is cracked, it is cracked. Any crack that goes through a slab is structural, including the installed control joint. All cracks emit moisture into a slab and any crack larger than 1/8-in should be sealed. To leave cracks open is to subject the concrete to any number of future problems and shorten the life of the slab. This rule includes sealing of the control joints.

Diagnosing the crack cause may seem academic as the concrete has already cracked but getting to the root of the situation will help build a plan for repair. One may decide to apply a temporary fix while working with a concrete repair specialist to budget and execute a more permanent solution.

The most common types of concrete cracking experienced are drying

shrinkage and expansion cracking. Certain factors of the crack(s) determine what material and method is best to address sealing the crack:

1. Is the crack interior (in heated space) or exterior?
2. How wide and what is the visible depth of the crack?
3. Does the crack move, ie. expand or close in the summer, and widen in the winter?
4. Is the crack growing in length or continuing to widen?

The answers to these questions help determine if the crack is still active. As a rule of thumb, exterior cracks are active. When in doubt seal the crack with a material that will remain semi-flexible, so that it may move with the crack. Rigid repairs on an active crack will just lead to new cracking beside the repair.

Examples of flexible crack repair materials range from polymer solutions, such as Sakrete Crack Filler, water-based siliconized latex caulks, such as Sakrete Concrete Repair, to the more heavy-duty polyurethanes like Sakrete Non-Sag and Sakrete Self-Leveling Sealants. Read and pay strict attention to the product's recommended application width and depth limitations to help make an informed decision on which material best suits each crack you're intending to seal.

Sometimes a crack is structural yet remains tight on the surface. In these cases, it is advised to open the crack to create a sealant reservoir. This can be achieved by crack chasing, the grinding or cutting of a crack to widen it.

Other cracks mask greater concern. Examples of these issues are settlement and heaving cracks. These crack types have an underlying cause; something has occurred between the bottom of the concrete and its substrate, resulting in uneven pavement. For immediate pedestrian safety, consider creating a "ramp" of patch material, such as Sakrete Top 'N Bond or Pro-Mix Concrete Repair, to temporarily abridge to two concrete levels, thus reducing the trip hazard. A specialist or contractor should be consulted to plan a permanent fix.

Continued on page 13



Map Cracking



Heaved Slab

OLDCASTLE *Continued from page 12*

Overloaded Concrete

A slab that looks shattered is just that. The slab or sidewalk has been overloaded. It is not advisable to try and patch an overloaded slab, as you are just throwing good money after bad. This concrete will need to be removed, the sub-grade must be addressed and recompact, then the concrete re-poured. Diagnose what loads will be expected on the concrete in the future and upgrade the concrete strength to better match the needed performance. A clear example would be that most dumpster pads, whether asphalt or concrete, have been under-designed and should be replaced with concrete rated at 5000 PSI at a correct thickness to match its use. Consult an engineer or a local ready-mix concrete provider for direction in determining the replacement depth of the concrete – 4 inches isn't always enough!

Cracks to Commercial Structures

Once we venture into commercial structures where the stakes are significantly higher, such as a concrete parking deck or bridge, it is advisable to put together a team of professionals to diagnose the situation. The team should contain a structural engineering firm at the minimum and adding a concrete repair specialist is advisable. These repairs most likely will consist of epoxy technologies.

This approach to professional diagnosis and repair includes corrosion induced damage and deterioration caused by Alkali Aggregate Reaction.

Use Available Resources

There are numerous resources readily

available to help diagnose concrete problems. A great source of types of concrete problems has been published by the National Ready-Mixed Concrete Association (NRMCA). They are known as CIPs or Concrete In Practice bulletins – think of them as WebMD for concrete!

The American Concrete Institute or ACI offers a Repair Application Procedures (RAP) certificate program made up of courses on the repair of cracking and spalling, reinforcement protection, as well as surface repair.

Look to ICRI, the International Concrete Repair Institute, as a valuable source for the latest in concrete repair techniques and insights.

Learn from building material manufacturers. Read websites from well-known concrete repair material suppliers and admixtures, such as Sakrete, Grace, Master Builders, and Euclid, just to name a few.

The bottom line is to use your concrete crack investigation as a learning experience. The industry wants educated contractors, finishers, remodelers, home owners, and DIYers, in short, anyone who comes in contact with concrete.

Never ignore the problem, no matter how minor it may seem on the surface. Educate yourself, diagnose the problem, address the problem. Because as incredible as concrete is, one thing it will never do is heal itself!

*Dave Jackson
Oldcastle APG Senior Brand Manager
of Sakrete and Amerimix*

*Dirk Tharpe
Oldcastle APG
Sakrete Concrete Expert*

President's Message

Rob Moe
President and CEO



Hello Sphere 1 Family,

Well, much like my message this summer, Sphere 1 is rolling through Q3. Even dealing with so many issues in the industry, our organization is experiencing exceptional growth vs. 2021.

As a group, we are on the cusp of something unprecedented. Through the first half of 2022, we were up more than 29% in both member spend and rebates. The third quarter looks to be solid, with numbers exceeding our 2021 third quarter totals. As I stated in my earlier messages, these numbers are in play, even with members and suppliers still dealing with supply chain issues, increasing costs, etc. I know I sound like a broken record, but you continue to amaze me. Your resiliency through the past couple years is worth noting.

While the growth we're experiencing is again, substantial, I feel I must continue to put this into some perspective. Simply,

if we cut away things like price increases, as well as other inflationary items that have impacted our values to date in 2022, we are still up more than 10% overall in our spending and member dividends. This value is greater than what we forecasted for Sphere 1 in 2022. Again, outstanding for Sphere 1. While this is excellent news, it's important to understand that there seems to be a lot of uncertainty in Q4 and rolling into 2023, so we must remain vigilant in our support of each other, stay focused on what is in front of us, and work together.

We have had many new things in play for Sphere 1 since the middle of this year! We're excited to introduce you to our new team members: **Andrea Oriza**, Director of Cooperative Services, **Drew Hoyer**, Sr. Director of Marketing, and **Kathy Jewell**, our new Accounting Advisor. These wonderful additions to the team have us poised to continue building on the

successful culture that we have at Sphere 1. Throw in new developments with a new rebate tracking software – set to be implemented in the summer of 2023, as well as a new training platform for our members and suppliers in the back half of next year, and what you have is a lot to be excited about. We can't wait to share more about these significant additions for our membership in the months ahead. We have already started laying out the details for our 2023 Annual Meeting in Indianapolis next May – Get ready as we welcome you to **Victory Lane**, our theme for next year's 2023 annual event.

Well, that's all I have. I pray you all have a safe and enjoyable holiday season. Stay well, stay safe and enjoy all those you work so hard for, each and every day. Have a wonderful holiday season with you and yours.

All the Best,
Rob

Sphere 1 Directory



President & CEO
Rob Moe
770-265-0457
robmoe@sphere1net.com



Executive Vice President of Operations
Mike Shumard
949-932-3600 or
714-933-5744
mikes@sphere1net.com

Senior Director of Cooperative Services
Sharon Boone
949-932-3600
sharonb@sphere1net.com



Accounting Advisor
Kathy Jewell
480-225-7759
kathyj@sphere1net.com



Sphere 1 Corporate Office
23101 Lake Center Drive
Suite 345
Lake Forest, CA 92630
949-932-3600

Director of Platform Management
Katherine Washington
949-932-3600
katherinew@sphere1net.com



Senior Director of Marketing & Events
Drew Hoyer
651-324-2081
drewh@sphere1net.com

Director of Cooperative Services
Andrea Oriza
562-217-5909
andreao@sphere1net.com





CHOOSING THE RIGHT CONCRETE SEALER

How do we extend the serviceable life of concrete? How do we maintain or improve the appearance of concrete? Just a couple of questions that may be asked when starting a project.

Concrete is used in many demanding environments. Sometimes it needs help to function properly. A concrete sealer may be able to offer that help. Determining the right sealer, however, can be a challenge. There are many products on the market. Which one is right for the application? The focus of this article is horizontal concrete.

The first question to ask, “Why are we sealing?” “What is the goal of sealing the concrete?”

There are a few reasons which include,

- Protection against freeze / thaw and deicing chemicals
- Improve appearance
- Prevent absorption into the concrete
- Protection against chemical attack
- Make the concrete easier to clean

Let’s think in terms of the concrete’s location and its environment.

Exterior Concrete Pavement

This could be a driveway, sidewalk, parking garage, or a bridge deck. In most cases the goal is protection. Freeze thaw cycling and deicing chemicals take its toll on concrete. In this case preventing absorption into the concrete is key. Options include:

Option 1, Penetrating Water Repellent Sealers

Penetrating sealers utilize a variety of chemistries, however, the most effective

have proven to be silane or silane / siloxane based. These products work by reacting with the concrete and moisture to produce a silicone gel within the pores of the concrete. The silicone gel within the pores of the concrete creates water repellency. No film is created on the surface which could wear, instead the protection is within the concrete. Most state Departments of Transportations utilize silane or silane / siloxane penetrants to protect our bridges. Depending upon the product, 5 – 10 years of protection is usually provided. Penetrants will not normally change the appearance of the concrete but will not protect against staining.

Penetrating products require a bare, open substrate to allow absorption. Penetrating water repellents offer many benefits. Since these products penetrate, they do not change the surface texture or skid resistance. They do not restrict breathability and are very economical when the serviceable life is considered. Products are water thin and may be applied by spray or roller with the goal

of saturating the surface until it will not take any more.

ChemMasters offers products in each of these categories. Our Aquanil , Certi-Vex Penseal, and PowerSeal product lines are silanes. Our PowerSeal SS lines are silane / siloxane products. Silane /Siloxane may also be used to protect brick and stone surfaces. Products are either offered with a solvent carrier or water. Generally, solvent based products will dry faster and may be applied in lower temperatures.

Again, clear penetrating water repellents become part of the concrete and owners like it because it does not change the appearance or texture of the surface.

Option 2, Film forming sealers

Products can vary from polymeric coatings (applied at > 20 mils thickness) that are used on parking garage and bridge decks to thin acrylic, or acrylic blended sealers

Continued on page 16



(< 5 mils thickness) that may be used on driveways and sidewalks. In either case, the protection is provided by the film. As the film wears, protection is reduced or compromised.

Film forming acrylics or acrylic blends are not only sealers, but they may also be offered as a cure & seal. A cure & seal is applied to the concrete when it is placed and finished to retain moisture helping the cement and water react chemically to harden becoming the glue to hold the full matrix together. A re-application of a compatible sealer will help provide protection against moisture, deicing salts, and freeze / thaw. Thin film sealers will provide protection for about 2 years depending upon the traffic.

Film forming products are offered with a solvent carrier or water based. Solvent based products will dry faster, may be used in cooler climates, and will have more impact on the appearance. Solvent products will add gloss and darken the surface which may not be desired for a driveway or sidewalk. Water based products are more dependent upon the environment (humidity and temperature) for drying. They don't add much gloss and will not darken the concrete. Both solvent and water based products can be tinted for a unique appearance. Polyseal EZ or Polyseal WB are both excellent choices.

Exterior Stamped & Decorative Concrete

Compared with exterior pavement, the goal of sealing Stamped & Decorative Concrete is usually to improve appearance and then protection. The customer is paying for a unique and attractive appearance. The sealer is the last part of the installation, and it is the part that finishes the job – brings out the color. The sealer makes the surface pop! It is a large contributor in providing that unique and attractive appearance. Without the sealer, the surface looks dull and unfinished, and the colors are less than obvious.

For new decorative concrete, you should choose a film forming sealer that also cures the concrete. Certi-Vex AC1315 and Polyseal are acrylic sealers that offer an attractive gloss. Crystal Clear is another

option with the longest lasting gloss due to its unique chemistry combining acrylic with silicone. Additional options are acrylic silane penetrating sealers, low voc options for states with restrictions and low or satin gloss finishes.

For re-sealing existing concrete, a cure & seal may be used, however, they retain moisture. Instead, straight sealers like Traz 25 are offered. Traz 25, a methyl methacrylate, offers a gloss finish with better chemical resistance than most concrete sealers.

Some things that need to be considered when selling sealers for this use.

- Is the surface slippery when wet? Many stamped finishes provide a smooth surface that can be slippery when wet. There are non-skid materials that may be mixed into the sealer or may be broadcast on to the wet sealer. These products are usually fine polypropylene that will create sufficient skid resistance.

- Is the job a new installation or re-sealing of an existing surface? When re-sealing, care must be taken to not apply too many coats that could result in restricted breathability of the surface. Reducing breathability can result in trapped moisture that can cause whitening of the sealer. Moisture exists in the concrete and in the subgrade and it wants to move from cool & moist to warm & dry. As it moves,

excess sealer on the surface will restrict its ability to evaporate. Sealing should only be applied every 3 to 5 years to prevent this excess buildup

- Who is applying the product? Is it an experienced applicator or a maintenance crew or homeowner? It is our job to make sure the inexperienced applicator understands the application and has access to full product information and tips / guidelines that will help make the job easier. ChemMasters offers product data sheets and installation guidelines on its website. www.chemmasters.net.

Interior Concrete Floors

Interior Concrete Floors can have different demands. Warehouse, manufacturing, and maintenance floors will have different requirements of the sealer than exterior concrete. Ease of cleaning and maintaining a clean, dust free floor are the requirements of many interior concrete floors. Again, these products may be divided into 2 categories, film forming and penetrating.

Penetrating sealers for interior concrete floors are often concrete densifiers. Densifiers require absorption into the concrete where they react chemically. This chemical reaction creates more concrete, densifying the concrete. These products work dif-

Continued on page 17



ferently than silanes and silane / siloxanes. This densifying process will help bind soft concrete and helping to reduce dusting while increasing abrasion resistance. Densifiers will not normally change the appearance of the concrete and will not prevent staining. A floor treated with a densifier remains absorp-

tive. example, Chemisil Plus and Chemisil Plus OR create a system for treating auto service bays. Chemisil Plus OR reduces the oil that can absorb into the concrete. Densifiers offer great benefits for interior floors, but the benefits do not translate well to exterior concrete. Instead, as previously mentioned, silane or silane / siloxanes offer the protection needed by exterior concrete.

Film forming products include thicker coating systems built of epoxy, urethane, or polyaspartic and offer great chemical resistance, artistic finishes, and excellent chemical resistance. Specialty flooring experts and professionals should be consulted for these types of coatings.

Thin mil, film forming sealers are usually acrylics or acrylic blends. These products are water based for safe use on interior floors. Solvent based products should not be used in enclosed interior areas due to flammability, solvent inhalation and residual odor. Film forming water based sealers can help keep dust down, allow easier cleaning, and create an attractive low gloss finish. Since a film is created on the surface it is subject to wear. ChemMasters Polyseal WB is 25% solids, water based acrylic sealer that may be used outside or inside. It creates an attractive finish offering a light sheen. It is easy to apply by either spray or roller. If it begins to wear, another coat may be applied to a clean substrate.

Densifiers are used as part of the floor polishing process. They may also be used as part of a system that may be used in grocery stores, restaurants, or auto service garages. For



Chemisil Plus LI	Lithium Silicate
StarSeal PS Clear	Potassium Silicate
Chemisil Plus	Sodium Silicate
Chemisil	Sodium Silicate
ChemGuard	Stain Resistant Finish
Chemisil Plus OR	Oil Resistant Finish

For more information on ChemMaster product lines, please visit: www.chemmasters.net.

Vendor Spotlight
PLATINUM SPONSOR




Tyvek® 400 Coverall
251-TY120S-2XL

Composed of Tyvek® 400 flash-spun, high-density polyethylene which creates a unique, nonwoven material that's able to block particles down to 1.0 micron in size.

Available from

DUPONT + **ORS•Nasco**

Vendor Spotlight
BRONZE SPONSOR

WRIGHT 

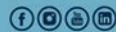
THE VERSATILE, REVERSIBLE

ADJUSTABLE, REVERSIBLE JAW

The new Wright Reversible Adjustable Wrench is two wrenches in one—an adjustable wrench and a pipe wrench.

LEARN MORE AT WRIGHTTOOL.COM.

CONNECT WITH US



MADE IN USA — **FORGING RESPECT**

Five Examples of Structural Best Management Practices Used On Almost Every Jobsite to Prevent Water Quality Fines

Background

The National Pollutant Discharge Elimination System (NPDES) is a permit program that addresses water pollution by regulating point sources that discharge pollutants to waters in the United States. Created in 1972 by the Clean Water Act, the NPDES permit program is authorized to state governments by the Environmental Protection Agency (EPA) to regulate some stormwater discharges from three potential sources: municipal separate storm sewer systems (MS4s), construction activities, and industrial activities. Operators of these sources might be required to obtain a project or site specific permit before they can have any stormwater leave their site . . . which opens a world of opportunity for innovation and solutions to keep construction and industrial activities compliant with federal, state, and local environmental regulations.

What is stormwater pollution?

Stormwater runoff is generated from rain and snowmelt events that flow over land or impervious surfaces, such as paved streets, parking lots, and building rooftops, and does not soak into the ground. The runoff picks up pollutants like trash, chemicals, oils, and dirt/sediment that can harm our rivers, streams, lakes, and coastal waters. Over the last few decades as population density has increased and urban “sprawl” continues, the availability of quality drinking water has deteriorated. To protect this precious natural resource, communities, construction companies, industries, etc., are all required by the Environmental Protection Agency (EPA) to use stormwater controls, commonly referred to as best management practices (BMPs) in an effort to keep our waters clean. BMPs are structural or non-structural techniques that when deployed correctly, the discharge of pollutants from the stormwater is controlled at the point source, whereas the alternative results in payments of heavy fines.

Structural BMPs

Structural BMPs employ physical structures to reduce runoff and mitigate against the spread of pollutants through water resources. They can employ natural elements such as soil or vegetation, or they can involve the construction or placement of manmade items such as silt fence, erosion control blankets, turf reinforcement mats, inlet protection bags, wattles, and dewatering bags.

1. Silt Fence

Silt fence, sometimes called a “filter fence,” is a temporary sediment control device used on sites to protect water quality in nearby streams, rivers, lakes and seas from sediment in stormwater runoff. Silt fence is arguably the most widely used BMP due to their low cost and simple design, and they are often the last line of defense a contractor has keeping one type of pollutant, sediment, from leaving a jobsite. While the concept is very simple, there are multitude of silt fence options, and to increase the effectiveness of this BMP, it is important to understand a designer’s thought process and understanding the following prior to supplying silt fence to a project site:

Fabric physical and performance properties of the geotextile fabric matter. Geotextile fabrics used for silt fence can have varying properties and physical dimensions. Knowing the required performance properties such as tensile strength, apparent opening size, and permittivity of the fabric must be known for proper filtration effectiveness with site specific soil and hydraulic conditions. Additionally, selecting the right silt fence fabric height has a lot to do with the required installation embedment depth, project maintenance practices, as well as designed stormwater runoff velocities and volumes.

Silt Fence Stability. Long term silt fence

Continued on page 19



applications tend to have longer stakes which may be required when loose soils are present to ensure that the silt fence system does not fail during an overtopping event. Stake spacing is dependent upon the design load of silt and water on the fabric portion of the system in between stakes. Stake spacing can range from 4 feet apart up to 10 feet apart, where smaller spacing indicates larger concentrated volumes of water are anticipated and larger spacing indicates that the silt fence may just be used to provide a visual barrier to the construction site.

Traditionally, especially in wildlife sensitive areas, silt fence fabric may require additional reinforcing support from wire mesh or another reinforcing element in addition to the use of stakes. However, this approach is becoming obsolete as the “next generation” of silt fence fabric, designed with a high tensile modulus at low strains, is replacing the conventional supported silt fence system. Silt fence fabrics, such as the WINFAB 2020HDX pictured below, have superior strength properties at low strains, eliminating the need for wire mesh reinforcement while providing for superior performance. These high demand and extreme silt fence fabrics are also a more economical, environmentally friendly solution, since they significantly reduce waste from a job site.



2. Rolled Erosion Control Products (RECPs)

RECPs are used quite frequently to protect slopes and channels from rain events after final grading and seeding has occurred and until natural vegetation has taken root, or beyond. The purpose behind RECP deployment is to not only keep seed and soil in place, but to help promote and expedite the establishment of vegetation. If the RECP is temporary in nature, it is called an erosion control blanket (ECB).

Once vegetation is established, the ECB has performed its job and the natural root system of vegetation should be enough to keep soil in place long term, and the vegetation will naturally filter stormwater pollutants for the design life of the structure. There are varying ECBs available in the market, and selecting the right one involves understanding the functional longevity (albeit short-term relatively speaking and anywhere from 3 to 36 months) required from the ECB before vegetation will establish. The steepness of the slope on which the ECB is placed, and/ or the shear stress present in a channel application can also impact which ECB to use as a BMP. According to the Erosion Control Technology Council, there are four main groups



Continued on page 20

Type	Most Common ECB	Functional Longevity	Installed Slope Steepness (max)	Shear Stress
1	Single Net Straw - WINFAB® S1	Up to 3 months	3:1	≥ 1.5 lbs/ft ²
2	Double Net Straw - WINFAB S2	Up to	2:1	≥ 1.75 lbs/ft ²
3	Double NetStraw/ Coconut - WINFAB SC7030	Up to 24 months	1.5:1	≥ 2.0 lbs/ft ²
4	Double Net Coconut - WINFAB C2	Up to 36 months	1:1	≥ 2.25 lbs/ft ²



Vendor Spotlight

PLATINUM SPONSOR



Vendor Spotlight

DIAMOND SPONSOR

of ECBs. Below is a table summarizing the 4 main groups and their suggested usage.

In the event that the established vegetation's root system is not strong enough to withstand the hydraulic forces of stormwater long term, a more permanent RECP must be used called a turf reinforcement mat (TRM). TRMs act like carpet backing for vegetation, making their root systems much stronger than they would be without a TRM. TRMs are designed with a functional longevity anywhere between 5 years all that way up to 75 years and beyond! High performance TRMs are typically woven geotextiles with extremely high strength properties, and in some cases have the ability to outperform hard armoring erosion control methods such as rock rip rap or concrete and provide for "greener" permanent erosion control. High performance TRMs typically have a woven three-dimensional structure, such as the Diamondback® 4030 from WINFAB as seen below:

3. Inlet Protection Bags

Inlet protection bags are a great technique to use in achieving NPDES permit compliance. They are an economical option to proactively capture silt, trash, and other debris before entering into a storm sewer system. Available in several sizes and geometries, they are easy to install and are easily maintained on job sites. Available in high and low flow options, inlet bags are very successful in allowing water to pass at rates that won't bottleneck a storm drain.



4. Wattles

Straw wattles are an effective and economical alternative to straw bales for sediment control and stormwater runoff. Wattles are cylinders of compressed, 100% agricultural straw wrapped in tubular, UV-stabilized synthetic netting. They are commonly used in conjunction with all of the BMPs previously mentioned, because they can be placed and staked along the contour of other BMPs to complement their performance or enhance performance. Fertile topsoil, organic matter, and native seeds are trapped behind straw wattles and provide a stable medium for germination, or can be used as a barricade to inlets. If used over soil, straw wattles also retain moisture from rainfall, aiding the growth of tree seedlings planted to their upslope side. Straw wattles are available



in two common sizes; 9 or 12 inches in diameter at varying lengths.

5. Dewatering Bags

Another neat trick of the trade that should be used more often are dewatering bags. Dewatering bags are placed on the end of a hose that is part of a pump discharge system and should always be used when water removal is needed from low-lying areas. Other times that dewatering bags may come in handy is after a storm event when ponds, lakes, or trenches need to be dewatered before construction can begin. Dewatering



bags will capture the pollutants/ sediment in the water before it is discharged during the pumping process. Designed for one time use, the bag is simply removed from the end of the hose once the bag becomes full and is then disposed of properly during waste collection on a construction site.

Contact WINFAB for Dependable BMPs

Sediment and erosion control BMPs will continue to be in high demand for the foreseeable future. The disturbance of land undoubtedly will create unavoidable need for

BMPs and other construction materials as it becomes increasingly important to protect natural resources such as water. Additionally, sustainable infrastructure designed with resiliency will require incorporation of geotextile and erosion controls products to meet new building guidelines and environmental compliance regulations. To learn more about the benefits of the BMPs discussed herein or other geotextile and erosion control solutions, partner with WINFAB, and help protect the environment by providing your customers with quality products while also supporting a domestic manufacturer.



Please contact Neil Sichel, Sphere1 program manager at neil@winfabusa.com or visit our website at www.winfabusa.com.



Vendor Spotlight

BRONZE SPONSOR

Introducing Hultafors Tools Work Gear

A comprehensive line of durable tool carriers, functional work gear, and comfortable kneepads.

www.hultafors.us

Vendor Spotlight

DIAMOND SPONSOR

metabo HPT

PRO TOOL INNOVATION
AWARD WINNER

36V 21 Degree 3-1/2 Inch Duplex Nailer

WAS \$499 SAVE \$150

NOW \$349

800.706.7337

www.metabo-hpt.com

Vendor Spotlight

PLATINUM SPONSOR

Zero to Fastened
in Seconds!

Strong-Point.
The right fastener
for any project.

A quality construction project requires precision, speed and fasteners that perform beyond what is expected. Your customer's reputation depends on it. *Kill it when you drill it*® with Strong-Point professional-grade construction fasteners.

INTERCORP

Los Angeles	800.762.2004	Portland	800.434.5606
New York	888.322.2262	Houston	800.558.7222
Dallas	800.558.7222	Cleveland	800.533.9669
Chicago	800.533.9669	Miami	800.822.9690
Atlanta	800.822.9690	www.intercorpusa.com	



Vendor Spotlight

DIAMOND SPONSOR



GET THE CATALOG 



The **Grip-Rite® RED System™** features tools, collated fasteners, compressors and accessories the pros demand. Look no further for everything needed to **get the job done right!**

Contact your PrimeSource® Rep Today
800-676-7777 | grip-rite.com



WE BUILD AMERICA™

© 2022 PrimeSource® Building Products, Inc.
All Rights Reserved.

GRSS1AD1122



Vendor Spotlight

PLATINUM SPONSOR



HD 50™ REPAIR MORTAR

*Tough enough for airport runways,
highways, bridge decks and more*



--Meets ASTM C-928--

--Opens to use in 60 minutes--

A heavy-duty, one component concrete repair - *requires only water to mix and apply.*

- High compressive strength QUICKLY, over 2,000 psi in one hour
- Resists salt penetration and damage from freeze/thaw cycles
- Non corrosive - compatible with portland cement concrete

Contact your Dayton Superior representative for information.



www.DaytonSuperior.com

Welcome New Sphere 1 Members



Markwell Florida

Miami Gardens, FL • 305-687-0376

Contact: Mike Blanco • mblanco@markwell-fl.com

www.markwell-fl.com



Northeastern Hardware

Morristown, NJ • 973-538-6220

Contact: Richard Gordon • rgordon908@aol.com

www.northeasternhardware.com



O'Leary's Contractors Equipment & Supply Co. Inc.

Chicago, IL • 865-687-7220

Contact: Mike Hamilton • mike.hamilton@olearysinc.com

www.olearyequipment.com



Texas Tool & Equipment LLC

Lubbock, TX • 812-636-4053

Contact: Phillip Young • pyoung@texas-tool.com

www.texas-tool.com