Garage Force
Field Operations Manual

GARAGE FORCE

Welcome to Garage Force!

Garage Force has worked tirelessly to build a reputation as one of the most dependable installers of concrete coatings for both commercial and residential markets. We have developed a product that speaks for itself, and we are proud to operate a business that we can not only stand behind but feel confident asking others to join us.

We know that we have a superior product, but a large part of our company is offering personal experience and in custom installation to our customers. And we need YOU to help us achieve that, nationwide! We've spent years developing a strong business strategy and marketing plan that will enable you to operate your own Garage Force franchise and begin generating immediate revenue.

GARAGE FORCE

THE EVALUATION PROCESS

During the evaluation process it is important to inspect the floor for signs of potential issues. Some issues may not present themselves until the preparation process begins however there are steps that can be taken to avoid many of the issues that arise after coating has been applied. In general, concrete deterioration falls into five categories, spalling, leaching, cracking, scaling, and joint deterioration. These forms of deterioration vary in degrees and cause durability issues experienced by many concrete structures.

Spalling - Spalls, also known as potholes, are dish-shaped cavities in reinforced concrete surfaces. These cavities range from one to several inches in deepness and several square feet in surface area.

Scaling – This is similar to spalling except that the concrete tends to come off in thin layers. Scaling is often the result of the action of de-icers during periods of freezing and thawing. Tapping the slab with something solid like a wooden broom handle or even a screwdriver handle while listening for hollow spots can help to determine if the scaling is an area of concern that could lead to unseen costly repair.

Laitance- A weak, easily crumbled layer on the surface of concrete, consisting of cement and fine aggregates that rise to the surface when too much water is added. Laitance may also be caused by over-troweling, rain damage, or poor curing.

Leaching - A result of lime (or calcium hydroxide) leaching out of a permeable concrete mass over time, which reacts with carbon dioxide and airborne acid pollutants is Efflorescence. Efflorescence is a white crystalline or powdery deposit on the surface of concrete from hydrostatic pressure in the slab.

Efflorescence- A white crystalline or powdery deposit on the surface of concrete.

Cracks and Pits – Cracks and pits should be inspected to determine what repair will be needed.

Moisture present – Surface moisture or sweating concrete can be a sign of moisture issues in the slab. Further examination and discussion with the customer are needed to determine the possible cause and how to remedy.

Sealers – Some sealers are extremely durable and difficult to remove without the use of PCD's.

THE EVALUATION PROCESS cont...

Contaminants – Oils, grease, battery acid and other contaminants will need to be removed before coating. Some can be removed during the prep stage but there should be a plan in place for using other chemicals and cleaners if needed.

Coating removal – Removal of old coatings can be a time consuming and expensive task if the integrity of them is not identified. Discussing the installation process that was taken will help to determine the necessary means of removal.

Broken rebar – Small macroscopic cracks with rust appearing can be a sign of issues below the surface. Rust stains in the concrete can be a sign of rebar that has corroded and broken that will need to be addressed to avoid rust stains in the coating using a Moisture Mitigation.

Fiber Expansion Boards – Look for areas along the foundation that the fiber board may have been covered with concrete when the floor was poured. This is normally minimal and only a slight residue, however, there have been cases where a thick layer of concrete covers the fiber board. Expect to take some time to grind or chip away the concrete in these areas to produce a clean line for your coating.

Control Joints – Controls joints that are cut in with a saw are common areas of deterioration and pitting. Speed Joints or "Zip Strips" are sometimes used in place of saw cut joints and should be discussed with the customer. Zip Strips have the potential to be visible in some areas while others will fill in after the coating is completed depending on the width of them.

New Construction – With new construction projects confirm that there is a source of power present to allow for lighting if needed. It is also beneficial to be one of the last contractors on the jobsite to avoid damage to your coating install by other contractors.

Bolts and metal anchors in floor and joints – Always walk the area that is being coated to look for possible hazards that would be caught with the grinder and or shot blaster and discuss their use with the customer. Bolts and Metal anchors in the floor should be cut off or ground down with customer approval if they have no need for them. Check saw joints, a common place to find sheetrock screws and nails that can damage your shot blaster if not removed before prepping.

MOISTURE TESTING FOR CONCRETE SLABS

Moisture Vapor Transmission (MVT) is the number one cause of coatings failures across the board.

New concrete floors require 30 days to cure before coating.

It is imperative that the moisture content be checked prior to installing all coating systems and results of the moisture test are required for warranty coverage.

Moisture passing from or through concrete has become the number one cause of floor covering system failure in this country. Left unchecked, moisture in the concrete can lead to premature delamination, peeling, and bubbling of resinous coatings.

Determining moisture levels starts with a moisture test done during the bidding process, which will tell you if moisture is a concern. If excessive Moisture Vapor Transmission (MVT) is a concern as shown in the tests, there are costs involved with the remediation products and those need to be passed on to the customer. Therefore, if the initial test results in a high reading, a discussion should take place at the time of bidding to determine what could be causing the excessive moisture readings and the next steps.

Many factors can lead to high moisture readings; saturated base material, an improperly drained site and surface moisture are examples.

Determination of how much moisture exists in the slab, the source of the moisture and whether conditions, like seasonal ground water might contribute more moisture in the future and using the correct tool will help you to choose a suitable remedy.

It is important to note that in our opinion, all existing test methods are capable of being “fooled” under certain conditions. Therefore, having a discussion with the customer is imperative when high moisture readings are being seen.

MOISTURE METER

Garage Force recommends starting with the Moisture Meter to test garage slabs and other residential applications. It is a non-invasive meter that does not require any drilling or grinding, and results are immediate. This measures the top section of the concrete slab and gives an average percentage moisture content of the footprint area of the meter.

The instrument operates on the principle that the electrical impedance of a material varies with its moisture content. The electrical impedance is measured by creating a low frequency alternating electric field between the electrodes. This field penetrates the material under test. The very small alternating current flowing through the field is inversely proportional to the impedance of the material. The instrument detects this current, determines its amplitude and thus derives the moisture value.

All covering materials, adhesive residue, curing compounds, sealers, paints, etc., should be removed to expose a test area of clean bare concrete. Place the meter on a level concrete floor and push down, this will give you an accurate reading inside the concrete, not just on the surface. Include test locations in the center of the floor and within 3ft of each exterior wall.

You should take between 3 and 5 readings for every 500 sq. ft. of area to be coated. This moisture meter will read between 0-6.9 % moisture content. Readings on a concrete floor slab obtained on this scale indicate moisture content and should not be confused with Pounds (lbs) emission or any other unit of measurement obtained by other moisture testing methods or meters.

Any readings over 4.5% will indicate moisture problems and should be looked into and discussed with the customer.

Always document readings for warranty purposes.

Note that there seems to be no linear correlation between moisture content measurements and lbs emission measurements as obtained using calcium chloride testing methods.

If the moisture meter reads higher than 4.5% moisture content, Garage Force requires application of one of our moisture mitigation products to create a vapor barrier. (See moisture mitigation products)

CALCIUM CHLORIDE TESTING

Garage Force recommends using a calcium chloride method to test garage slabs and other residential applications that have a moisture reading of 4.5% or higher.

Garage Force requires the calcium chloride method to test all commercial jobs and any residential jobs over 2000 sq. ft.

The calcium chloride vapor emission test was developed to quantify the volume of water vapor radiating from a concrete slab surface over time. This test is directly specified by the vast majority of the Floor Covering Industry as the primary measure of moisture acceptability for floor covering installation. This test records the amount of moisture that emits from a concrete slab surface in 24 hours. The result is expressed as “pounds” which is the equivalent weight of water, emitted as vapor in 24 hours. This test method covers the quantitative determination of the rate of moisture vapor emitted from below-grade, on-grade, and above-grade (suspended) bare concrete floors. This is a very sensitive and highly accurate test when conducted properly.

TEST PROCESS:

Reference the Test Kit Instructions on DASH for detailed Test Process information and application restrictions.

DO NOT conduct this test unless the building environment is representative of the actual working climate.
Prepare 3 test sites for the first 1,000sq. ft. and include 1 more test for each additional 1,000 square foot area.
Calcium chloride testing requires the use of a gram-weight scale with a gradation of 1/10th (0.1) gram.
The calcium chloride container is weighed before and after exposure to the concrete slab. It is highly recommended that the test be weighed prior to, and directly after exposure on the same scale.

The test site should be at the same temperature and humidity expected during normal use. If this is not possible, then the test conditions should be 75 ± 10°F (23.9 ± 5.5°C) and 50 ± 10% relative humidity. Maintain these conditions 48 hrs. prior to, and during testing.

Prior to placement of the tests, the actual test area should be clean and free of all foreign substances. All residual adhesives, curing compounds, sealers, paints, floor coverings, etc. should be removed by using approved OSHA work practices. approved OSHA work practices.

This test design conforms to the American Society for Testing & Materials (ASTM) E-1907-04 & F-1869-04.

PH TESTING FOR CONCRETE SLABS

What do you do if your pH readings are high?

First and most important, make sure your moisture testing was done correctly. High pH and high moisture vapor emissions are very common and travel together. If you're using a calcium chloride testing procedure it is extremely easy to end up with false positives (low readings) unless you follow the ASTM F-1869 protocol to the letter. Concrete floors are initially very alkaline having a pH of 13 to 14. A curing period of at least 30 days before coating is required for the concrete to react and become less alkaline. This curing period also allows the initial high moisture content to drop or normalize.

The concrete surface pH should be between 7.0 and 9.0 before installing resilient flooring.

Always document readings for warranty purposes.

Low pH (Acidic):

If PH levels are low clean with baking soda / TSP wash to neutralize. Use a blend of 1:1 TSP to baking soda mixed in bucket of water. Full wash/scrub with broom and/or floor scrubber, then rinse well at least 2 times with fresh water. Trisodium phosphate is a water soluble alkaline powder commonly used for cleaning before painting.

After cleaning and rinsing, recheck the pH level and proceed from there with coating or having to re-clean if the pH is still acidic. It's not uncommon to have to repeat the above steps to move pH to neutral.

After cleaning and rinsing, Make sure moisture levels are below 4.5% on a moisture meter before coating.

High pH (Alkaline):

High pH will require the application of a moisture mitigation product. These products are capable of being applied directly to high pH floors but will not adhere properly to low PH floors.

DEWPOINT CALCULATION

Monitoring climatic conditions, such as temperature, relative humidity, dewpoint and moisture, is often vital to the successful application of a coating and are critical to the resulting quality and performance of the coated product. In the protective coatings industry, moisture can form on the surface when the surface temperature is low enough to cause condensation from the atmosphere. The Dewpoint temperature is the point at which this occurs.

Monitoring the surface temperature relative to the air temperature and its relative humidity allows the dewpoint temperature to be calculated and compared to the surface temperature. This difference in temperature is the key parameter dictating when it is safe to apply the coating. Temperature must be maintained during curing, or Temperature should be steady and falling, but never rising. No coatings should be applied unless surface is a minimum of 5 degrees above the Dew Point.

Always document readings for warranty purposes.

EXAMPLE: If air temperature is 70°F and relative humidity is 65%, the dew point is 57°F. No coating should be applied unless the surface temperature of the concrete slab is 62°F minimum.

Relative Humidity	Ambient Air Temperature- Fahrenheit										
	20	30	40	50	60	70	80	90	100	110	120
90%	18	28	37	47	57	67	77	87	97	107	117
85%	17	26	36	45	55	65	75	84	95	104	113
80%	16	25	34	44	54	63	73	82	93	102	110
75%	15	24	33	42	52	62	71	80	91	100	108
70%	13	22	31	40	50	60	68	78	88	96	105
65%	12	20	29	38	47	57	66	76	85	93	103
60%	11	19	27	36	45	55	64	73	83	92	101
55%	9	17	25	34	43	53	61	70	80	89	98
50%	6	15	23	31	40	50	59	67	77	86	94
45%	4	13	21	29	37	47	56	64	73	82	91
40%	1	11	18	26	35	43	52	61	69	78	87
35%	-2	8	16	23	31	40	48	57	65	74	83
30%	-6	4	13	20	28	36	44	52	61	69	77
	Dew Point = Temperature at which moisture will condense on surface										

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PREPARATION OF CONCRETE FOR COATINGS

Proper surface preparation is a key element in determining the success of a concrete restoration project. Improper surface preparation may lead to the failure of the protective system or repair material resulting in further repairs, added expense and loss of use. The condition of the substrate, including the presence of unsound concrete, bond-inhibiting materials, substrate deterioration, cracking and surface contamination need to be evaluated to determine the nature and degree of preparation required.

CURING OF NEW CONCRETE FLOORS

Concrete floors are initially very alkaline having a pH of 12 to 14. A curing period of at least 30 days before coating is required for the concrete to react. As the concrete cures and carbonates over time, the pH level decreases and become less alkaline. This curing period also allows the initial high moisture content to drop or normalize. PH paper or a PH Pencil can be used to verify curing. When adequately cured, the pH of the concrete should be around 9.0 to 10.0. If the pH has been determined not to have dropped sufficiently, additional curing time, or the use of an alkali resistant primer will be necessary.

New concrete floors require 30 days to cure before coating.

CURING AGENTS

The optimum method of curing concrete is by keeping it wet for as long as possible, usually 7 – 10 days after pouring. If concrete can't be wet or moisture cured; curing agents are often used. If the wet cure is improper or inadequate, the concrete will tend to crack more than normal and carbonate more extensively. Curing agents may be used to seal concrete surfaces and retain water during hydration. These agents may range from oils to chlorinated rubbers to moisture tolerant epoxies. Normally these products are not compatible with the coatings that are to be applied and must be removed prior to surface preparation.

WATER REPELLENT COMPOUNDS

To reduce water permeability of the concrete, water-repellent compounds, such as silicones, silanes and siloxanes are sometimes applied. They can be detected by the water break test. If detected, they must be removed prior to the application of any type of coating.

PREPARATION OF CONCRETE FOR COATINGS

LAITANCE VS EFFLORESCENCE

Remove efflorescence/laitance from substrate to be coated. Laitance and efflorescence are two terms that are often confused with each other, although they are distinctly different. Laitance occurs during the concrete placement, finishing and curing process. Efflorescence occurs much later after the concrete has cured and settled. For any coating operation, checking for and remedying all issues with latency and efflorescence will lead to long term coating adhesion. If these things are overlooked, problems with delamination and peeling can occur in the future. How do I test for laitance Here's the highly technical answer: scrape the surface of your concrete floor with a knife. "If a powdery material can be scraped from the surface, excessive laitance is present.

EFFLORESCENCE

Efflorescence is white crystalline or powdery deposit on the surface of concrete. It is a result of lime (or calcium hydroxide) leaching out of a permeable concrete mass over time, which reacts with carbon dioxide and airborne acid pollutants. Efflorescence often occurs where water has leaked into the concrete, and often shows itself as a white crystalline deposit around the crack or pinhole. This raises the question on how to prevent efflorescence re- occurring. The source of the efflorescence (water ingress), into concrete needs to be identified and plugged, prior to any surface preparation and coating operations.

PREPARATION OF CONCRETE FOR COATINGS

GRINDING USING DIAMOND ABRASIVES – (CSP 1 – CSP 2)
Machines with diamond impregnated metal segments on steel discs are used commonly on floor surfaces to remove the top layer of the concrete and profile the surface prior to coating. Care must be taken not to allow high points or edges to form when preparing the surface. Usually using machine in one direction then coming back perpendicular across the first series of cuts prevents this. There are several varying segments that are designed to be used for different types of concrete and coatings removal. Using the right type of diamonds is essential to quick, efficient, and cost-effective concrete preparation.

METAL BOND SEGMENTS
When it comes to grinding you have metal bonds which are primarily used for aggressive concrete grinding, coating removal, surface prep, and heavy grinding for commercial concrete and residential concrete floors. Metal Bonds are designed specifically for the different types of concrete hardness. It is recommended to use a Mohs Scratch Test Kit to determine the hardness of the concrete. This will ensure you get the correct tool for the job. The bonds commonly come in extra soft, soft, medium, hard, and extra hard bond strengths. After you have determined which hardness of bond you need, you now need to determine grit. Grit is designed to refine the scratch pattern. As a general rule, each consecutive grit will be about double in grit. This will allow the diamond tool to remove the scratches of the previous step.

Another important term and section of a pad are the segments. The segment is the raised part of the tool that holds the metal bond. When referring to metals the number of segments can vary, but it is most often common to find them in one or two segments of Bars or Round Buttons. The more segments you have the less head pressure you have. Therefore, with a single segment, you are putting all that pressure upon just one spot on the diamond tool. With that extra head pressure, fewer segments cut faster, whereas more segments will allow for surface refinement with fewer scratches.

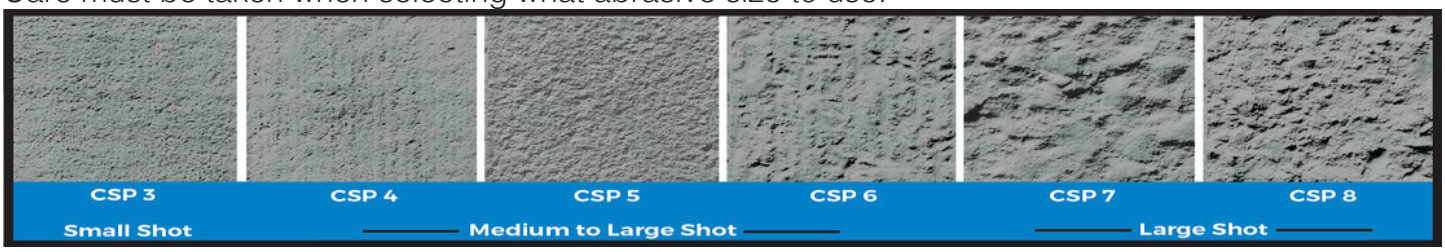
- PCDs - Used strictly for coatings, mastic, and glue removal. These are not to be used for regular preparation.

PREPARATION OF CONCRETE FOR COATINGS

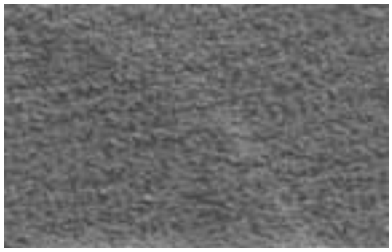
ABRASIVE BLASTING - (CSP 3 - CSP 9)

Shot Blasting is a type of surface preparation that is a bit underrated. Over the past few years in certain industries, there has been a push towards the misconception that Grinding is better than Shot Blasting. Shot Blasting removes any loose contamination (including laitance) from the surface and exposes sound, tightly adhered underlying concrete/aggregate.

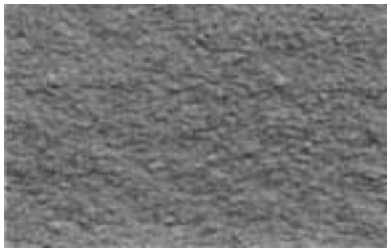
Care must be taken when selecting what abrasive size to use.



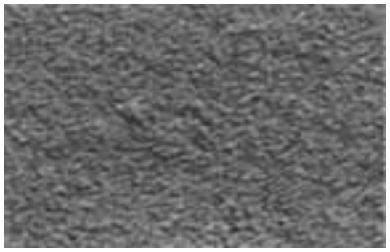
CONCRETE SURFACE PROFILE SCALE:



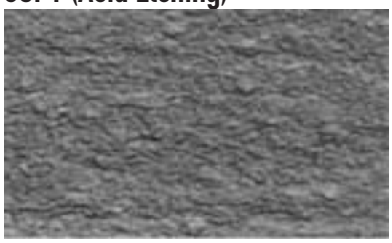
CSP1 (Acid Etching)



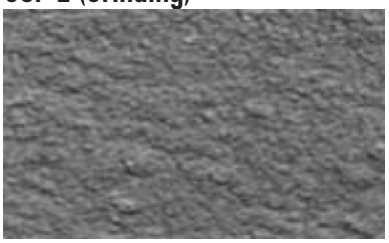
CSP 2 (Grinding)



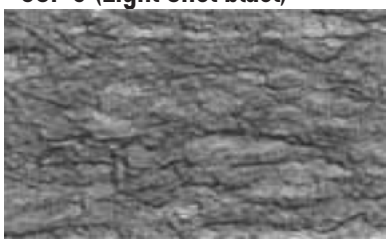
CSP 3 (Light Shot blast)



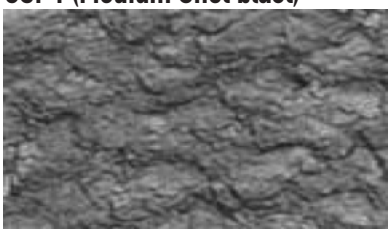
CSP4 (Medium Shot blast)



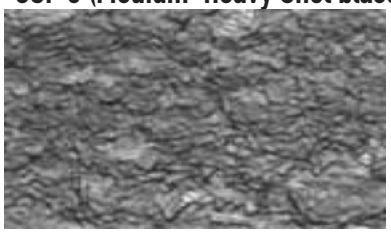
CSP 5 (Medium-Heavy Shot blast)



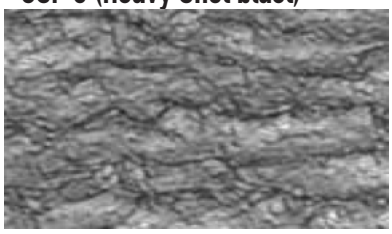
CSP 6 (Heavy Shot blast)



CSP 7 (Heavy Shot blast)



CSP 8 (Extreme Shot blast)



CSP 8 (Extreme Shot blast)

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PREPARATION OF CONCRETE FOR COATINGS

The CSP or Concrete Surface Profile guide measures concrete surface texture from smooth to rough using a numerical rating system, with 1 being the least textured and 9 being the most aggressive texture. Generally, you can achieve a CSP of 3 through to 8 with different size and amount of shot, shot mixture, and travel speed.

The size of the shot you use will have a definite effect on the profile or texture of the concrete. For example, if you are looking to create a concrete profile with a lower CSP, use a smaller sized shot. However, if you are looking to create a concrete profile with a higher CSP you'll want a larger sized shot or mixture of shot so you can create a more aggressive and textured profile.

The more you open the valve, the more shot falls onto the blades, and vice versa. The larger the load size, or the larger amount of shot you have falling on the blades, increases the amount of shot beating up the concrete, creating a more textured profile, and vice versa

Once you know what you want the concrete profile to look like, you can easily figure out the best way to achieve it. Finding the best combination between shot size, amount, and travel speed is key. It is important to take a second and find the right mixture of the three key factors to ensure a relatively even profile. If you rely too heavily on one or the other, you run the risk of having your profile turn out uneven or patchy.

SHOT BLASTING VS. GRINDING

Concrete Surface Profile (CSP) is the term used when judging the degree to which the concrete is prepped. All coatings require a minimum of CSP 2, and a CSP 3 is preferred. When used in high foot traffic and vehicle traffic a CSP 3 is needed to achieve proper adhesion. For heavy moisture issues a CSP 5 is required for use with moisture mitigation product. While CSP 2 is the minimum required, it is not what we use as the standard for what we do. Garage Force has never been about doing the bare minimum or just "good enough". We are about excellence and providing the best and longest lasting floors available.

Grinding

According to the International Concrete Repair Institute (ICRI) a floor grinder can only achieve a maximum of CSP 2. While this may be acceptable in limited foot traffic applications this is not the recommended way to prep. Remember CSP 2 is the maximum for a grinder and not the automatic. Just because you used a grinder does not mean the floor is prepped to CSP 2.

ICRI states, "Grinding is not recommended for the following applications: Preparation for coating or sealing unless followed by acid etching, shot blasting, high-pressure water-blasting;"
Obviously we want to avoid introducing water to our floor as this would only create more issues. That leaves shot blasting as the only suitable method.

Grinding is never intended to be a primary prep method. It is primarily used for coatings removal and areas where a shot blaster absolutely can or should not be used i.e. around a pool.

Shot blasting

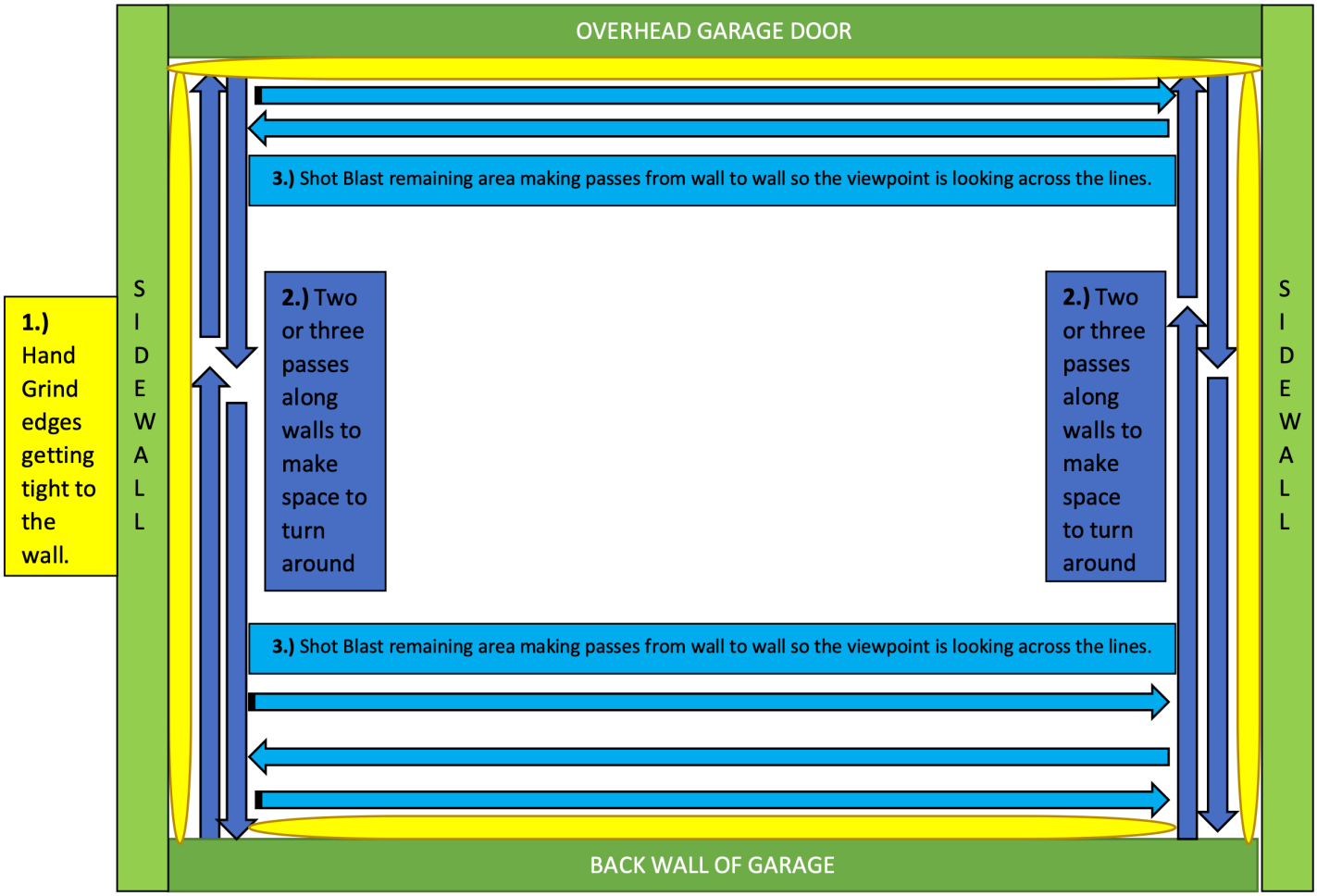
Shot Blasting removes any loose contamination (including laitance) from the surface and exposes sound, tightly adhered underlying concrete/aggregate.

According to ICRI a shot blaster achieves a CSP 2-9. This means that CSP 2 is the minimum achieved and you are more easily able to reach higher CSP levels. This is critical for proper adhesion of coatings.

This can be done with different size and amount of shot, shot mixture, and travel speed. The size of the shot you use will have a definite effect on the profile or texture of the concrete. For example, if you are looking to create a concrete profile with a lower CSP, use a smaller sized shot. However, if you are looking to create a concrete profile with a higher CSP you'll want a larger sized shot or mixture of shot so you can create a more aggressive and textured profile.

The Garage Force standard is shot blast everything possible, grind only when absolutely necessary. Remember prepping your surface is not about getting it done as quickly as possible but about achieving the best prep possible to provide the longest lasting floor coatings on the market

SHOT BLASTING PROCESS



1. Hand Grind the edges of the area with shrouded hand grinder.
2. Make passes along the side walls to make room to turn around with shot blaster.
3. Shot blast the entire floor going from wall to wall.
4. Be careful to not overlap where the floor has already been prepped.
5. Use floor magnets to pick up shot on the floor as needed during or after floor has been prepped.
6. Use small hand magnet to pick up piles of shot and put back in the shot bucket or hopper.

Garage Force requires Shot Blasting to achieve the CSP-3 on all applicable coating systems. Shot blasting continues to be the most reliable method for consistently achieving the CSP levels required for long lasting adhesion of floor coatings.

PREPARATION FOR COATING OF VERTICAL SURFACES

CONCRETE STEM WALLS AND STAIRS

All concrete surfaces need to be mechanically prepped before applying the base coat. This step will remove dirt and debris and also create a profile for the coating to adhere to. Structural damage such as broken edges, pitting, spalling, and cracking should be addressed in the same fashion as the rest of the concrete floor. Use Polyurea Crack Repair or GF Patch to reshape edges and fill in cracking prior to coating.

Concrete will not be as porous as block or sheetrock, so it is possible to apply enough base coat in one coat to hold aggregate and achieve a uniform finish. A light “re-wetting” of the surface (rolling the coating again to re-tack the surface) may be necessary right before broadcasting the decorative aggregate. The “prime coat” should be allowed to tack over before applying the final colored coat of material and broadcasting into it. This will limit the possibility of any out gassing due to applying the material too thick.

BASEBOARD COVING

Make sure to tie the floor into the wall with wet material before broadcasting chip. Any gaps will be visible and allow moisture to get through as well as create a void making the floor not seamless. For this application, the vertical surface and the floor must be wet at the same time to allow for the broadcast to be connected and form the “bath-tub” that was intended. Always make sure to apply enough material to cover the coving without over-applying and causing pooling on the floor.

WOOD STAIRS

All wood surfaces should be scuff sanded prior to the application of any coating system. Any dirt and debris will be removed during sanding. Paint and other coatings should be completely (minimum 90%) removed to allow the coatings to soak in and adhere to the substrate.

Coarse, 40-60 grit sandpaper should be used for this. Some wood is supplied from the factory with a smooth, 200 grit finish that needs to be roughed up prior to coating.

All nail and screw heads should be sunk and holes filled before applying any coatings. Sometimes it may be necessary to sink a few extra screws into a riser or tread to make sure that it is structurally sound and suitable for coating.

Always protect the floor while coating stairs.

PREPARATION FOR COATING OF VERTICAL SURFACES CONT...

METAL STAIRS

Steel, aluminum, and iron stairs will take more preparation to coat than wood and concrete. ALL METAL SURFACES must be prepared to meet the requirements of NACE No. 2/SSPC-SP10 (RP0594) - Near-White Metal Blast Cleaning by use of abrasive blasting media such as aluminum oxide, slag, or abrasive grinding using 20 grit or lower diamonds. All surfaces should then be wiped clean using ACETONE or Certol International's Atomic 235 Heavy Duty Cleaner/Degreaser to remove blasting residue, rust and debris before coating can begin.

WHEN COATING ANY TYPE OF STAIRCASE IT IS IMPORTANT TO PROPERLY PREPARE THE SUBSTRATE. STAIRS ARE AN AREA OF THE FLOOR THAT WILL SEE CONSTANT FOOT TRAFFIC AND WEAR, AND COATINGS NEED TO BE WELL ADHERED TO HANDLE THE ABUSE.
THE USE OF AN ANTI-SLIP PRODUCT SHOULD ALWAYS BE USED TO PROVIDE ADDITIONAL TRACTION IS THESE AREAS AS WELL. SLIP/FALL HAZARDS ARE A HUGE LIABILITY AND NEED TO BE ACCOUNTED FOR DURING SYSTEM DESIGN.

*****Always reference the Technical Data Sheet for product information, recoat time and application restrictions.**

COATING OF VERTICAL SURFACES

When a job requires the coating of stem walls, walls, stairs, or baseboard coving, it will be beneficial to complete these first before coating the floor. There will be a few exceptions to this general rule, but for the most part mixing small quantities of material and applying them to the vertical surfaces and broadcasting decorative aggregate can result in better coverage and more consistency than when trying to coat the floor and verticals at the same time. Sometimes in extreme high heat and humidity it will be nearly impossible to coat both surfaces simultaneously.

Coating steps and stairs is an easy task thanks to the long “open times” of the base coats. Depending on the overall height of the stairs to be coated, the application technique can change to make the installation easier. Short, wide staircases will require additional installers to complete and are usually installed from side to side. Tall, narrow staircases can be completed by one person and are usually done from top to bottom to avoid having to walk in the wet product.

BLOCK STEM WALLS AND SHEETROCK

Concrete block and sheetrock will be the most porous substrates and will suck in the material after application. Two coats of product will almost always be necessary to get full coverage and enough body to hold decorative aggregate. While the base coat can be built up thick to fill in voids, pits, and honeycombing, there is always the chance that an overabundance of product can cause the coating to run down the wall. Always avoid over-application of the base coat on very porous substrates. Always protect the floor and any areas that are not to receive coating with tape or plastic.

FOR VERTICAL SURFACES UP TO 12” TALL

Mix a small batch of color tinted base coat and apply the material with a brush and/or 4” or 9” roller. Apply enough material to create an opaque appearance, but not so much that it runs down the wall. Each dip of the brush or roller may only cover 4- 6”. Keep the floor clean during application. Leaving the base coat a little thicker by not adding as much acetone will also help in coverage but will shorten workability times.

Once an area 3 to 4 feet long has been coated you can apply decorative aggregate immediately. If the base coat seems to be soaking in and the aggregate isn’t adhering well apply a second, thinner coat using the same material (or another batch) starting at the same place you started the first coat. This should create a fully opaque finish and leave enough material on the surface to allow decorative aggregate to adhere.

COATING OF VERTICAL SURFACES CONT...

VERTICAL SURFACES OVER 12" TALL

Larger verticals are best handled with two installers doing the work. This is done by having one person apply the material with a brush on the bottom of the wall 3 to 4 inches up from the floor and any corners where a roller cannot reach while the second installer uses a 9" or 18" roller to apply the bulk of the material to the wall out of a roller pan.

Apply enough material to create an opaque appearance, but not so much that it runs down the wall. Keep the floor clean during application. Once an area 3 to 4 feet long has been coated you can apply decorative aggregate immediately.

Two coats may still be necessary, so remember to cut in the edges on the second coat with a brush to ensure that the entire surface is wet before broadcasting decorative aggregate.

With all vertical surfaces there is a risk of product running or dripping to the floor and it is important to mask off the floor area especially if the floor will not be receiving a coating. If a coating will be applied to the floor, cleaning any product off the floor with a rag so no aggregate sticks is essential.

***Always reference the Technical Data Sheet for product information, recoat time and application restrictions.

REMOVAL OF CONTAMINATION AND OILS

Contamination of the concrete can cause premature failure of the coating system, usually in the form of delamination. Contamination can happen during the placement process but is normally introduced to the concrete from other sources during regular use. Dust, dirt, grease, oil, chalk, chemicals, etc. are examples of the contamination that must not be forced deeper into the concrete or spread over a larger area during removal. A single approach or combination of different cleaning methods may be utilized to remove the contamination. Floor cleaners with degreaser like Garage Force Floor Cleaner can help to break the contamination down enough to be flushed away with water or a pressure washer. Short term cleaning programs using can gradually eliminate excessive grease and grime in floors. Grinding or shot blasting can remove the top layer of the concrete which will in turn take the contamination with it and leave the floor clean and acceptable for coating. However, the surface can be in such severe condition that the affected area may have to be removed and replaced with new concrete. The simple test of pouring water on the surface, known as the “water break test” can quickly show if a floor is contaminated.

“WATER BREAK TEST” FOR DETECTING CONTAMINATION ON CONCRETE

A thin layer of clean water needs to be applied over the surface to be tested. A sprayer/sprinkler/hose can be used to apply the water. Apply the water to the concrete until it forms a thin layer on the surface with no breaks present in the layer. Any beading (similar to rain drops on a polished car) or breaks in the water film indicates contamination is present. This contamination should be removed via cleaning, grinding or abrasive blasting.

DEGREASING

A citrus based cleaner/degreaser can be used to remove areas of light to medium areas of contamination. Garage Force Floor Cleaner, Simple Green or Citrus based cleaners can be applied full strength or diluted with water to chemically break down oils, grease, and chemical spills during the cleaning/prepping process. Repeated applications may be required to achieve an acceptable finish suitable for coating. Allowing the cleaner to soak in for extended periods of time (30-60 minutes) can reduce the amount of scrubbing needed to clean the floor. Always remember to flush with adequate amounts of clean water to remove any residue that may be on the surface. The concrete should be allowed to dry thoroughly as most coatings are developed to be applied to dry substrates. This drying process can be expedited using a large propane torch or using an appropriate shop-vac to suck it up.

Cleaners are usually applied to contaminated areas immediately upon arrival to the job site. This will allow adequate time to clean the floor, scrub thoroughly, flush with clean water, and allow the floor to dry before coating

REMOVAL OF CONTAMINATION AND OILS

It will always be best to refer to the “water break test” during the flushing of the cleaned surface. If you notice that water is beading up and not absorbing into the concrete, another application of the cleaner may be necessary to completely remove the contamination. Basically, if water cannot absorb into the concrete, then neither will a coating system.

CLEANING PROGRAMS

Industrial Cleaners should be used for floors that are scheduled to be coated and require extra attention due to long term misuse and heavy saturations of oil and grease. These could be locations such as mechanic shops, commercial kitchens, or processing plants. A one-time cleaning with a strong degreaser may not be sufficient to remove all the contamination. A cleaning program utilizing an industrial cleaner as a daily floor treatment for weeks or even months leading up to the installation of a floor coating may be needed to ensure that all contamination has been removed and the coating will adhere properly.

CONCRETE REPAIRS

CYCLOSPARTIC CRACK REPAIR

Cyclospartic Crack Repair is a fast setting, early high strength, low viscosity modified Polyurea repair material that is very versatile in repairing and re-building damaged concrete. Cyclospartic Crack Repair is a dual component, 1:1 ratio, easy to mix system that is 100% solids and VOC free. It can be used to repair damaged control joints, fill spalling, and rebuild vertical curbing and steps. Cyclospartic Crack Repair is an excellent choice for quick repairs and return-to-service. It can be applied at any temperature (Cures from -30°F to 140°F) with adjustable workability. Silica Sand can be added to extend the volume of the material and act as a filler for repairing large spalls, holes, and cracks.

Cyclospartic Crack Repair is used to repair cracking, spalling, pitting and edge damage during the preparation phase of installing coatings. This material will be used to overfill the damage in the concrete and then be profiled using diamond grinders to create a flush surface ready for coating. Proper preparation for filling of cracks and spalling is essential for long term adhesion of the Cyclospartic Crack Repair to the concrete being repaired.

CRACK REPAIR PROCESS

Chase all cracks with a crack-chasing blade (v-shaped diamond) on a hand grinder to open and prepare the crack for filling. This will leave the crack at about a 1/4” wide and clean the sidewalls of the concrete.
This is an essential step for long term adhesion of the Cyclospartic Crack Repair to the concrete.

Oil, grease, and contaminants could have seeped into the crack and if the edges are not chased out the material has minimal chances of staying in place. Chasing the cracks will also create a space that is large enough to support a “full body” of repair material and allow it to gain maximum strength.

Vacuum the chased-out cracks to remove any loose dust prior to filling with sand or Cyclospartic Crack Repair. Dry silica sand or utility sand can be used to fill in voids where the liquid filler would simply soak in down the crack. If using sand as a backer, always use your finger or tool to strike the sand off at about 1/4” down from the top of the substrate. The Cyclospartic Crack Repair will soak into the sand at the same time it is bonding to the concrete, creating a strong filler that will literally “weld” the concrete back together.

DO NOT USE PLAY SAND OR SAND WITH MOISTURE IN IT.

CONCRETE REPAIRS

Normal practice will be to chase out and vacuum all cracks before beginning the filling process. That way no mixed material will go to waste when cracks are not ready to be filled. Crack repair can be a time-consuming activity, so always make sure to charge the customer and schedule accordingly. Always have enough material on hand to complete all repairs without running out on site.

Pre-mix both sides individually each day before combining.

MIXING:

Over a floor mat or garbage can, pour out equal amounts of Part A and Part B in two separate paper Dixie cups. Mix the two cups back and forth about 10 times, or for 10-15 seconds to combine and blend the components.

-Or-

Using small, calibrated mixing containers, combine equal amounts of Part A and Part B and blend thoroughly with a paint stick or drill with paddle style mixer for about 10 seconds. Dry silica sand can be added to the mix to thicken it up, acting as both a filler to increase the volume and to lessen the chances of the material flowing and sinking into deep cracks.

Cyclospartic Crack Repair will react immediately upon mixing and should be placed within 1 minute to guarantee adhesion.

Pour the mixed material onto the floor and over-fill cracks to ensure a level surface after grinding. If using Dixie cups for mixing, always pinch the top of the cup to create a small pour spout for better accuracy when pouring.

If sand is added to the mixture, it may be beneficial to use a putty knife to move the filler into place. Any material that is not “in the crack” is considered waste, as it will eventually be ground off to profile the Cyclospartic Crack Repair and the slab.

*****Always reference the Technical Data Sheet for product information, recoat time and application restrictions.**

CONCRETE REPAIRS

EDGE REPAIR

When cracks run to the edge of the slab or an area has been broken off due to structural damage, use Cyclospartic Crack Repair mixed with dry silica sand to fully repair the damage before coating. Below are a few tips on how to properly prepare the concrete to accept the repair material.

For a broken off section of the front lip of a slab it will be necessary to gouge the concrete to create small “nooks and crannies” for the Cyclospartic Crack Repair to soak into and adherer properly. To do so, use the crack chaser blade on a hand grinder to score lines in the face of the concrete. Do this at varying angles to create a rough, jagged surface. THE MORE “BEAT UP” THE BETTER

FAILURE TO SCORE THE CONCRETE CAN LEAD TO PREMATURE DELAMINATION OF THE CYCLOSPARTIC CRACK REPAIR AFTER A SEASON CHANGE WHEN MOISTURE HAS A CHANCE TO PENETRATE THE CONCRETE AND FREEZE/THAW OR EXPAND AND CONTRACT.

For cracks that run to the edge of the slab, always use the crack chaser blade on a hand grinder to chase the crack out to the face of the slab. BE CAREFUL NOT TO SCORE TOO FAR AND DAMAGE THE DRIVEWAY, ABUTTING SLABS, PAVERS, OR WALLS, ETC.

Because Cyclospartic Crack Repair does not bond to plastic, use plastic sheeting to form up and create a barrier that defines the repair area “For Sale” signs purchased at a hardware store or home improvement store are an inexpensive option that work well. Small pieces of these plastic forms should be held in place using shims, 10” putty knives, scraps of lumber, duct tape, or any other available objects that are heavy enough to hold them in place while the repairs cure.

Use dry silica sand around the edges to create a dam so that the material does not flow out the sides. This sand can be recovered and re-used for future repairs. The area should always be vacuumed thoroughly before any re-profiling.

Following the mixing instructions, blend equal amounts of Part A and Part B thoroughly then pour in place. Use minimal quantities so that there is just enough to overfill the crack without having material pool up and/or pour over the edges of the plastic form.

CONCRETE REPAIRS

SPALLING REPAIR

As Garage Force coatings are not typically installed as “high build”, this type of damage could show through the final finish if not repaired during the preparation phase of installing a coating. Cyclospartic Crack Repair can be used to overfill spalled concrete, and after re-profiling is complete the surface will be smooth, level, and acceptable for coating.

Spalling repair should only be attempted once the floor has been mechanically prepared with shot blaster or grinder. This will knock down the high spots in the concrete and begin the process of leveling the floor. Oil spots and contamination should be cleaned and removed using Simple Green or a citrus based cleaner and allowed to completely dry before moving forward. Moisture left in the concrete will cause the repair product to bubble and out gas as it cures.

Use the Cyclospartic Crack Repair with sand mixture to fill the majority of the void in the concrete. Use a flat squeegee to spread the repair product evenly across the damaged area. The result will be a large, flooded area that can be ground flat once cured.

NEVER MIX MORE THAN 1 PART LIQUID (A + B) TO 1 PART SAND.

RE-PROFILING ONCE CURED

When the repair product has cured - usually about 15-25 minutes - it will be light grey in color and hard to the touch. Reprofiling of the repair is always required before coating. It is ready to grind when it is resistant to fingernail marking. Grind the repair flush with the slab using a hand grinder, or planetary grinder and make sure the repaired area is smooth and level. It will be best to use the hand grinder on cracks, and the planetary grinder on spalled areas.

Always remember to grind PERPENDICULAR to the crack you filled and fan out the repair 12” to eliminate any tool marking.

Grinding in-line with the repair can cause a trough to form, which ends up looking worse than the crack and can show through the coating. This will be very important on softer concrete floors and floors that are not level.

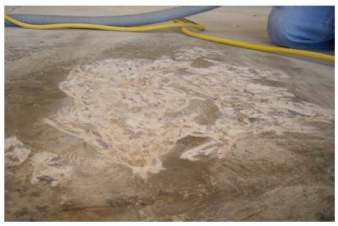
CONCRETE REPAIRS

EDGE REPAIR






SPALLING REPAIR

*****Always reference the Technical Data Sheet for product information, recoat time and application restrictions.**

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CONTROL JOINTS

A control joint is a kind of joint that does not allow physical movement in the concrete but allows release of the additional stress developed in the concrete. Control joints are formed by saw cutting, by tooling a joint with a grooving tool, or by inserting a plastic strip into the concrete during finishing (zip-strip).

As concrete moves, if it is tied to another structure or even to itself, we get what's called restraint, which causes tensile forces and invariably leads to cracking. Restraint simply means that the concrete element (whether it's a slab or a wall or a foundation) is not being allowed to freely shrink as it dries or to expand and contract with temperature changes or to settle a bit into the subgrade. Joints allow one concrete element to move independently of other parts of the building or structure. Joints also let concrete shrink as it dries—preventing what's called internal restraint. Internal restraint is created when one part of a slab shrinks more than another or shrinks in a different direction.

After concrete is placed, it is going to shrink. Reducing shrinkage can be accomplished with good mixes, but it is always going to shrink. A smooth, unrutted subbase and a moisture barrier directly under the slab reduce friction between the slab and the subbase and reduce internal restraint.

Control joints in concrete are provided at regular interval to from a weak plane, so that cracks are formed at the joints but not in undesired places. Control joints are "placed" in the fresh concrete before it has a chance to create its own joints—also known as cracks. What a control joint really is in the end is a crack in the slab that is forced to follow a line of choice. A weakened line across the slab is created and lets nature take its course. When the slab does crack, that's called "joint activation."

Due to the purpose and risk of filling control joints, Garage Force recommends honoring control joints of all types unless absolutely necessary to fill them.

In applications where hygiene is a controlling factor or where seamless coatings are to be installed filling control joints in concrete slabs may be necessary. If this is the case the use of Garage Force Flexible Joint Filler is recommended.
The main purpose of control joint fillers is not only to protect the joint from the intrusion of foreign materials and water, but also to provide support to its edges. In addition, joint fillers do not "weld" the adjoining panels. Specifically, if the stresses are excessively high, the saw cut joint filler is the first component to fail, generally cohesively or adhesively, and not the edges or the concrete panels (cracks).

As concrete continues to shrink, these joints may continue to open. For this reason, the longer you wait before applying the filler to control joints, the less additional stresses it will exhibit due to shrinkage.

FLEXIBLE POLYUREA JOINT FILLER

It is the recommendation of Garage Force that control joints in residential slabs be honored, and not filled in and coated over with our materials. “Honoring the joint” means leaving it alone to do the job that it was intended for – allowing the slab to move and flex with the freeze/thaw cycle, changes in soil conditions, and normal shrinkage during the curing process

GF Flexible Joint Filler is a two component, 100% solids, VOC Compliant, self-leveling flexible control joint filler. This product cures rapidly and consistently at temperatures ranging from -20˚-120˚F. With a tack-free time of less than 5 minutes, GF Flexible Joint Filler reduces downtime and allows repaired areas to be reopened to vehicle or foot traffic in one hour. Excellent elastomeric properties create flexibility while a tenacious bond to the concrete sidewalls of the joints leads to long lasting results and performance. GF Flexible Joint Filler is easily coated overusing a wide variety of Garage Force products or can be used as a stand-alone joint filler for concrete polishing or preventative maintenance.

GF Flexible Control Joint Fill will be applied using dual cartridge caulking tube. GF Flexible Control Joint Fill will be thoroughly blended by use of a static mixer – a straight tube with multiple baffles which mix the material several thousand times before the final product meets the floor. Due to a short pot life, this is the only way to mix GF Flexible Control Joint Fill.

GF Flexible Control Joint Fill must be pre-conditioned to a minimum of 70˚F before use. Always shake or agitate the material in the dual cartridge tube prior to use.
Remove the tip (CAP) from the dual cartridge caulking tube while holding the tube upright. Install the static mixer and tighten down with the retention nut. Insert the cartridge into the caulking gun and, over a garbage can or piece of cardboard, prime the tube by squeezing the trigger about 3-4 times to make sure the material is blending properly before applying into the joints.
Apply the mixed GF Flexible Control Joint Fill to the joint and allow material to overfill and sit on top of the concrete. Re-apply over low spots if necessary.

KEEP OVERFILL TO A MINIMUM AND MOVE QUICKLY – MATERIAL OUTSIDE OF THE JOINT WILL BE CONSIDERED WASTE. THE MIXED MATERIAL HAS A POT LIFE OF ABOUT 30 SECONDS – IF YOU STOP DISPENSING THE MATERIAL FOR LONGER THAN THIS TIME IT WILL BE NECESSARY TO REPLACE THE STATIC MIXER AND PRIME THE MATERIAL AGAIN TO A MIXED CONSISTENCY BEFORE APPLICATION.

Allow the applied material to cure for a minimum of 30 minutes before returning to shave off the overfill with an 8” razor scraper. Try to avoid chopping motions, but rather push the scraper slowly applying moderate pressure and remove the overfill in large strips. Slow down near edges and corners.

DON’T WAIT LONGER THAN 4 HOURS TO REMOVE THE OVERFILL - THE MATERIAL WILL HARDEN AND BECOME VERY HARD TO SHAVE.

FLEXIBLE POLYUREA JOINT FILLER

GF Flexible Control Joint Fill Coverage Chart

Joint Size	Lineal Feet (22oz)	Joint Size	Lineal Feet (22oz)
1/8” x 1”	26.7	3/16” x 1.5”	11.9
1/8” x 1.25”	21.3	3/16” x 1.75”	10.2
1/8” x 1.5”	17.8	1/4” x 1”	13.3
1/8” x 1.75”	15.2	1/4” x 1.25”	10.7
3/16” x 3/4”	23.7	1/4” x 1.5”	8.9
3/16” x 1”	17.8	1/4” x 1.75”	7.6
3/16” x 1.25”	14.2	1/2” x 1”	6.7

PROPER PREPARATION OF THE CONCRETE IS THE KEY TO LONG TERM ADHESION OF THE JOINT FILLER TO THE INSIDE OF THE JOINT. FAILURE TO FOLLOW THE PROCEDURES BELOW CAN LEAD TO DELAMINATION OF THE FILLER AND INCREASED DAMAGE OF THE CONCRETE SLAB.

Use a masonry blade on a saw to abrade the sidewalls on each side of the joint to be filled. For smaller jobs use a skil-saw or similar with an 1/8” thick masonry blade to abrade one side of the joint along the length, then rotate the saw to abrade the other side. For larger jobs gas powered saws with double thickness masonry blades can be used to prepare both sides in one pass.

Thoroughly vacuum the joint to remove any loose dust and debris. It may be necessary to run a flat blade screwdriver down the joint to break loose any larger debris that may be caught.

All joints should be completely dry before fill material is applied. Propane torches can be used to expedite the process if the floor has moisture in it. Polyurea and moisture do not mix and will cause bubbling of the fill material. This is due to the heat generated during the curing process and will limit adhesion and cause out gassing.

Install foam backer rod (available at any local hardware store) in the joint and set to a pre-determined depth. For typical 1/8 ” saw cuts 1/4” backer rod should be used and set at a depth of ¾”. A “backer rod setter” can be used to speed up the process and ensure uniformity. The backer rod is used to create 3 POINTS OF CONTACT – necessary adhesion and expansion points of contact.

Reference the Technical Data Sheet for product information and application restrictions.

DECORATIVE CHIP

Decorative color chips are made of a vinyl composite and have been developed to soak in and absorb resinous coatings such as epoxies, urethanes, and our specialty products – Cyclospartic. Our materials have been used on hundreds of thousands of square feet of floor coatings in conjunction with these vinyl chips.

Garage Force floors are a true "full broadcast," meaning that when installed the chip is broadcast to full and absolute rejection. This covers the entire primer/base coat in an even amount of chips and eliminates blemishes often seen in light to heavy partial broadcast floors. The end result is a coating system that is uniform in both color and texture, leaving a happier customer and fewer call-backs. This broadcasting method will also yield the highest gloss, smoothest floor possible.

Installing premium finish floor coatings using premium products is what sets Garage Force installers apart from the competition. Cutting corners leads to increased installation costs and takes away from the bottom line.

Our chip systems provide decorative yet highly durable surfaces with the appearance of granite, marble, or terrazzo. Our 2 layer, easy to install chip systems are our most popular seller with installers. Great for any garage, basement, bathrooms, and light commercial environments.

*****All decorative vinyl chip needs to be blended when filling containers for broadcasting to avoid color inconsistency.*****

Broadcast Coverage Rates				
	1/4"	Stonebridge	1/8"	1/16"
40 LB → 1 box	200 SF	200 SF	180 SF	140 SF
80 LB → 2 boxes	400 SF	400 SF	360 SF	280 SF
120 LB → 3 boxes	600 SF	600 SF	540 SF	420 SF
160 LB → 4 boxes	800 SF	800 SF	720 SF	560 SF
200 LB → 5 boxes	1000 SF	1000 SF	900 SF	700 SF
240 LB → 6 boxes	1200 SF	1200 SF	1080 SF	840 SF
280 LB → 7 boxes	1400 SF	1400 SF	1260 SF	980 SF
320 LB → 8 boxes	1600 SF	1600 SF	1440 SF	1120 SF
360 LB → 9 boxes	1800 SF	1800 SF	1620 SF	1260 SF
400 LB → 10 boxes	2000 SF	2000 SF	1800 SF	1400 SF

DECORATIVE CHIP CONT...

Decorative Colored Chip Blends are manufactured to the highest quality standards and provide 100% UV-Stability. All colors are packaged in 40 lb. boxes and have been blended for optimal consistency and size.

For custom chip blend availability, visit DASH/Support/Swatch Generator. Through this you will be able to use the tool to create a blend that matches the customer's needs and design requirements. The blends shown may not be exact due to printing process limitations and therefore should be ordered in smaller 1lb containers to allow making sample boards before ordering larger quantities.

For absolute color fidelity, blends should be selected from finished sample boards, verified by the customer and signed off on before any purchases are made. Garage Force will gladly supply a small 1lb sample bag to make finished samples.

BEFORE PROCEEDING WITH THE INSTALLATION OF ANY CHIP BLEND, ALWAYS MAKE A FINISHED SAMPLE (INCLUDING CLEARCOAT) TO PRESENT TO THE CUSTOMER AND HAVE THEM SIGN OFF ON IT TO VERIFY ACCEPTANCE OF THE PROPOSED BLEND AND TEXTURE BEFORE ORDERING LARGE QUANTITIES.

Garage Force suggests offering a limited amount of chip blends (standards) as the "extra" chip needed for broadcasting becomes an inventory item that may sit on the shelf unused. Too many choices can also confuse the customer.

It should be noted that 1/8" and 1/16" chip options not only require additional chip to be broadcasted to achieve the full coverage requirement; broadcasting the smaller chip will also result in additional topcoat being used due to additional nooks and crannies that need to be filled. The 1/6" chip is similar to quartz and may also need a second broadcast. Therefore, pricing of these options should be adjusted for additional product used and labor involved.

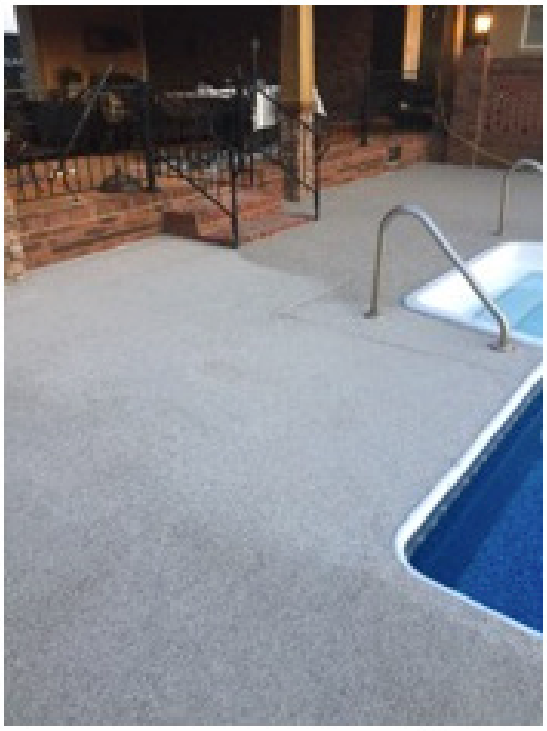
For applications using a second chip broadcast it is important to apply enough topcoat to the first chip layer using a spreadrate of 130-150 sq.ft/gal to acheive proper adhesion to the bottom layer while allowing the chip broadcast to adhere. To thin of a coat can result in patchy chip coverage or delamintion of the midcoat over time. Scraping the initial broadcast additional times and directions to acheive a smoother surface before the second chip broadcast process can help to acheive the proper spreadrate needed for the broadcast.

DECORATIVE CHIP CONT...

CHIP BLENDING

Chip colors and sizes, including Full Chip, Stone Series, Stonebridge, and Hybrid may differ slightly due to inherent limitation in the manufacturing process. All chip will have some variation in sizing and settling may occur during transit. The smaller chip will settle to the bottom of the boxes.

To ensure even distribution of chip colors and sizes, each box of chip should be mixed prior or use. For best results when using multiple boxes on the same project, all boxes should be intermixed prior to use. This is especially important if they are from different lots.



* Example of different lots that didn't get blended

REPAIRING SMALL SCRAPES AND DINGS IN A FINISHED FLOOR

1. Mark the areas that need repair
2. Determine if the base coat is in place and still adhered.
3. Remove any loose coating either by sanding or cutting.
4. Using a sandpaper scuff the area to be repaired and the immediate edge around it.
5. Wipe away any debris and use some acetone on a rag if needed to clean.
6. If Base coat is in place and adhered:
   a. Mix a small amount of Topcoat to do the repairs.
7. If Base coat is NOT in place and adhered:
   a. Mix a small amount of Base coat to do the repairs.
8. Using a small brush lightly coat the repair area (Avoid the surrounding edges when possible)
9. Apply chip by rubbing it between your hands to create a uniform look to the floor.
10. 1Press the chip down with a gloved hand to flatten and encapsulate into the repair product.
11. Cure times will vary by temperature and humidity- allow enough time to be able to scrape.
12. Scrape aggressively with a putty knife to make the repair area as smooth as possible.
13. Clean the area of any loose chip and make sure the area is completely fixed.
14. Mix a small amount of Topcoat.
15. Using a small brush apply Topcoat to the repair.
16. Use enough to soak into the chips and lightly coat the scuffed edge.
17. Dab away any excess product with a rag (leaving a puddle will have an unwanted appearance)
18. Lightly touch the topcoat with a rag to remove some of the gloss.
19. Mask the area so your customer avoids walking or driving on the repair for 24 hours.

CREATING FULL CHIP COATING SAMPLES

Creating accurate coating samples is essential for showcasing your floor systems to customers. Whether for in-home visits or home shows, samples you produce yourself offer the most authentic representation of color, texture, and finish.

Applying Coatings to Sample Boards

Purpose: Ensure samples match the final installed product.

- Surface Prep: Lightly sand boards to create a porous surface. Remove dust with a vacuum or cloth.
- Application: Use the same tools as on actual floors—brush, roller, squeegee. Apply full system including base coat, chips, topcoat and slip resistance additive.
- Base coat:
    - o Common: Gray or Tan
    - o Optional: Black, White, or Mocha tint in Clear Base coat
    - o Unlimited Color choices (should complement chip blend)

Samples for On-Site (In-Home) Visits

Goal: Provide portable, cost-effective samples tailored to each customer.

- Material: Use MDF (Medium-Density Fiberboard)
    - o Lightweight, easy to cut and transport
    - o Ideal for tool bags and quick presentations
- Size: Cut to preferred dimensions before or after coating.
- Labeling: Clearly mark product name, color code, and finish.
- Presentation: Keep samples clean, organized, and relevant to the client's style.

Samples for Home Shows

Goal: Showcase your product line in a durable, walkable format.

- Material: Use sturdy options like high-quality plywood or DRICORE® subfloor panels.
- Durability: Choose materials that withstand foot traffic and repeated handling.
- Display:
    - o Mount samples securely
    - o Label with printed product details
    - o Arrange by system or color family
    - Testing: Try different setups to find what works best for your booth.

COATING A TRAILER FLOOR

Some things to take into consideration:

- Wherever you are coating the trailer have a something placed underneath to catch any product that can drip through the seams of the floor. A tarp or cardboard work well.
- Wood is more porous than concrete so the spread rate of the base coat will be less than normal.
- When scraping chip on wood use caution not to gouge the floor with the scraper.

Trailer Floor Prep:

- If there is dirt or contamination, sanding the floor is necessary before vacuuming.
- If the Trailer floor is new, preparation is vacuuming since it's new and already porous.
- Anchor points on the floor should be masked, removed or carefully coated around.
- Propping the door up on several five-gallon buckets keeps it level and easier to coat.

Trailer Floor Coating:

1. Once the floor is clean apply the coating by pour a ribbon of product around the edge and use a brush to cut in.
2. Once the entire area is cut in you can squeegee or roll out base coat.
   a. Since it's a narrow area it may be easier to roll. Just make sure you have enough product spread to get the chip broadcast into and adhere.
3. Broadcast Chip and allow the coating to cure. Typical time is 1-2 hours.
4. Once the base coat is cured scrape the floor to the desired texture.
5. Vacuum the entire area to remove any loose chip.
6. Topcoat by pouring a ribbon of product around the edge and cut in with a brush, flat squeegee and roll out to make uniform.
7. Allow the topcoat to cure before closing the trailer door.

If you coat the trailer door/ramp it's recommended to add some slip resistance additive to prevent slipping on it. This can be GF Grip mixed into the topcoat, Aluminum Oxide broadcast onto the topcoat or a combination of both.

TARP SETUP FOR RAIN

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1601 Ramsey Place
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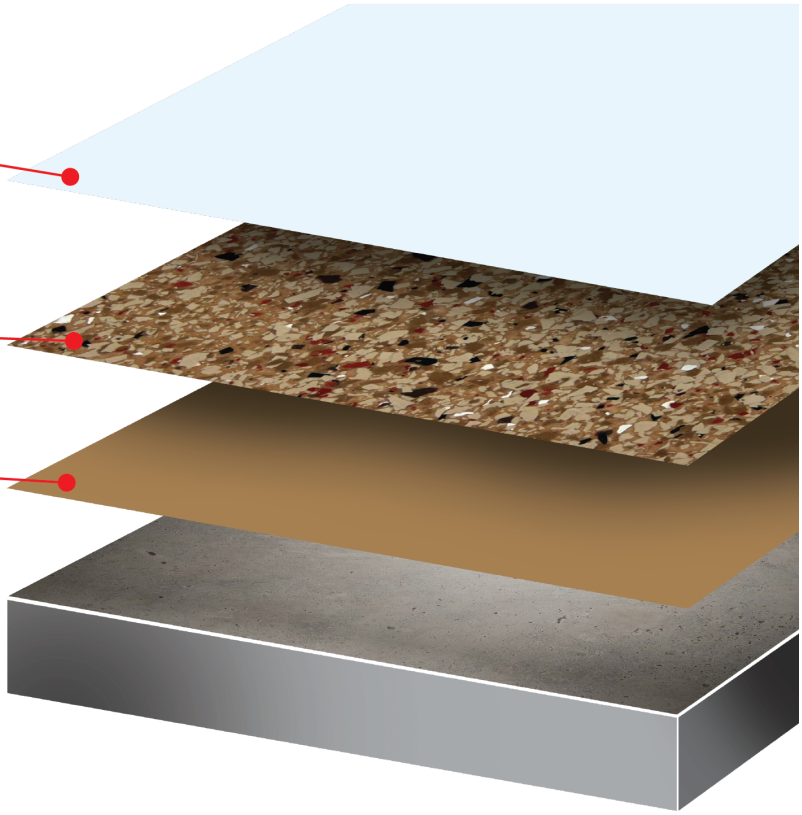
GARAGE FORCE

CHIP SYSTEM

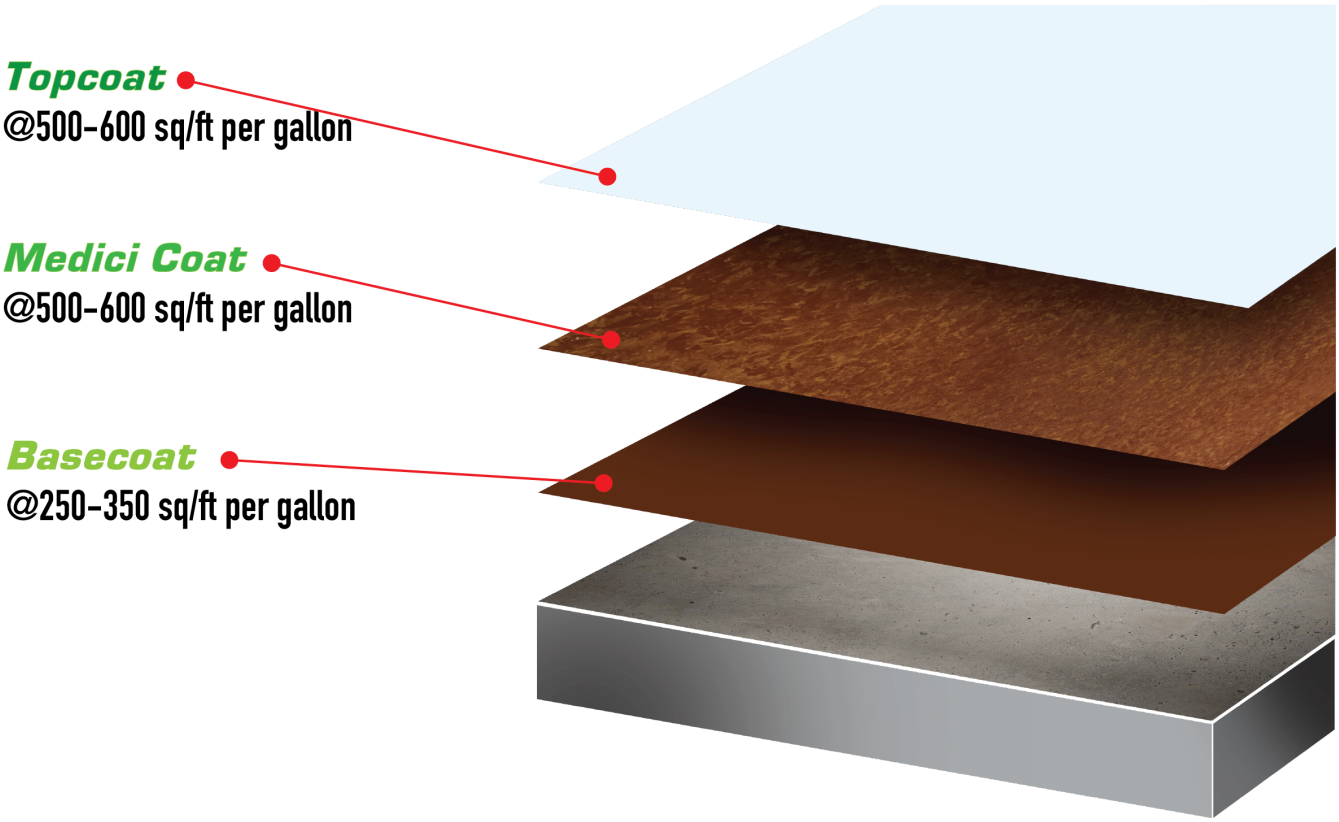


Suggested Uses:	Benefits:	Limitations:
Garage Floors	Repeatable look	Very common system
Basements	Easy to install	
Shops	Hides flaws well	
Retail Space	Strong	
Manufacturing Outdoors	Slip Resistant	
	Easy to maintain	

*Always reference the Technical Data Sheet for product information, recoat time and application restrictions.
Systems may need adjusting to be better suited for end use requirements.
Contact a member of the Garage Force Technical Team for additional information.

GARAGE FORCE

MEDICI SYSTEM



Suggested Uses:	Benefits:	Limitations:
Entry Ways	3D Color	Cannot Install Under 50°
Retail Space	Strong	Cannot be installed in direct sunlight
Salons	Custom Shading	Varies in look by installer
Laundry Rooms	Classic Look	Basecoat must be 100% covered
Basements	Alternative to stained concrete	
	Easy to clean	

*Always reference the Technical Data Sheet for product information, recoat time and application restrictions.
Systems may need adjusting to be better suited for end use requirements.
Contact a member of the Garage Force Technical Team for additional information.

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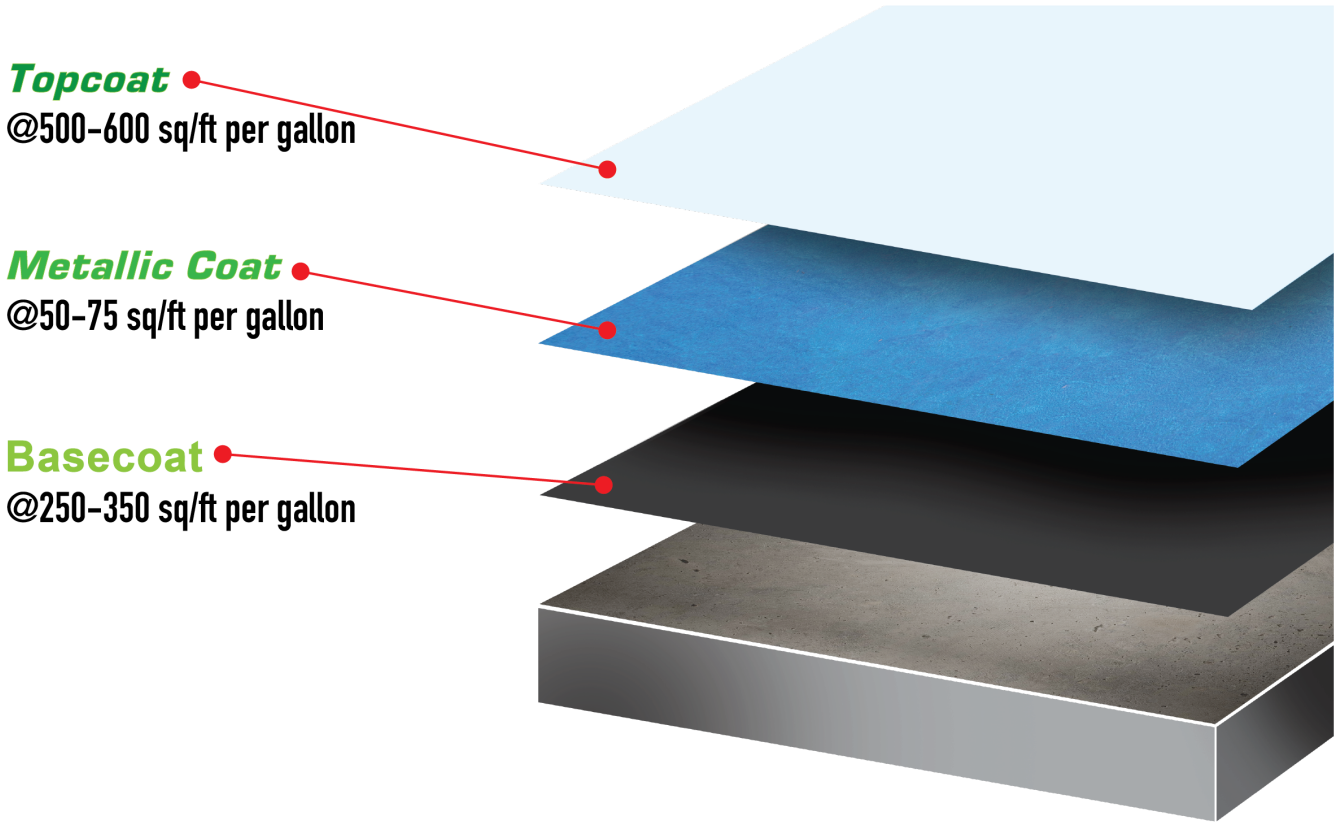
GARAGE FORCE

METALLIC SYSTEM



Suggested Uses:

Showrooms
Lobbies
Kitchens
Bathrooms
Basements
Waiting rooms
Restaurants

Benefits:

Chemical resistant
Easy to clean

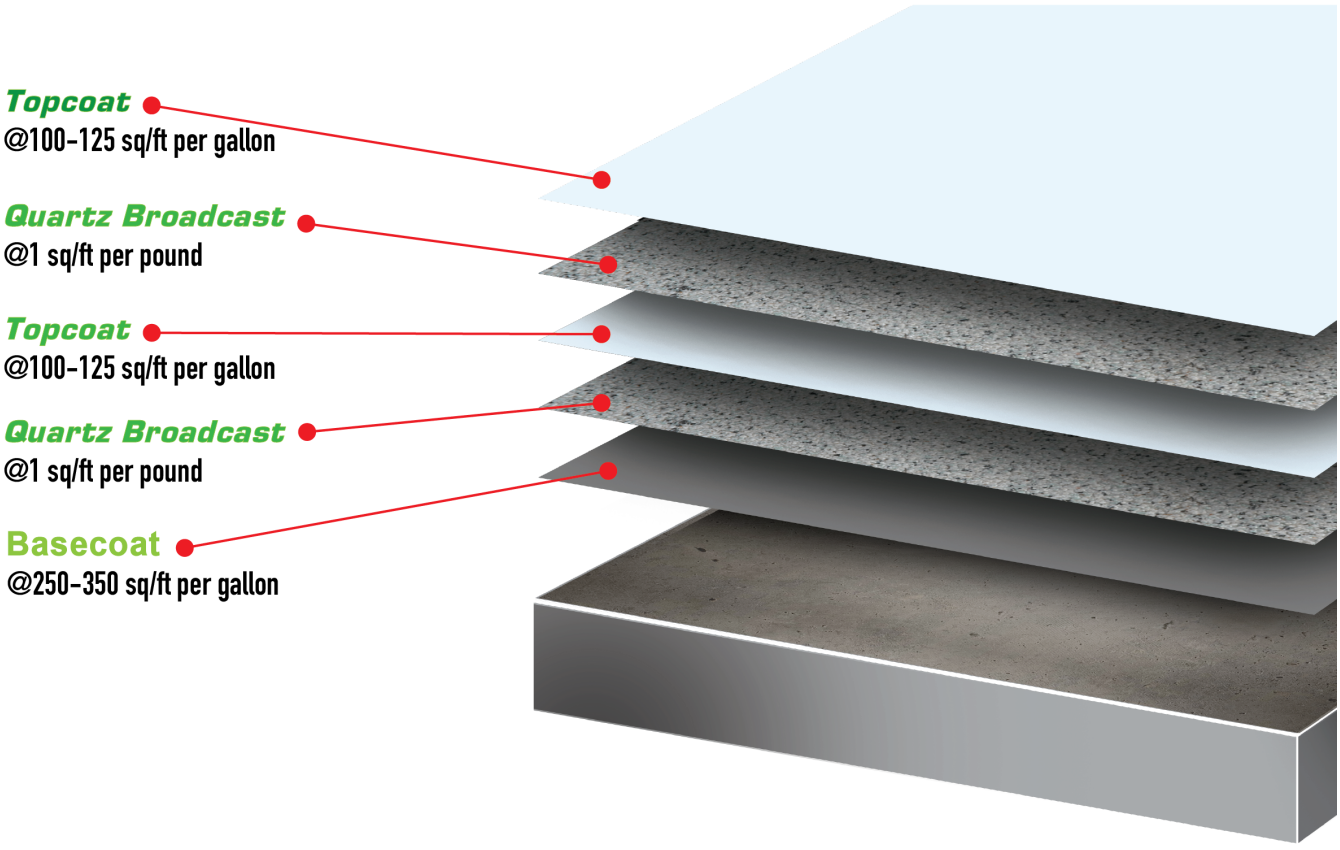
Limitations:

Not UV Stable
Can only be installed on level substrate
Cannot Install Under 50°

*Always reference the Technical Data Sheet for product information, recoat time and application restrictions.
Systems may need adjusting to be better suited for end use requirements.
Contact a member of the Garage Force Technical Team for additional information.

GARAGE FORCE

QUARTZ SYSTEM



Suggested Uses:
- Commerical Kitchens
- Industiral Bathrooms
- Outdoors
- Manufacturing

Benefits:
- Extremely Strong
- Slip Resistant
- Abrasion Resistant

Limitations:
- Imperfections in subtrate will show
- Longer install time
- Difficult to clean

*Always reference the Technical Data Sheet for product information, recoat time and application restrictions.
Systems may need adjusting to be better suited for end use requirements.
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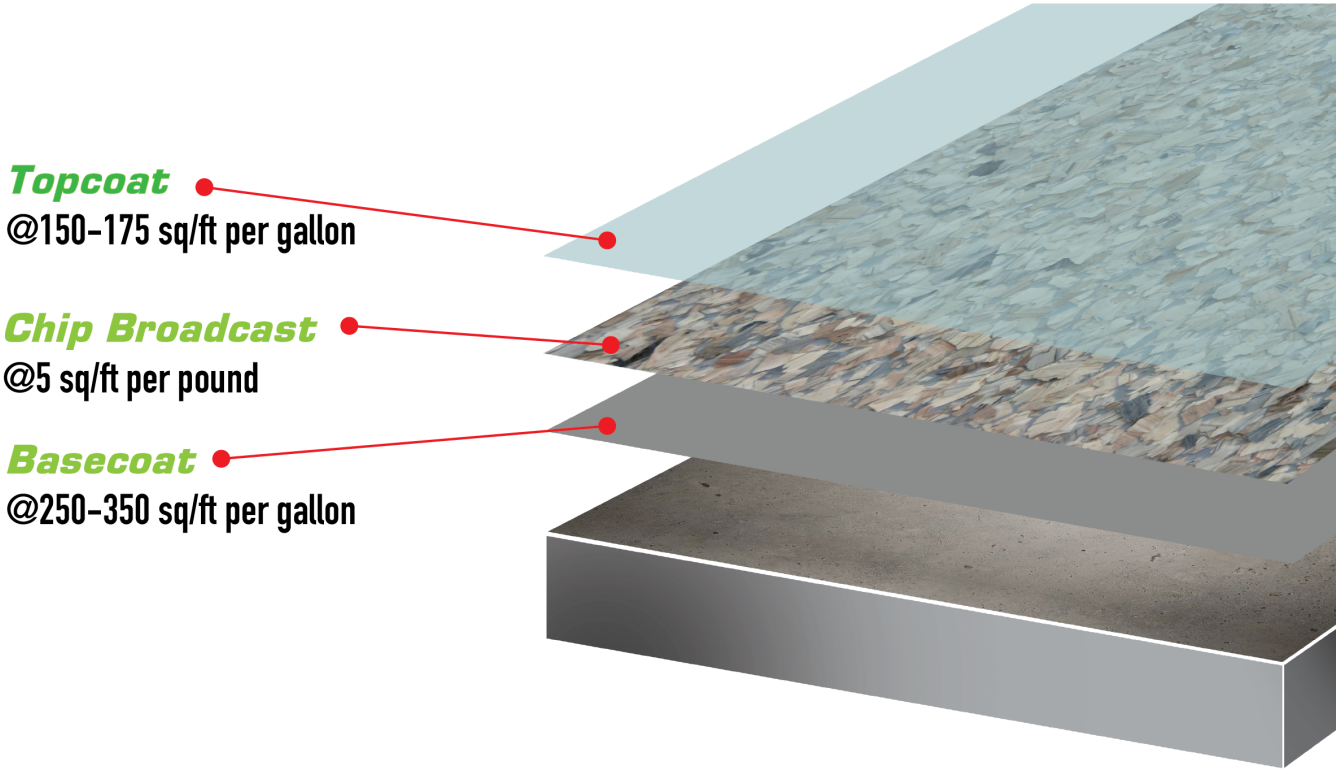
STONE SERIES SYSTEM



Suggested Uses:

- Patios
- Sidewalks
- Garages
- Interior Spaces

Benefits:

- Easy installation
- Repeatable look
- Decorative stone look
- Hides flaws well
- Strong
- Slip resistant
- Easy to maintain

Limitations:

- Chip doesn't stick as well
- May need to double broadcast
- May need to "dry roll"

*Always reference the Technical Data Sheet for product information, recoat time and application restrictions.
Systems may need adjusting to be better suited for end use requirements.
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BASE COAT

BASE COAT BATCH SIZES

24 OZ BATCH (65 SQ/FT MAX)		48 OZ BATCH (130 SQ/FT MAX)		72 OZ BATCH (195 SQ/FT MAX)	
Part A	8 oz	Part A	16 oz	Part A	24 oz
Part B	16oz	Part B	32 oz	Part B	48 oz
Acetone	5%= 1.2 oz 10% = 2.4 oz	Acetone	5%= 2.4 oz 10% = 4.8 oz	Acetone	5%= 3.6 oz 10% = 7.2 oz
Tint (if needed)	2.4 oz	Tint (if needed)	4.8 oz	Tint (if needed)	7.2 oz
96 OZ BATCH (260 SQ/FT MAX)		**144 OZ BATCH (390 SQ/FT MAX)**		**192 OZ BATCH (520 SQ/FT MAX)**	
Part A	32 oz	Part A	48 oz	Part A	64 oz
Part B	64 oz	Part B	96 oz	Part B	128 oz
Acetone	5%= 4.8 oz 10% = 9.6 oz	Acetone	5%= 7.2 oz. 10% = 14.4 oz	Acetone	5%= 9.6 oz 10% = 19.2 oz
Tint (if needed)	9.6 oz	Tint (if needed)	14.4 oz	Tint (if needed)	19.2 oz

Our coating systems are designed around mixing 96 oz batches of base coat to allow the time to apply and when applicable broadcast media within the 15-20 mins that is ideal for workability, adhesion and coverage. While it is possible to mix larger amounts of base coat this may not work in your favor and could have an adverse effect on things like coverage rate and workability of the product as the product begins to setup. In some situations, it can benefit you to mix smaller batches that allow quicker application. It is important to mix batches that are appropriate for the seasons, adjust for warmer temperatures and humidity, installers experience and the area being coated.

Coverage rate can vary depending on the texture of surface, porosity and condition of the concrete, air temperature, surface temperature, humidity during application and application method.

PRODUCT DESCRIPTION

Anchor Coat is a two-component, 99% solids, Cyclospartic coating developed as a base coat for a variety of coating systems. Anchor Coat provides exceptional adhesion to a large number of substrates. It performs well in a wide range of temperatures and climate conditions and maintains a quick cure even at colder temperatures.

PRODUCT APPLICATION

READ ALL INSTRUCTIONS CAREFULLY BEFORE STARTING PROJECT

SURFACE PREPARATION

New concrete should be allowed to cure for a minimum of 28 days. The concrete must be structurally sound, dry, and free of grease, oils, dust, curing compounds and other coatings or contaminants (SSPC-SP1). Surface laitance must be removed. Rising moisture vapor emission rate must not exceed 9lbs. per 1000 sq. ft. over a 24 hour period as measured by calcium chloride test method ASTM F-1869. The application area must be completely free of sealers, oils, dirt, paint, alkali, penetrating sealers, or any foreign materials that would prevent Anchor Coat from penetrating the concrete surface. The recommended substrate should have a minimum concrete surface profile (CSP) of 2-3 in accordance to the ICRI Guideline No. 03732. Contact ICRI at www.ICRI.org for more information on these surface profiles. Surface must be dry prior to application of Anchor Coat.

MIXING

Both components should be pre conditioned to a minimum of 50°F (10°C) prior to use.
Thoroughly mix each component separately before combining. Be sure to use a separate mixer blade for each component to avoid cross contamination.

Combine the components using a mixing ratio of 1:2 by volume, Part A to Part B and power mix at 500-700 rpm for a minimum of two minutes. Do not entrain air into the mixing. Do not mix more material than can be applied in 20-25 minutes.

TINTING (CLEAR)

Tinting is only to be done after Part A and Part B have been thoroughly mixed.
If tinting, add 10% by volume of the selected approved colorant. Power mix until a uniform color is achieved.
If there are any questions on the tint process of this product, please consult our technical service department.

EQUIPMENT RECOMMENDATIONS

ROLLER: Use a high quality 3/8” inch lint-free roller with a phenolic core.
BRUSH: Use a disposable natural fiber chip brush, 2-4 inch wide for cut in work.
SQUEEGEE: Use a 1/8” notched squeegee.

APPLICATION

Apply only when air, material and floor temperatures are between 0-90°F (-18 -32°C) and surface temperature is at least 5°F (3°C) above the dew point. The relative humidity of the air should not be greater than 85%. Do not apply in direct sunlight or when temperature is rising. Colder environmental conditions can slow the cure of Anchor Coat. Be sure the substrate is completely dry. Variability in these conditions during application may lead to surface defects. For application outside of this temperature range, please contact Garage Force Technical Service.

Immediately after mixing, pour the material onto the floor in a long, 8 to 12 inch wide stripe.
NOTE: Do not scrape the sides or bottom of the container. Use only the material that flows naturally out of the container. Also, do not turn the container upside down and
leave on the floor to drain. Doing so may result with unactivated material from the sidewall of the container being applied. This will cause soft spots in the coating.

Use a 1/8” notched rubber squeegee to spread the material out and achieve the 250-350 sq.ft./gal. spread rate. M & W the material smooth using a 3/8” lint free roller with a phenolic core to smooth out the finish. If being used as a base coat for a color aggregate or color chip finish, begin to broadcast the desired amount of aggregate or chip onto the coating as soon as the roller application is completed. Do not do any additional rolling after broadcasting material.

THINNING: None required.
NOTE: If necessary, can be thinned up to 10 percent with acetone.
CLEAN-UP: Acetone

FOOD SAFE

This document serves to confirm that the products listed below meet the performance criteria set forth in the U.S. Department of Agriculture (USDA) “Sanitation Performance Standards Compliance Guide” and the U.S. Food and Drug Administration (FDA) “2005 Food Code.” These standards apply to paints and coatings utilized in food processing plants and food establishments. It should be noted that the USDA and FDA have ceased issuing product approval letters to coatings manufacturers. Instead, it is required that coatings applied on walls and ceilings in relevant facilities adhere to regulatory standards and be certified as follows:

Garage Force certifies that the following products comply with Title 9, Part 416.2(b) of the Code of Federal Regulations and the FDA “2005 Food Code” when used as topcoats on walls, floors, and ceilings. When applied according to the instructions on the label, these products will not cause insanitary conditions nor will they adulterate food products. Furthermore, they are not classified as pesticides and do not exhibit pesticidal properties.

Upon request, Garage Force will provide the complete chemical composition of these products to the Food Safety Inspection Service (FSIS). It remains the responsibility of the end user to consult with the local FSIS inspector to verify if any additional requirements are applicable for the specific use intended.

PHYSICAL PROPERTIES

Resin Type	Cyclospartic Polyurea
Weight Per Gallon	9.03 lbs.
Solids by Volume*	95.52%
Solids by Volume**	99.27%
Volatile Organic Compounds*	5.91 g/l
Volatile Organic Compounds**	46.18 g/l
Mixing Ratio	1:2 (Part A to Part B)
Pot Life	20-25 minutes
Recommended Dry Film Thickness (DFT)	5-8 mils
Practical Coverage Rate at Recommended DFT	250-350 sq.ft./gal.

Cure Times @ 70-80ºF and 50% Relative Humidity

- Recoat 2-12 hours*
- Light Traffic 2-4 hours
- Full Traffic 24 hours
- Shelf Life 12 months
- Safety Information See SDS

Coverage rate can vary depending on the texture and porosity of the concrete
**Theoretical to include material not 'officially' VOC Exempted for Coatings*
*** Theoretical to exclude material identified as VOC Exempt for other End Use Applications*

Performance Characteristics

TENSILE STRENGTH
METHOD: ASTM D412
TYPICAL VALUE: 3600

ELONGATION
METHOD: ASTM D412
TYPICAL VALUE: 198

TEAR STRENGTH (PLI)
METHOD: ASTM 2240
TYPICAL VALUE: 350

FLEXIBILITY (1/8" MANDREL)
METHOD: ASTM D1737
RESULT: Pass

IMPACT RESISTANCE
METHOD: ASTM D2794
TYPICAL VALUE: Direct/Reverse, 250/285 inch pounds.

ADHESION
METHOD: ASTM D4541
TYPICAL VALUE: >550 psi

TOPCOAT

TOPCOAT PRACTICAL COVERAGE RATE BY SYSTEM

Cyclospartic Topcoat Practical Coverage Rate by system

- 1/4” Full Chip – 145 -175 sq/ft per gallon.
- 1/8” Full Chip – 125 - 150 sq/ft per gallon.
- 1/16” Full Chip – 100 - 125 sq/ft per gallon.
- Quartz -100 - 125 sq/ft per gallon.
- Hybrid and Stonebridge Series – 135 - 175 sq/ft per gallon.
- Applied as second topcoat over Full Chip – 150 - 200 sq/ft per gallon.
- Applied as second topcoat over Quartz – 100 - 150 sq/ft per gallon.

Cyclo1 Topcoat Practical Coverage Rate by system

- Applied as second topcoat over Full Chip – 400 - 500 sq/ft per gallon.
- Applied as second topcoat over Quartz - 400 -500 sq/ft per gallon.
- Applied as second topcoat over Hybrid and Stonebridge Series – 400 - 500 sq/ft per gallon.
- Grind and Seal – Direct to Concrete - 300 -400 sq/ft per gallon.
- Grind and Seal – 2nd and additional coats – 400- 500 sq/ft per gallon.
- Medici Topcoat- 400 -600 sq/ft per gallon.
- Metallic Topcoat- 400 - 600 sq/ft per gallon.
- Solid Color Coat #2 and #3 – 400 - 500 sq/ft per gallon.

Coverage rate can vary depending on the texture of surface, porosity and condition of the concrete, air temperature, surface temperature, humidity during application and application method.

PRODUCT DESCRIPTION

Cyclospartic Top Coat is a two component, hight solids, high gloss, UV stable floor coating for use in residential and commercial settings. It is designed to be used as a clear finish over broadcast floor and is suitable for both interior and exterior applications. Cyclospartic Top Coat can be tinted with approved colorant.

PRODUCT APPLICATION

READ ALL INSTRUCTIONS CAREFULLY BEFORE STARTING PROJECT

SURFACE PREPARATION

New concrete should be allowed to cure for a minimum of 28 days. The concrete must be structurally sound, dry, and free of grease, oils, dust, curing compounds and other coatings or contaminants (SSPC-SP1). Surface laitance must be removed. Rising moisture vapor emission rate must not exceed 3lbs. per 1000 sq. ft. over a 24 hour period as measured by calcium chloride test method ASTM F-1869. The application area must be completely free of sealers, oils, dirt, paint, alkali, penetrating sealers, or any foreign materials that would prevent Cyclospartic Top Coat from penetrating the concrete surface. The recommended substrate should have a minimum concrete surface profile (CSP) of 2-3 in accordance to the ICRI Guideline No. 03732. Contact ICRI at www.ICRI.org for more information on these surface profiles. Surface must be dry prior to application of Top Coat.

MIXING

Both components should be pre conditioned to a minimum of 50°F (10°C) prior to use.
Thoroughly mix each component separately before combining. Be sure to use a separate mixer blade for each component to avoid cross contamination.

Combine the components using a mixing ratio of 1:1 by volume, Part A to Part B and power mix at 500-700 rpm for a minimum of two minutes. Do not entrain air into the mixing. Do not mix more material than can be applied in 20-25 minutes.

If Original Slow and Super Slow topcoat are mixed you may experience unpredictable cure and potential bubbling.

TINTING (CLEAR)

Tinting is only to be done after Part A and Part B have been thoroughly mixed.
If tinting, add 10% by volume of the selected approved colorant. Power mix until a uniform color is achieved.If there are any questions on the tint process of this product, please consult our technical service department.

EQUIPMENT RECOMMENDATIONS

ROLLER: Use a high quality 3/8” inch lint-free roller with a phenolic core.
BRUSH: Use a disposable natural fiber chip brush, 2-4 inch wide for cut in work.
SQUEEGEE: Use a flat squeegee.

APPLICATION

Apply only when air, material and floor temperatures are between 0-90°F (-18 -32°C) and surface temperature is at least 5°F (3°C) above the dew point. The relative humidity of the air should not be greater than 75%. Do not apply in direct sunlight or when temperature is rising. Colder environmental conditions can slow the cure of Cyclospartic Top Coat. Be sure the substrate is completely dry. Variability in these conditions during application may lead to surface defects. For application outside of this temperature range, please contact Garage Force Technical Service.

Immediately after mixing, pour the material onto the floor in a long, 8 to 12 inch wide stripe. NOTE: Do not scrape the sides or bottom of the container. Use only the material that flows naturally out of the container. Also, do not turn the container upside down and leave on the floor to drain. Doing so may result with unactivated material from the sidewall of the container being applied. This will cause soft spots in the coating.

Use a flat rubber squeegee to spread the material out and achieve the 100 -175 sq.ft./gal. spread rate. M & W and back roll the material smooth using a 3/8" lint free roller with a phenolic core to smooth out the finish.

NOTE: Coverage rate can vary depending on the texture of the surface coated.

THINNING: Up to 5%
CLEAN-UP: Acetone

FOOD SAFE

This document serves to confirm that the products listed below meet the performance criteria set forth in the U.S. Department of Agriculture (USDA) "Sanitation Performance Standards Compliance Guide" and the U.S. Food and Drug Administration (FDA) "2005 Food Code." These standards apply to paints and coatings utilized in food processing plants and food establishments. It should be noted that the USDA and FDA have ceased issuing product approval letters to coatings manufacturers. Instead, it is required that coatings applied on walls and ceilings in relevant facilities adhere to regulatory standards and be certified as follows:

Garage Force certifies that the following products comply with Title 9, Part 416.2(b) of the Code of Federal Regulations and the FDA "2005 Food Code" when used as topcoats on walls, floors, and ceilings. When applied according to the instructions on the label, these products will not cause insanitary conditions nor will they adulterate food products. Furthermore, they are not classified as pesticides and do not exhibit pesticidal properties.

Upon request, Garage Force will provide the complete chemical composition of these products to the Food Safety Inspection Service (FSIS). It remains the responsibility of the end user to consult with the local FSIS inspector to verify if any additional requirements are applicable for the specific use intended.

CHEMICAL RESISTANCE

CHEMICAL	RESULT
1, 1,1-Trichlorethane	R
Acetic Acid	R
Acetone	L
Ammonium Hydroxide 50%	R
Battery Acid	R
Beer	R
Benzene	R
Bleach	L
Brake Fluid	L
Brine saturated H2O	R
Chlorinated H2O	R
Citric Acid 30%	R
Citric Acid 40%	L
Clorox H2O	R
Coolant	R
Crude Oil	R
Diesel fuel	R
Ethylene Glycol	R
Fatty Acids	L
Formula 409	R
Gasoline	R
Gasoline/5% MTBE	R
Gasoline/5% Methanol	R
Hydraulic fluid (oil)	R
Hydrofluoric Acid 10%	R
Hydrochloric Acid 20%	R
Iodine	L
Isopropyl Alcohol	R
Lactic Acid 15%	R
Lactic Acid 50%	L
MEK	R

CHEMICAL	RESULT
Methanol	R
Methylene Chloride	R
Mineral Spirits	R
Motor Oil	R
MTBE	R
Muriatic Acid 10%	R
NaCl/ H2O 10%	R
Nitric Acid 20%	L
Orange Juice	R
Peroxide 35%	L
Phosphoric Acid 50%	R
Phosphoric Acid 85%	L
Potassium Hydroxide 20%	R
Power Steering Fluid	R
Propylene Carbonate	R
Skydrol	R
Sodium Bicarbonate	R
Sodium Hydroxide 50%	R
Sodium Hyochlorite 10%	R
Stearic Acid	R
Sugar/ H2O	R
Sulfuric Acid 10%	R
Sulfuric Acid >50%	R
Toluene	L
Transmission Fluid	R
Trisodium Phosphate	R
Urea	R
Vinegar/ H2O 5%	R
H2O 14 days at 82° C	R
Xylene	L

CHEMICAL RESISTANCE CHART KEY

R-Recommended for continuous service

L-Limited Recommendation, occasional spills *May cause slight stain or discoloration

PHYSICAL PROPERTIES

Resin Type	Cyclospartic Polyurea
Weight Per Gallon	9.42 lbs.
Solids by Volume	87%
Volatile Organic Compounds*	<50 g/l
Mixing Ratio	1:1 (Part A to Part B)
Pot Life	20-25 minutes
Recommended Dry Film Thickness (DFT)	9 -13 mils
Practical Coverage Rate at Recommended DFT	100 -175 sq.ft./gal.
Cure Times @ 70-80ºF and 50% Relative Humidity	
Recoat 2-12 hours*	
Light Traffic 6-8 hours	
Full Traffic 24 hours	
Shelf Life 12 months	
Safety Information See SDS	

Coverage rate can vary depending on the texture and porosity of the concrete

Performance Characteristics

TENSILE STRENGTH
METHOD: ASTM D412
TYPICAL VALUE: 6650 PSI

ELONGATION
METHOD: ASTM D638
TYPICAL VALUE: 7-12%

COMPRESSIVE STRENGTH
METHOD: ASTM C695
TYPICAL VALUE: 9550 psi

FILM HARDNESS, SHORE D
METHOD: ASTM D2240
TYPICAL VALUE: 82

GLOSS
METHOD: ASTM D523 @60°
TYPICAL VALUE: 90+

TABER ABRASION
METHOD: ASTM 4060, CS 17, 1,000 gram load
TYPICAL VALUE: Loss/1000 cycles = 11 mg

PRODUCT DESCRIPTION

Cyclospartic Super Slow Top Coat is a two component, hight solids, high gloss, UV stable floor coating for use in residential and commercial settings. It is designed to be used as a clear finish over broadcast floor and is suitable for both interior and exterior applications. Cyclospartic Super Slow Top Coat can be tinted with approved colorant.

PRODUCT APPLICATION

READ ALL INSTRUCTIONS CAREFULLY BEFORE STARTING PROJECT

SURFACE PREPARATION

New concrete should be allowed to cure for a minimum of 28 days. The concrete must be structurally sound, dry, and free of grease, oils, dust, curing compounds and other coatings or contaminants (SSPC-SP1). Surface laitance must be removed. Rising moisture vapor emission rate must not exceed 3lbs. per 1000 sq. ft. over a 24 hour period as measured by calcium chloride test method ASTM F-1869. The application area must be completely free of sealers, oils, dirt, paint, alkali, penetrating sealers, or any foreign materials that would prevent Cyclospartic Super Slow Top Coat from penetrating the concrete surface. The recommended substrate should have a minimum concrete surface profile (CSP) of 2-3 in accordance to the ICRI Guideline No. 03732. Contact ICRI at www.ICRI.org for more information on these surface profiles. Surface must be dry prior to application of Top Coat.

MIXING

Both components should be pre conditioned to a minimum of 50°F (10°C) prior to use.
Thoroughly mix each component separately before combining. Be sure to use a separate mixer blade for each component to avoid cross contamination.

Combine the components using a mixing ratio of 1:1 by volume, Part A to Part B and power mix at 500-700 rpm for a minimum of two minutes. Do not entrain air into the mixing. Do not mix more material than can be applied in 30-35 minutes.

If Original Slow and Super Slow topcoat are mixed you may experience unpredictable cure and potential bubbling.

TINTING (CLEAR)

Tinting is only to be done after Part A and Part B have been thoroughly mixed.
If tinting, add 10% by volume of the selected approved colorant. Power mix until a uniform color is achieved.If there are any questions on the tint process of this product, please consult our technical service department.

EQUIPMENT RECOMMENDATIONS

ROLLER: Use a high quality 3/8” inch lint-free roller with a phenolic core.
BRUSH: Use a disposable natural fiber chip brush, 2-4 inch wide for cut in work.
SQUEEGEE: Use a flat squeegee.

APPLICATION

Apply only when air, material and floor temperatures are between 50°-100°F (10°-38°C) and surface temperature is at least 5°F (3°C) above the dew point. The relative humidity of the air should not be greater than 75%. Do not apply in direct sunlight or when temperature is rising. Colder environmental conditions can slow the cure of Cyclospartic Super Slow Top Coat. Be sure the substrate is completely dry. Variability in these conditions during application may lead to surface defects. For application outside of this temperature range, please contact Garage Force Technical Service.

Cyclospartic Super Slow Top Coat is meant for warm climate and high humidity applications. Application in colder temperatures can extend cure times an additional 24-48 hours.

Immediately after mixing, pour the material onto the floor in a long, 8 to 12 inch wide stripe.
NOTE: Do not scrape the sides or bottom of the container. Use only the material that flows naturally out of the container. Also, do not turn the container upside down and leave on the floor to drain. Doing so may result with unactivated material from the sidewall of the container being applied. This will cause soft spots in the coating.

Use a flat rubber squeegee to spread the material out and achieve the 100 -175 sq.ft./gal. spread rate. M & W and back roll the material smooth using a 3/8" lint free roller with a phenolic core to smooth out the finish.

NOTE: Coverage rate can vary depending on the texture of the surface coated.

THINNING: Up to 5%
CLEAN-UP: Acetone

FOOD SAFE

This document serves to confirm that the products listed below meet the performance criteria set forth in the U.S. Department of Agriculture (USDA) "Sanitation Performance Standards Compliance Guide" and the U.S. Food and Drug Administration (FDA) "2005 Food Code." These standards apply to paints and coatings utilized in food processing plants and food establishments. It should be noted that the USDA and FDA have ceased issuing product approval letters to coatings manufacturers. Instead, it is required that coatings applied on walls and ceilings in relevant facilities adhere to regulatory standards and be certified as follows:

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Upon request, Garage Force will provide the complete chemical composition of these products to the Food Safety Inspection Service (FSIS). It remains the responsibility of the end user to consult with the local FSIS inspector to verify if any additional requirements are applicable for the specific use intended.

CHEMICAL RESISTANCE

CHEMICAL	RESULT
1, 1,1-Trichlorethane	R
Acetic Acid	R
Acetone	L
Ammonium Hydroxide 50%	R
Battery Acid	R
Beer	R
Benzene	R
Bleach	L
Brake Fluid	L
Brine saturated H2O	R
Chlorinated H2O	R
Citric Acid 30%	R
Citric Acid 40%	L
Clorox H2O	R
Coolant	R
Crude Oil	R
Diesel fuel	R
Ethylene Glycol	R
Fatty Acids	L
Formula 409	R
Gasoline	R
Gasoline/5% MTBE	R
Gasoline/5% Methanol	R
Hydraulic fluid (oil)	R
Hydrofluoric Acid 10%	R
Hydrochloric Acid 20%	R
Iodine	L
Isopropyl Alcohol	R
Lactic Acid 15%	R
Lactic Acid 50%	L
MEK	R

CHEMICAL	RESULT
Methanol	R
Methylene Chloride	R
Mineral Spirits	R
Motor Oil	R
MTBE	R
Muriatic Acid 10%	R
NaCl/ H2O 10%	R
Nitric Acid 20%	L
Orange Juice	R
Peroxide 35%	L
Phosphoric Acid 50%	R
Phosphoric Acid 85%	L
Potassium Hydroxide 20%	R
Power Steering Fluid	R
Propylene Carbonate	R
Skydrol	R
Sodium Bicarbonate	R
Sodium Hydroxide 50%	R
Sodium Hyochlorite 10%	R
Stearic Acid	R
Sugar/ H2O	R
Sulfuric Acid 10%	R
Sulfuric Acid >50%	R
Toluene	L
Transmission Fluid	R
Trisodium Phosphate	R
Urea	R
Vinegar/ H2O 5%	R
H2O 14 days at 82° C	R
Xylene	L

CHEMICAL RESISTANCE CHART KEY

R-Recommended for continuous service

L-Limited Recommendation, occasional spills *May cause slight stain or discoloration

PHYSICAL PROPERTIES

Resin Type	Cyclospartic Polyurea
Weight Per Gallon	9.42 lbs.
Solids by Volume	87%
Volatile Organic Compounds*	<50 g/l
Mixing Ratio	1:1 (Part A to Part B)
Pot Life	30-35 minutes
Recommended Dry Film Thickness (DFT)	9 -13 mils
Practical Coverage Rate at Recommended DFT	100 -175 sq.ft./gal.
Cure Times @ 70-80ºF and 50% Relative Humidity	
Recoat 4-12 hours*	
Light Traffic 8-12 hours	
Full Traffic 24-48 hours	
Shelf Life 12 months	
Safety Information See SDS	

*****Cyclospartic Super Slow Top Coat is meant for warm climate and high humidity applications. Application in colder temperatures can extend cure times an additional 24-48 hours*****

Coverage rate can vary depending on the texture and porosity of the concrete

Performance Characteristics

TENSILE STRENGTH
METHOD: ASTM D412
TYPICAL VALUE: 6650 PSI

ELONGATION
METHOD: ASTM D638
TYPICAL VALUE: 7-12%

COMPRESSIVE STRENGTH
METHOD: ASTM C695
TYPICAL VALUE: 9550 psi

FILM HARDNESS, SHORE D
METHOD: ASTM D2240
TYPICAL VALUE: 82

GLOSS
METHOD: ASTM D523 @60°
TYPICAL VALUE: 90+

TABER ABRASION
METHOD: ASTM 4060, CS 17, 1,000 gram load
TYPICAL VALUE: Loss/1000 cycles = 11 mg

CYCLO-1 TOPCOAT

PRODUCT RE-COAT WINDOWS BASED ON TEMPERATURE AND HUMIDITY

		RELATIVE HUMIDITY %						
		30	40	50	60	70	80	90
TEMPERATURE IN FAHRENHEIT	50	15	13	11	9.5	9	8	7.5
	60	14	12	10.5	9	8.5	7.5	7
	70	13	11.5	10	8.5	8	7	6.5
	80	12	11	9.5	8	7	6.5	6
	90	11	10.5	9	7	6.5	6	5.5

GARAGE FORCE DOES NOT SUGGEST INSTALLING CYCLO-1 UNDER 50 DEG. F.

THE ABOVE TIME FRAMES ARE BASED ON TESTING IN CONTROLLED CONDITIONS.
ACTUAL RE-COAT TIMES MAY VARY.

THE TIMES LISTED ABOVE REFLECT THE SUGGESTED MAXIMUM RE-COAT WINDOW IN HOURS.

THIS WOULD BE THE TIME FROM THE START OF THE APPLICATION OF THE FIRST COAT TO THE LATEST POINT THAT THE SECOND COAT COULD BE APPLIED WITHOUT SANDING THE FLOOR TO CREATE A PROFILE.

TO ACHIEVE PROPER INTER-COAT ADHESION, THE TIMES LISTED ABOVE SHOULD BE FOLLOWED AND NOT EXCEEDED. FAILURE TO APPLY CONSECUTIVE COATS WITHIN THE TIME FRAMES LISTED ABOVE CAN RESULT IN DELAMINATION OF THE TOPCOAT.

EXAMPLE:

8:00 AM INSTALLER *BEGINS* THE INSTALLATION OF THE FIRST COAT.
9:00 AM APPLICATION OF THE FIRST COAT COMPLETE.

TEMPERATURE: 70 DEGREES F
RELATIVE HUMIDITY: 70%

THE INITIAL COAT SHOULD BE TACKED OVER WITHIN 3-5 HOURS.
BASED ON THE CHART ABOVE, THE INSTALLER HAS UP TO 8 HOURS TO APPLY THE NEXT COAT. THE INSTALLATION OF THE FIRST COAT STARTED AT 8:00 AM, SO THE NEXT APPLICATION OF THE NEXT COAT NEEDS TO BE FINISHED NO LATER THAN 4:00 PM.

WAITING LONGER THAN THE THIS WILL REQUIRE ABRAISING OF THE CURED FIRST COAT TO PROVIDE AN ANCHOR FOR ADDITIONAL COATS.

PRODUCT DESCRIPTION

Cyclo-1 is a high solids, single component hdi aliphatic that provides a smooth finish with excellent protection from UV rays, abrasion, and many of today's harshest chemicals. Cyclo-1 provides reliable performance in a wide range of temperatures and climate conditions. For a beautiful satin finish, just add our Abrasion Resistance Additive. Ideal for interior, exterior horizontal and vertical use.

PRODUCT APPLICATION

READ ALL INSTRUCTIONS CAREFULLY BEFORE STARTING PROJECT

SURFACE PREPARATION

The concrete surface must be free of all dirt, grease, oil, fats, and other contamination. Remove surface contamination by cleaning with a citrus based degreaser, detergent, or other suitable cleaner. Rinse thoroughly with clean, fresh water and allowed to dry.

MIXING

Both components and environment should be pre conditioned to a minimum of 50° F (10° C) prior to use. Be sure the air and surface temperatures are at least 5° above the dew point. Cyclo-1 is moisture sensitive, so be sure the outside of the containers are dry and free of condensation.

Shake the container of stabilizer for one full minute before combining with the Cyclo-1. The components can be mixed in a separate container or mixed in the gallon pouch.

After combining the components, power mix at 500-700 rpm for 2-3 minutes. Use an appropriate size mixer and use care to not entrain air into the coating while mixing.

TINTING

Tinting is only to be done after stabilizer has been thoroughly mixed in.
If tinting, add 10% by volume of the selected approved colorant. Power mix until a uniform color is achieved.
If there are any questions on the tint process of this product, please consult our technical service department.

EQUIPMENT RECOMMENDATIONS

ROLLER: Use a high quality 3/8" or 1/4" inch lint-free roller with a phenolic core.
BRUSH: Use a disposable natural fiber chip brush, 2-4 inch wide for cut in work.

APPLICATION

Apply only when air, material and floor temperatures are between 50-90°F (10-32°C) and the surface temperature is at least 5°F (3°C) above the dew point. The relative humidity should not be greater than 85%. Do not apply in direct sunlight or when temperature is rising. Be sure the substrate is completely dry.

Pour out only the amount of material to be used into a roller pan. Unused material can be saved in the mixing container provided it is properly sealed. Do not return unused material from the roller pan to the mixing container.

Use a 3/8 or 1/4 inch, lint free roller with a phenolic core to roll out the coating. Begin with rolling out a W or M pattern, then cross roll to fill in and smooth out the coating.

NOTE: Do not exceed recommended coverage rate, as film defects are possible.

FOOD SAFE

This document serves to confirm that the products listed below meet the performance criteria set forth in the U.S. Department of Agriculture (USDA) “Sanitation Performance Standards Compliance Guide” and the U.S. Food and Drug Administration (FDA) “2005 Food Code.” These standards apply to paints and coatings utilized in food processing plants and food establishments. It should be noted that the USDA and FDA have ceased issuing product approval letters to coatings manufacturers. Instead, it is required that coatings applied on walls and ceilings in relevant facilities adhere to regulatory standards and be certified as follows:

Garage Force certifies that the following products comply with Title 9, Part 416.2(b) of the Code of Federal Regulations and the FDA “2005 Food Code” when used as topcoats on walls, floors, and ceilings. When applied according to the instructions on the label, these products will not cause insanitary conditions nor will they adulterate food products. Furthermore, they are not classified as pesticides and do not exhibit pesticidal properties.

Upon request, Garage Force will provide the complete chemical composition of these products to the Food Safety Inspection Service (FSIS). It remains the responsibility of the end user to consult with the local FSIS inspector to verify if any additional requirements are applicable for the specific use intended.

PHYSICAL PROPERTIES

Resin Type	HDI Aliphatic
Weight Per Gallon	9.59 lbs.
Solids by Volume	92%
Volatile Organic Compounds	<50 g/l
Pot Life	30-45 minutes
Practical Coverage Rate	400-600 sq.ft./gal.

Cure Times @ 70-80ºF and 50% Relative Humidity

Recoat	4-12 hours*
Light Traffic	4-6 hours
Full Traffic	24 hours
Shelf Life	18 months
Safety Information	See SDS

Coverage rate can vary depending on the texture and porosity of the concrete
**If 12 hour recoat time has elapsed, the coating must be sanded prior to re coating.*

Performance Characteristics

TENSILE STRENGTH
METHOD: ASTM D412
TYPICAL VALUE: 5500

ELONGATION
METHOD: ASTM D412
TYPICAL VALUE: 75

COMPRESSIVE STRENGTH
METHOD: ASTM C695
TYPICAL VALUE: 9550 psi

FILM HARDNESS, SHORE D
METHOD: ASTM D2240
TYPICAL VALUE: 84

GLOSS
METHOD: ASTM D523 @60°
TYPICAL VALUE: 91+

IMPACT RESISTANCE
METHOD: ASTM D2794
TYPICAL VALUE: Direct/Reverse, 250/285 inch pounds.

ADHESION
METHOD: ASTM D4541
TYPICAL VALUE: >550 psi

COEFFICIANT OF FRICTION
METHOD: ASTM D1894
TYPICAL VALUE:0.69 Wet, 0.80 Dry

CHEMICAL RESISTANCE

CHEMICAL	RESULT
1, 1,1-Trichlorethane	R
Acetic Acid	R
Acetone	R
Ammonium Hydroxide 50%	R
Battery Acid	R
Beer	R
Benzene	R
Bleach	L
Brake Fluid	L
Brine saturated H2O	R
Chlorinated H2O	R
Citric Acid 30%	R
Citric Acid 40%	L
Clorox H2O	R
Coolant	R
Crude Oil	R
Diesel fuel	R
Ethylene Glycol	R
Fatty Acids	L
Formula 409	R
Gasoline	R
Gasoline/5% MTBE	R
Gasoline/5% Methanol	R
Hydraulic fluid (oil)	R
Hydrofluoric Acid 10%	R
Hydrochloric Acid 20%	R
Iodine	L
Isopropyl Alcohol	R
Lactic Acid 15%	R
Lactic Acid 50%	L
MEK	R

CHEMICAL	RESULT
Methanol	R
Methylene Chloride	R
Mineral Spirits	R
Motor Oil	R
MTBE	R
Muriatic Acid 10%	R
NaCl/ H2O 10%	R
Nitric Acid 20%	R
Orange Juice	R
Peroxide 35%	L
Phosphoric Acid 50%	R
Phosphoric Acid 85%	L
Potassium Hydroxide 20%	R
Power Steering Fluid	R
Propylene Carbonate	R
Skydrol	R
Sodium Bicarbonate	R
Sodium Hydroxide 50%	R
Sodium Hyochlorite 10%	R
Stearic Acid	R
Sugar/ H2O	R
Sulfuric Acid 10%	R
Sulfuric Acid >50%	R
Toluene	R
Transmission Fluid	R
Trisodium Phosphate	R
Urea	R
Vinegar/ H2O 5%	R
H2O 14 days at 82° C	R
Xylene	L

CHEMICAL RESISTANCE CHART KEY

R-Recommended for continuous service

L-Limited Recommendation, occasional spills *May cause slight stain or discoloration

MOISTURE MITIGATION

PRODUCT DESCRIPTION

Dry Coat Pro is a 100% solids, two-component, epoxy primer designed for concrete floors with moisture vapor transmission (MVT) problems. This primer is applied directly to concrete to reduce the adhesion and blister effects of MVT. Dry Coat Pro is resistant to MVT up to 25 lbs. Per 1000 sq. ft. in 24 hours per ASTM F1869 or 95% relative humidity (RH) per ASTM F2170.

PRODUCT APPLICATION

READ ALL INSTRUCTIONS CAREFULLY BEFORE STARTING PROJECT

SURFACE PREPARATION

Concrete and coated concrete surfaces must be sound, clean, dry and free of contaminants such as dirt, dust, grease, oil, silicones and other contaminants that may negatively affect adhesion.

MOISTURE VAPOR BARRIER:

A suitable moisture barrier must be in place for concrete slabs on-grade. If a moisture barrier is not in place, seasonal variations in ground moisture can cause excessive moisture vapor transmission (MVT) regardless of results measured prior to coating application. 16 mils MVB is resistant to MVT up to 25 lbs. per 1000 sq. ft. in 24 hours per ASTM F1869 or 95% RH per ASTM F2170.

NEW/BARE CONCRETE:

Shot blast to a CSP 5. Refer to SSPC-SP13/NACE 6 or ICRI Technical Guideline No. 310.2.
New concrete must be cured a minimum of 28 days and should meet moisture vapor transmission (MVT) and relative humidity (RH) thresholds as described previously in Surface Preparation section.

PREVIOUSLY COATED SURFACES:

Clean surface to prevent any contaminants from being spread/redistributed to a greater area being prepared. Completely remove previous coatings, sealers, joint fillers, and patching materials. Shot blast to a CSP-5. Refer to SSPC-SP13 / NACE 6 or ICRI Technical Guideline No. 310.2.

EQUIPMENT RECOMMENDATIONS

ROLLER: Use a high quality 3/8” inch lint-free roller with a phenolic core.
BRUSH: Use a disposable natural fiber chip brush, 2-4 inch wide for cut in work.
SQUEEGEE: Use a 1/4” notched squeegee.

PATCHING AND JOINTS

All previous joint filler and patching materials must be completely removed prior to Dry Coat Pro application. Cracks and holes should be cleaned out using a wire brush and vacuum. Larger cracks should be widened to a 1/4” width and depth. Prime the sidewalls with Dry Coat Pro and patch the void with thickened Dry Coat Pro. Sidewalls of moving joints that will be honored, should also be primed with Dry Coat Pro and allowed to cure before installing an appropriate joint material. Patching and joint materials may be installed after Dry Coat Pro application.

APPLICATION

Dry Coat Pro mix ratio is 2 Parts A to 1 Part B by volume.

1. Pre-mix each component for 2 minutes. Pour A side into a 2-5 gallon mixing pail. If pigmenting, mix tint into the A side. Then, add B side and mix for three minutes until uniform. Do not mix more material than can be applied in 25 – 30 minutes (material will stiffen or tack-up).
2. Immediately pour all mixed Dry Coat Pro on the floor in a long bead approximately 8 – 12 inches wide. Do not attempt to roll material out of a bucket or roller pan.
3. Wearing spiked shoes, spread evenly using a notched squeegee to 16 mils in order to get tolerance to MVT up to 25 lbs. per 1000 sq.ft. in 24 hours per ASTM F1869 or 85% RH per ASTM F2170
4. Use a non-shed 3/8" roller and back-roll the primer evenly across the squeegee passes to minimize application lines and leave a consistent film thickness.
5. Before overcoating, inspect the applied and set Dry Coat Pro for pinholes or voids from displaced air or inadequate patching. Sand and recoat if needed. Thickened Dry Coat Pro may need to be used to patch more severe holes or cracks.
6. Decorative Chip can be broadcast into the thicker, build coat of Dry Coat Pro before it sets.

ALTERNATE APPLICATION (HELPS REDUCE BUBBLES)

Dry Coat Pro mix ratio is 2 Parts A to 1 Part B by volume.

1. Pre-mix each component for 2 minutes. Pour A side into a 2—5 gallon mixing pail. If pigmenting, mix tint into the A side. Then, add B side and mix for three minutes until uniform. Do not mix more material than can be applied in 25 – 30 minutes (material will stiffen or tack-up).
2. Immediately pour all mixed Dry Coat Pro on the floor in a long bead approximately 8 – 12 inches wide. Do not attempt to roll material out of a bucket or roller pan.
3. Wearing spiked shoes, spread evenly at 3 – 5 mils by pushing a flat squeegee or metal spring blade along the bead. Overlap previous passes in order to ensure concrete pinholes are filled. A tight, thin coat of Dry Coat Pro applied as primer with no back roll is the best way to minimize out gassing bubbles.
4. After the Dry Coat Pro has set, apply the balance of the material using a notched squeegee to equal 16 mils total in order to get tolerance to MVT up to 25 lbs. Per 1000 sq.ft. in 24 hours per ASTM F1869 or 85% RH per ASTM F2170
5. Use a non-shed 3/8" roller and back-roll the primer evenly across the squeegee passes to minimize application lines and leave a consistent film thickness.
6. Before overcoating, inspect the applied and set Dry Coat Pro for pinholes or voids from displaced air or inadequate patching. Sand and recoat if needed. Thickened Dry Coat Pro may need to be used to patch more severe holes or cracks.
7. Decorative Chip can be broadcast into the thicker, build coat of Dry Coat Pro before it sets.

CLEAN-UP

Clean up mixing and application equipment immediately after use. Use toluene, acetone or xylene; do not use alcohol. Follow solvent manufacturer's safety instructions. Be sure to follow all local, state and federal regulations when disposing of materials.

FOOD SAFE

This document serves to confirm that the products listed below meet the performance criteria set forth in the U.S. Department of Agriculture (USDA) “Sanitation Performance Standards Compliance Guide” and the U.S. Food and Drug Administration (FDA) “2005 Food Code.” These standards apply to paints and coatings utilized in food processing plants and food establishments. It should be noted that the USDA and FDA have ceased issuing product approval letters to coatings manufacturers. Instead, it is required that coatings applied on walls and ceilings in relevant facilities adhere to regulatory standards and be certified as follows:

Garage Force certifies that the following products comply with Title 9, Part 416.2(b) of the Code of Federal Regulations and the FDA “2005 Food Code” when used as topcoats on walls, floors, and ceilings. When applied according to the instructions on the label, these products will not cause insanitary conditions nor will they adulterate food products. Furthermore, they are not classified as pesticides and do not exhibit pesticidal properties.

Upon request, Garage Force will provide the complete chemical composition of these products to the Food Safety Inspection Service (FSIS). It remains the responsibility of the end user to consult with the local FSIS inspector to verify if any additional requirements are applicable for the specific use intended.

SHELF LIFE

24 months from date of manufacture when stored indoors in the original unopened container at 60°F – 85°F (16°C – 29°C) in a dry location with humidity below 65%. Do not allow materials to freeze.

LIMITATIONS

- 16 total mils (100 sq/ft per gal.) of Dry Coat Pro must be applied to achieve MVT resistance up to 25 lbs. per 1000 sq. ft. in 24 hours per ASTM F1869 or 95% RH per ASTM F2170.
- Dry Coat Pro is not designed to be used as a stand-alone product. Dry Coat Pro must be over-coated with a more durable Garage Force coating system.
- Concrete must have a minimum compressive strength of 3,500 psi and a tensile strength of 300 psi.
- This product will not prevent failures caused by Alkaline Silica Reaction (ASR) or contaminants left by previously applied hardeners/sealers.
- Do not apply at a temperature or thickness not recommended.
- Do not delay in pouring mixed material onto the floor.
- Do not apply over loose or unsound concrete, asphalt or bitumen substrates, glazed tile or nonporous brick and tile, magnesite, copper,metal, polyesters, or elastomeric membranes.
- Moving joints and shrinkage cracks may reflect through system. Joints that are designed to move may reflect through the finished flooring system if the are not honored.

PHYSICAL PROPERTIES

Solids by Volume	100%
Solids by Weight	100%
VOC (EPA Method 24)	0 g/l
Mixing Ratio	2:1 (Part A to Part B)
Mixed Viscosity	1500cP
Work Time	25-30 minutes
Practical Coverage Rate	100 - 400 sq.ft./gal.

Coverage rate can vary depending on the texture and porosity of the concrete

Cure Times @ 72°F and 50% Relative Humidity*

Tack Free	9 hours
Minimum Recoat	5 hours
Maximum Recoat	12 hours
Light Foot Traffic	24 hours
Full Cure	5 days

Temperature

Air	38° - 85° F	(3.4° - 29° C)
Surface	38° - 85° F	(3.4° - 29° C)
Material	50° - 85° F	(10° - 29° C)

**Cure times at lower temperatures will be unpredictable. Higher temperatures will shorten pot-life and working time. Floor temperature must be at least 5 degrees over the current dew point. Be ready to aggressively sand or lightly grind the cured product before applying the next coat.*

***Apply a second coat of Dry Coat Pro or the base coat within 12 hours of the initial coat of Dry Coat Pro . If the re-coat window is missed, the coating system will need to be sanded. Recoat maximum will vary depending on temperature and humidity.*

Performance Characteristics

TENSILE STRENGTH
METHOD: ASTM D638
TYPICAL VALUE: 9,600 PSI

FLEXURAL STRENGTH
METHOD: ASTM D790
TYPICAL VALUE: 12,800

COMPRESSIVE STRENGTH
METHOD: ASTM C695
TYPICAL VALUE: 11,600 psi

HARDNESS, SHORE D (24 hours)
METHOD: ASTM D2240
TYPICAL VALUE: 75

GLOSS
METHOD: ASTM D523 @60°
TYPICAL VALUE: 90+

WATER VAPOR TRANSMISSION
METHOD: ASTME96
TYPICAL VALUE: .064 perms (grains/hr/sq.ft.)

EPOXY

PRODUCT DESCRIPTION

Level Coat is a 100% solids, zero VOC, blush-resistant, self-leveling epoxy. This base coat is designed to be used where high-build and durability are needed. This workhorse epoxy has toughness and good chemical resistance.

PRODUCT APPLICATION

READ ALL INSTRUCTIONS CAREFULLY BEFORE STARTING PROJECT

SURFACE PREPARATION

Concrete and coated concrete surfaces must be sound, clean, dry and free of contaminants such as dirt, dust, grease, oil, silicones and other contaminants that may negatively affect adhesion.

MOISTURE VAPOR BARRIER:

A suitable moisture barrier must be in place for concrete slabs on-grade. If a moisture barrier is not in place, seasonal variations in ground moisture can cause excessive moisture vapor transmission (MVT) regardless of results measured prior to coating application. MVT rate must not exceed three pounds per 1,000 square feet per 24 hours, as directed by ASTM F1869. The relative humidity (RH) of the slab must not exceed 75%, as directed by ASTM F2170. If there is a moisture situation in excess of the above rate, the use of Dry Coat Pro may be required.

NEW/BARE CONCRETE:

Mechanically prep to a CSP 3 or greater surface profile, depending on total thickness of system. Refer to SSPC-SP13/NACE 6 or ICRI Technical Guideline No. 310.2.
New concrete must be cured a minimum of 28 days and should meet moisture vapor transmission (MVT) and relative humidity (RH) thresholds as described previously in Surface Preparation section.

PREVIOUSLY COATED SURFACES:

Clean surface to prevent any contaminants from being spread/redistributed to a greater area being prepared. Completely remove previous coatings, sealers, joint fillers, and patching materials.
Shot blast to a CSP-3 or greater surface profile. Refer to SSPC-SP13 / NACE 6 or ICRI Technical Guideline No. 310.2.

EQUIPMENT RECOMMENDATIONS

ROLLER: Use a high quality 3/8” inch lint-free roller with a phenolic core.
BRUSH: Use a disposable natural fiber chip brush, 2-4 inch wide for cut in work.
SQUEEGEE: Use a 1/4” notched squeegee.

APPLICATION

Level Coat mix ratio is 2 Parts Base to 1 part Activator by volume.

1. Pre-mix Base at low speed for 1 minute. If pigmenting, add tint into the Base. Add Part B and mix for three minutes until uniform. Do not mix more material than can be applied in 10 – 15 minutes (material will stiffen or tack- up.)
2. Immediately pour all mixed Level Coat on the floor in a long bead approximately 8 – 12 inches wide. Do not scrape sides or leave pail overturned to drain.

Do not attempt to roll material out of a bucket or roller pan.

3. Wearing spiked shoes, spread evenly at 10 – 30 mils by pushing a 1/4" notched squeegee along the bead. Overlap previous passes in order to ensure consistent coverage.
4. Push the squeegee with a slight angle to plow extra material to the side, moving it down the floor.
5. Using a non-shed 3/8" roller, back-roll the Level Coat evenly across the squeegee passes to minimize application lines and leave a consistent film thickness. Do not back-roll material after it begins to get sticky. The epoxy will not level and colored epoxy may turn a different shade.

CLEAN-UP

Clean up mixing and application equipment immediately after use. Use acetone or xylene; do not use alcohol. Follow solvent manufacturer's safety instructions. Be sure to follow all local, state and federal regulations when disposing of materials.

FOOD SAFE

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Upon request, Garage Force will provide the complete chemical composition of these products to the Food Safety Inspection Service (FSIS). It remains the responsibility of the end user to consult with the local FSIS inspector to verify if any additional requirements are applicable for the specific use intended.

SHELF LIFE

12 months from date of manufacture when stored indoors in the original unopened container at 60°F – 85°F (16°C – 29°C) in a dry location with humidity below 65%.
Do not allow materials to freeze.

LIMITATIONS

- Do not apply at a temperature or thickness not recommended.
- Do not delay in pouring mixed material onto the floor.
- Do not apply over loose or unsound concrete, asphalt or bitumen substrates, glazed tile or nonporous brick and tile, magnesite, copper, metal, polyesters, or elastomeric membranes.
- Moving joints and shrinkage cracks may reflect through system. Joints that are designed to move may reflect through the finished flooring system if the are not honored.
- Tire marking may occur if used as topcoat.

PHYSICAL PROPERTIES

Solids by Volume	100%
Solids by Weight	100%
VOC (EPA Method 24)	0 g/l
Mixing Ratio	2:1 (Part A to Part B)
Mixed Viscosity	900-1000 cP
Work Time	20-30 minutes
Practical Coverage Rate	50 - 160 sq.ft./Gal.

Cure Times @ 72ºF and 50% Relative Humidity*

Tack Free	5.5 hours
Minimum Recoat	8 hours
Maximum Recoat	24 hours
Light Foot Traffic	10-16 hours
Heavy Traffic	2 days
Full Cure	5 days

Temperature

Air	60º - 85º F	(16º - 29º C)
Surface	60º - 85º F	(16º - 29º C)
Material	60º - 85º F	(16º - 29º C)

**Higher temperatures will shorten pot-life and working time. Floor temperature must be at least 5 degrees over the current dew point.*

Performance Characteristics

TENSILE STRENGTH
METHOD: ASTM D638
TYPICAL VALUE: 9,600 PSI

FLEXURAL STRENGTH
METHOD: ASTM D790
TYPICAL VALUE: 12,800

COMPRESSIVE STRENGTH
METHOD: ASTM C695
TYPICAL VALUE: 11,600 psi

HARDNESS, SHORE D (24 hours)
METHOD: ASTM D2240
TYPICAL VALUE: 75

GLOSS
METHOD: ASTM D523 @60°
TYPICAL VALUE: 90+

REPAIR PRODUCTS

PRODUCT DESCRIPTION

Cyclospartic Crack Repair is a two-component, solids, VOC Compliant, ultra low viscosity polyurea repair material that has the ability to cure in a wide range of temperatures. Its high compressive strength makes it a great choice for heavy traffic areas and those that are prone to damage due to falling objects.

PRODUCT APPLICATION

READ ALL INSTRUCTIONS CAREFULLY BEFORE STARTING PROJECT

SURFACE PREPARATION

Chase all cracks with a crack-chasing blade (v-shaped diamond) on a hand grinder to open and prepare the crack for filling. This will leave the crack at about a 1/4” wide and clean the sidewalls of the concrete. This is an essential step for long term adhesion of Cyclospartic Crack Repair to the concrete.

Oil, grease, etc. Could have seeped into the crack and if the edges are not chased out the material has minimal chances of staying in place. Chasing the cracks will also create a space that is large enough to support a “full body” of repair material and allow it to gain maximum strength.

Vacuum the chased-out cracks to remove any loose dust prior to filling with sand or Cyclospartic Crack Repair. Dry silica sand or utility sand can be used to fill in voids where the liquid filler would simply soak in down the crack. If using sand as a backer, always use your finger or tool to strike the sand off at about 1/4” down from the top of the substrate. The Cyclospartic Crack Repair will soak into the sand at the same time it is bonding to the concrete, creating a strong filler that will literally “weld” the concrete back together.
DO NOT USE PLAY SAND OR SAND WITH MOISTURE IN IT.

MIXING

Pre-mix both sides individually each day before combining.

Over a floor mat or garbage can, pour out equal amounts of Part A and Part B in two separate paper Dixie cups. Mix the two cups back and forth about 10 times, or for 10-15 seconds to combine and blend the components.
-Or-
Using small, calibrated mixing containers, combine equal amounts of Part A and Part B and blend thoroughly with a paint stick or drill with paddle style mixer for about 10-15 seconds. Dry silica sand can be added to the mix to thicken it up, acting as both a filler to increase the volume and to lessen the chances of the material flowing and sinking into deep cracks.

Cyclospartic Crack Repair will react immediately upon mixing and should be placed within 1 minute to guarantee adhesion.

APPLICATION

Pour the mixed material onto the floor and over-fill cracks to ensure a level surface after grinding. If using Dixie cups for mixing, always pinch the top of the cup to create a small pour spout for better accuracy when pouring.

If sand is added to the mixture, it may be beneficial to use a putty knife to move the filler into place. Any material that is not “in the crack” is considered waste, as it will eventually be ground off to profile the Cyclospartic Crack Repair and the slab.

Spalling repair should only be attempted once the floor has been mechanically prepared with shot blaster or grinder. This will knock down the high spots in the concrete and begin the process of leveling the floor. Use a flat squeegee to spread the repair product evenly across the damaged area. The result will be a large, flooded area that can be ground flat once cured.
NEVER MIX MORE THAN 1 PART LIQUID (A + B) TO 1 PART SAND.

Re-profiling of the repair is always required before coating. It is ready to grind when it is resistant to fingernail marking. Grind the repair flush with the slab using a hand grinder, or planetary grinder and make sure the repaired area is smooth and level. It will be best to use the hand grinder on cracks, and the planetary grinder on spalled areas.

THINNING: None required.
CLEAN-UP: Acetone

EQUIPMENT RECOMMENDATIONS

SQUEEGEE: Use a flat squeegee to spread over pitted areas.

Performance Characteristics

TENSILE STRENGTH
METHOD: ASTM D412
TYPICAL VALUE: 4800

ELONGATION
METHOD: ASTM D412
TYPICAL VALUE: 6-8%

COMPRESSIVE STRENGTH
METHOD: ASTM C109
TYPICAL VALUE: 5600
W/SAND: 6200

BOND STRENGTH
METHOD: ASTM 882-99
TYPICAL VALUE: 2250

HARDNESS, DUROMETER
METHOD: ASTM D2240
TYPICAL VALUE: 67-72D

VISCOSITY (MIXED)
TYPICAL VALUE: 25 CPS

TEAR STRENGTH
METHOD: ASTM D624
TYPICAL VALUE: -LB/MIL 489

ADHESION
METHOD: ASTM D4541
TYPICAL VALUE: >500 psi

PHYSICAL PROPERTIES

Resin Type	Cyclospartic Polyurea
Weight Per Gallon	9.9 lbs.
Solids by Volume	98%
Volatile Organic Compounds	<50 g/l**
Mixing Ratio	1:1 (Part A to Part B)
Pot Life	1-2 minutes
Hard Cure	10-15 minutes
Light Traffic	15 minutes
Full Traffic	30 minutes
Shelf Life	12 months
Safety Information	See SDS