EQUIPMENT NEEDED:

Tomcat Disk Auto Scrubber
* MAGNUM Machine Recommended * PRICE: $9,431.00 ea.
* PROPOLISH Option Recommended * PRICE: $1,000.00 ea.

Diamabrush Concrete Prep Tool
- 100 Grit Metal Brush - LEVEL 1 USE ONLY
(x 2) 15 INCH CONCRETE PREP TOOL
CLOCK WISE ITEM #: 15-425-0100MECWCT
COUNTER-CLOCK WISE ITEM #: 15-425-0100MECCWCT
PRICE: $542.00 ea.
(x 2) 17 INCH CONCRETE PREP TOOL
CLOCK WISE ITEM #: 17-425-0100MECWCT
COUNTER-CLOCK WISE ITEM #: 17-425-0100MECCWCT
PRICE: $568.00 ea.

PowerCat 275 Formula (5 Gallons)
Floor Densifier item #: PC275-1x5 - LEVEL 2 USE ONLY
BOUGHT THROUGH POWERCATSOLUTIONS.COM
PRICE: $290.00 ea.

Spraying Apparatus
(low-pressure, high volume) - LEVEL 2 USE ONLY

Diamabrush Polymer Brushes
* REPLACEMENT BLADE KIT INFORMATION ON PAGE 12 *
- 50 Grit Gold Polymer Brush - LEVEL 1 USE ONLY
(x 2) item 13 INCH #: 13-425-0050POLYPT PRICE: $574.00 ea.
(x 2) item 15 INCH #: 15-425-0050POLYPT PRICE: $583.00 ea.
(x 2) item 17 INCH #: 17-425-0050POLYPT PRICE: $614.00 ea.
(x 2) item 20 INCH #: 20-425-0050POLYPT PRICE: $649.00 ea.
- 100 Grit Black Polymer Brush - LEVEL 1 USE ONLY
(x 2) item 13 INCH #: 13-425-0100POLYPT PRICE: $554.00 ea.
(x 2) item 15 INCH #: 15-425-0100POLYPT PRICE: $565.00 ea.
(x 2) item 17 INCH #: 17-425-0100POLYPT PRICE: $595.00 ea.
(x 2) item 20 INCH #: 20-425-0100POLYPT PRICE: $649.00 ea.
- 200 Grit Blue Polymer Brush - LEVEL 2 USE ONLY
(x 2) item 13 INCH #: 13-425-0200POLYPT PRICE: $554.00 ea.
(x 2) item 15 INCH #: 15-425-0200POLYPT PRICE: $565.00 ea.
(x 2) item 17 INCH #: 17-425-0200POLYPT PRICE: $595.00 ea.
(x 2) item 20 INCH #: 20-425-0200POLYPT PRICE: $649.00 ea.
- 400 Grit Green Polymer Brush - LEVEL 2 USE ONLY
(x 2) item 13 INCH #: 13-425-0400POLYPT PRICE: $554.00 ea.
(x 2) item 15 INCH #: 15-425-0400POLYPT PRICE: $565.00 ea.
(x 2) item 17 INCH #: 17-425-0400POLYPT PRICE: $595.00 ea.
(x 2) item 20 INCH #: 20-425-0400POLYPT PRICE: $649.00 ea.
- 1000 Grit Red Polymer Brush - LEVEL 3 USE ONLY
(x 2) item 13 INCH #: 13-425-1000POLYPT PRICE: $737.00 ea.
(x 2) item 15 INCH #: 15-425-1000POLYPT PRICE: $749.00 ea.
(x 2) item 17 INCH #: 17-425-1000POLYPT PRICE: $782.00 ea.
(x 2) item 20 INCH #: 20-425-1000POLYPT PRICE: $820.00 ea.
- 2000 Grit Tan Polymer Brush - LEVEL 3 USE ONLY
(x 2) item 13 INCH #: 13-425-2000POLYPT PRICE: $760.00 ea.
(x 2) item 15 INCH #: 15-425-2000POLYPT PRICE: $773.00 ea.
(x 2) item 17 INCH #: 17-425-2000POLYPT PRICE: $806.00 ea.
(x 2) item 20 INCH #: 20-425-2000POLYPT PRICE: $845.00 ea.
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Updated: 12/02/13
How To Resurface Concrete
Recovery to High Gloss Guide

IT IS IMPORTANT THAT YOU FULLY READ AND UNDERSTAND ALL OF THE INSTRUCTIONS IN THIS MANUAL BEFORE BEGINNING. IF THERE ARE ANY QUESTIONS, PLEASE FEEL FREE TO CONTACT YOUR LOCAL TOMCAT REPRESENTATIVE.

This manual explains the full process in how to completely resurface concrete using the Diamabrush Polishing System. Because of the difference in floors due to wear and age, it’s impossible to say exactly what any specific floor needs without looking at it. This manual is divided by Levels of wear and methods of polishing for those specific wear levels. Level 1 (L1) is the Recovery Stage, this stage is required to flatten the floor if it is not already and remove large scratches or gouges. This is an uncommon stage for most floors. Level 2 (L2) is the Base Polishing Stage which requires already having completed Level 1 or having Level 1 type floor (having leveled already). This stage is the most common for most floors to start and stop at as it gives the floor a base shine as well as when densifier is applied. Level 3 (L3) is for High Gloss work and meant specifically for floor applications that require frequent burnishing for shine. Because not all floors need the same work, it’s up to the operator how glossy the floor will become.

Select Your Finish Level

Level 1

Level 2

Level 3

Before polishing begins, the floor quality needs to be inspected. Determine which step the floor needs to start with based off if you need to re-level the floor L1, if you need to apply densifier L2, or if you are just wanting to fine polish L3 and continue the steps though whichever finishing Level the floor needs to shine at, depending on the applications wants. Never end the system on L1 - always progress through L2 before finishing.

The Diamabrush System is a revolutionary system that allows for floor overhauls in a day or regular maintenance/progressive grit system polishing in one. This system allows you to use the Polymer Brushes progressively and over a large span of time for regular daily maintenance cleaning while grinding and polishing at the same time. If you want to progressively move through the system - space out the time in which you move up in brush grit. Example: 50 Grit Gold for 1 week then step up to the 100 Grit Black for one week, and so on. Once your floor is polished at 2000 Grit, you can just continually scrub the floor - maintaining the same grit shine.

IMPORTANT: Always wear personal protective equipment such as hearing protection, safety glasses, and steel toe shoes when operating this tool on a floor machine as well as gloves when handling any chemicals.
**IMPORTANT:** If you have never used this process on your floor before, Tomcat recommends you start in a less conspicuous area initially.

**NOTE:** Clean the floor before starting the polishing system to prevent unusual wear patterns or gouging of existing grit into the floor. No grease, oil, or other contaminants should remain on the surface.

**CAUTION:** Before installing different brushes, always remember to turn off the machine by turning the key to the off position and remove key.
1. Prepare machine by installing the one-hundred (100) Grit Concrete Prep Tool. **SEE FIGURE 1-A.** When installing, make sure that the clutch fully engages with the drive hub. Be sure to mount the metal blade brushes to the machine according to the direction that they rotate - Clock-wise (CW) and Counter-Clock-wise (CCW). Ensure that access doors, shrouds, and machine skirts are properly latched and secured before operating the machine. **USING THIS CONCRETE PREP TOOL IS STRICTLY FOR THOSE WITH VERY UNEVEN OR GOUGED FLOORS. SEE FIGURE 1-B. IF YOU DON’T HAVE THESE PROBLEMS WITH YOUR FLOOR SKIP THIS STEP AND CONTINUE TO THE POLYMER BRUSH.**

**NOTE:** While many machines will have the brushes rotate inward towards the center of the deck. Tomcat’s Pro Polish deck’s rotate the opposite way as this optimizes the polishing with the specific make of the deck. Running the Concrete Tools incorrectly will damage the floor and tools. The polymer brushes do not follow this procedure as they are multi-directional.

**IMPORTANT:** It is recommended that you lay water on your surface before starting. Also, it’s important to run the machine’s solution and recovery system while making passes and careful attention needs to be paid to the operating speed of the machine. Even, shiny floors come from every sq/ft receiving “X” amount of dwell time underneath the Diamond Grit Prep Tools and Brushes. If speed is too great, it will take more passes for the same amount of shine - Too slow can cause unevenness.

2. Starting with the Concrete Prep one-hundred (100) Grit Tool, turn the deck and water on and make a initial outside pass over the floor area you are polishing. Once the outside lap has been made it is recommended that the operator make two to three (2-3) more laps around the outside then move the next lap to have a four (4) inch overlap to the previous one. **SEE FIGURE 1-C.** This ensures even coverage throughout. The Concrete Prep tool, is used to level the surface and remove coatings such as thin mill epoxy, mastic, thin set, and paint.

3. Continue laps with the same overlap until entire floor area has been covered. Having the complete floor gone over is called a pass. Once a full pass is made, move the machine back to the beginning first lap and continue for up to a total of four to five (4-5) total passes on the floor. Once totalled
passes are complete, reverse the lap rotation for another four to five (4-5) total passes.  SEE FIGURE 1-D.

**NOTE:** A pace of one and a half (1\(\frac{1}{2}\)) to two (2) feet per second (.45-.6 sqm/sec.) is recommended.  
**REMINDER:** As a multi-step progressive grit system, users begin with a coarse grit, metal bonded brush to level the surface and remove any coating such as thin mill epoxy, mastic, and thin set. Using the metal brushes in this system is the most important step in the entire Diamabrush polishing process. A slower speed now will achieve best results. Remember to have a four (4) inch overlap on each pass to retain consistent leveling throughout.

4. After the eighth (8th) pass, it’s important to inspect the entire floor once it’s dry.  **SEE FIGURE 1-D.** Drop the machine squeegee if you haven’t been running the system with it and pick up all of the concrete slurry on the ground. Spray more water on the floor, freeing any extra slurry and diamond grit pieces from the ground, and vacuum. Look for uniform whitening of the concrete.  **SEE FIGURE 2-A.** You will also become aware of low spots if any. If found this may require a couple more passes to make the concrete uniform.

**NOTE:** The number of passes needed will be more or less depending on the condition and the type of floor to be polished. It is also helpful to feel the progress of the floor after each step. Expect uniform whitening after using the one-hundred (100) Grit Concrete Tool. Only then proceed to the next brush.

**IMPORTANT:** Polymer brushes that haven’t been used for two (2) months or longer will have to be reconditioned by simply soaking them in water. Usually seventy-two (72) hours in cold water.

5. Once the floor has been fully rinsed and vacuumed so that there is no slurry or old diamond residue left, it’s time attach the fifty (50) grit Gold Polymer Brush.  **SEE FIGURE 2-B.** With fifty (50) grit Poly Brushes attached, Pre-Soak the floor again and once water is down over the entire area, start the floor passes over from the outside working your way back in. The fifty (50) grit Gold Poly Brush requires six to eight (6-8) total passes before advancing to the next grit. Once all passes have been made and floor again is uniform, wet vac the floor area, rinse with clean water, and wet vac again.

6. Proceed to the next grit, one-hundred (100) grit Black Poly Brush, and repeat Step 5.  **SEE FIGURE 2-C.**

7. After the one-hundred (100) grit Black Poly Brush has made it’s passes and all of the slurry, rinsing, and water has been vacuumed up - it is required to start Level 2 immediately so that your floors can have densifier on them to close up the pores. If the process stops here, the floor will be very susceptible to quickly absorb stains as all it’s pores are still open.

**FIGURE 2-A:** UNIFORM WHITENING ON THE CONCRETE WILL BE VERY NOTICEABLE. IF NOT - CONTINUE PROCESS TILL FLOOR IS UNIFORM.

**FIGURE 2-B:** 50 GRIT BLACK POLYMER BRUSH AND IMAGE OF FLOOR AFTER 50 GRIT BRUSHES.

**FIGURE 2-C:** 100 GRIT BLACK POLYMER BRUSH AND IMAGE OF FLOOR AFTER 100 GRIT BRUSHES.
**Level 2**

**Base Polishing**

**This Level is for Floors that Need Densifier and a Light Base Polish Applied**

**IMPORTANT:** It is recommended that you lay water on your surface before starting. Also, it's important to run the machine’s solution and recovery system while making passes and careful attention needs to be paid to the operating speed of the machine. Even, shiny floors come from every sq/ft receiving “X” amount of dwell time underneath the Diamond Grit Prep Tools and Brushes. If speed is too great, it will take more passes for the same amount of shine - Too slow can cause unevenness.

**NOTE:** If this is where you are starting the floor polishing process due to no need to level the floor - The concrete should look close to FIGURE 3-A.

1. Starting with the two-hundred (200) grit Blue Polymer Brush, install the brushes, turn the deck and water on and make a initial outside pass over the floor area you are polishing. **SEE FIGURE 3-B.** Once the outside lap has been made it is recommended that the operator make two to three (2-3) more laps around the outside then move the next lap to have a four (4”) inch overlap to the previous one. **FIGURE 3-C.** This ensures even coverage throughout. This Poly Brush is being used to close up any holes that may be in the floor surface as well as open up the concrete pores to allow the Concrete Densifier to soak in.

2. Continue laps with the same overlap until entire floor area has been covered. Having the complete floor gone over is called a pass. Once a full pass is made, move the machine back to the beginning first lap and continue for up to a total of four to five (3-4) total passes on the floor. Once totalled passes are complete, reverse the lap rotation for another four to five (3-4) total passes. **FIGURE 3-D.**

**NOTE:** A pace of one and a half (11/2) to two (2) feet per second (.45-.6 sqm/sec.) is recommended.

**IMPORTANT:** Polymer brushes that haven’t been used for two (2) months or longer will have to be reconditioned by simply soaking them in water. Usually seventy-two (72) hours in cold water.

3. After the eighth (8th) pass, it’s important to inspect the entire floor once it’s dry. Drop the machine squeegee if you haven’t been running the system with it and pick up all of the concrete slurry on the ground. Spray more water on the floor, freeing any extra slurry and diamond grit pieces from the ground, and vacuum. You will become aware of low spots if...
any. If found this may require a couple more passes to make the concrete uniform.

**NOTE:** The number of passes needed will be more or less depending on the condition and the type of floor to be polished. It is also helpful to feel the progress of the floor after each step.

4. Floor Densifier is recommended for concrete resurfacing. Tomcat recommends using PowerCat Formula 275 as these directions are specific for that formula. Apply PowerCat 275 after the two-hundred (200) grit Blue Polymer Brush. When applying, use a low-pressure, high volume spraying apparatus to lay down. **FIGURE 4-A.** Make sure to coat everything and let sit for thirty (30) to forty-five (45) minutes untouched. After thirty (30) to forty-five (45) minutes is up, you can start to work the chemical into the floor by using regular Midi-Grit scrub brushes on the scrubber. Low water and no squeegee/recovery system is needed. **You MAY need to lay more water down, watch out for dry spots.** After a full pass or two, lay your squeegee down and clean up the area of all liquids. Flush floor with water and squeegee up again to remove all densifier residue to prevent discolorization as well as get rid of diamond particles of lower grits that still may be on the floor. **FIGURE 4-B.**

5. Once the densifier has been laid down, worked in, and then picked up completely, leaving no residue behind, progress to the four-hundred (400) grit Green Polymer Brush. Repeat Steps 1-3 for this grit. **FIGURE 4-C.** Once these steps have been completed, the floor can progress to the next level if needed - If a high gloss shine isn't needed for the floor application, just make one (1) extra full pass with water and Midi-Grit brushes to remove any left over diamond grits or residue/slurry.

**IMPORTANT:** Always wear personal protective equipment such as hearing protection, safety glasses, and steel toe shoes when operating this tool on a floor machine as well as gloves when handling any chemicals.
**Level 3**

**High Gloss**

This level is for floors that need a fine shine

**IMPORTANT:** It is recommended that you lay water on your surface before starting. Also, it's important to run the machine's solution and recovery system while making passes and careful attention needs to be paid to the operating speed of the machine. Even, shiny floors come from every sq/ft receiving “X” amount of dwell time underneath the Diamond Grit Prep Tools and Brushes. If speed is too great, it will take more passes for the same amount of shine - Too slow can cause unevenness.

**NOTE:** If this is where you are starting the floor polishing process due to no need to level or apply densifier - The concrete should look close to FIGURE 5-A.

1. Starting with the one-thousand (1000) grit Polymer Brush, install the brushes, turn the deck and water on and make a initial outside pass over the floor area you are polishing. **SEE FIGURE 5-B.** Once the outside lap has been made it is recommended that the operator make two to three (2-3) more laps around the outside then move the next lap to have a four (4) inch overlap to the previous one. **SEE FIGURE 5-C.** This ensures even coverage throughout.

2. Continue laps with the same overlap until entire floor area has been covered. Having the complete floor gone over is called a pass. Once a full pass is made, move the machine back to the beginning first lap and continue for up to a total of three to four (3-4) total passes on the floor. Once totalled passes are complete, reverse the lap rotation for another four to five (3-4) total passes. **SEE FIGURE 5-D.**

**NOTE:** A pace of one and a half (11/2) to two (2) feet per second (.45-.6 sqm/sec.) is recommended.

**IMPORTANT:** Polymer brushes that haven’t been used for two (2) months or longer will have to be reconditioned by simply soaking them in water. Usually seventy-two (72) hours in cold water.

3. After the eighth (8th) pass, it’s important to inspect the entire floor once it’s dry. Drop the machine squeegee if you haven’t been running the system with it and pick up all of the concrete slurry on the ground. Spray more water on the floor, freeing any extra slurry and diamond grit pieces from the ground, and vacuum.

4. Once the floor is dry from the one-thousand (1000) grit Red Poly Brush and it appears as though every spot was hit...
evenly, you can progress to the final step, the two-thousand (2000) grit Tan Polymer Brush. Repeat Steps 1-3 for this final grit. **SEE FIGURE 6-A.**

5. All of the Diamabrush Steps have been progressed through at this point. If the floor ever loses the shine that it has right now, the two-thousand (2000) grit Tan Poly Brush can be re-equipped to a floor scrubber and this grit can run on the floor again to bring back the shine.

6. Once all of the brushes have been through the system - Spray off brushes with a water hose to rinse off slurry residue. Let dry off and then store again for later usage.

**NOTE:** Hitting high spots on the floor sometimes results in broken blades. Although possible to complete a pass or two, keep in mind that the high deck pressure will result in added stress to the other blades so the blades should be replaced as soon as possible. See the “Polymer Replacement Blade Kits” page in this booklet for more information on pricing and ordering.

**NOTE:** The laps example images are just references for a basic pass system. Instead of going around in a circle pattern, the system does allow the operator to go North to South or East to West. In some cases, this may be encouraged for the lower grit tools and brushes in order to finalize with a flatter surface on floors where there is lots of damage or very uneven.

**NOTE:** Tomcat suggests running a High Speed Burnisher with 3000 & 6000 Grit Diamond Pads after finish. Contact your local Tomcat distributor for more information.

**TO GET THE BEST SHINE POSSIBLE:** Use a Tomcat Model 200, 270, or 255 Ultra High Speed Burnisher equipped with a 3000 Grit Burnisher Pad and after a couple passes switch to the 6000 Grit Burnisher Pad. Attach to machine with Red Wear Indicator Dots facing the ground.

- **20 INCH, 3000 Grit** item #: 20-DP3000
  Use 20" Pad for the Tomcat Model 200 Burnisher

- **27 INCH, 3000 Grit** item #: 27-DP3000
  Use 27" Pad for the Tomcat Model 270 and Model 255 Burnishers

- **20 INCH, 6000 Grit** item #: 20-DP6000
  Use 20" Pad for the Tomcat Model 200 Burnisher

- **27 INCH, 6000 Grit** item #: 27-DP6000
  Use 27" Pad for the Tomcat Model 270 and Model 255 Burnishers
BLADE REPLACEMENT KITS

CONCRETE PREP TOOL BLADE REPLACEMENT:
The replacement kit for the 100 Grit Concrete Prep Tool comes with a total of 16 blades for a complete replacement of all of the blades.
-item #: 15-425-0100MEBLBRKT  PRICE: $384.00

50 GRIT BLADE REPLACEMENT:
The replacement kit for the 50 Grit Polymer Blades comes with a total of 11 or 44 blades for a partial or complete replacement of all of the blades.
-item #: 15-425-0050POLYPT11  PRICE: $122.00
-item #: 15-425-0050POLYPT44  PRICE: $486.00

100 GRIT BLADE REPLACEMENT:
The replacement kit for the 100 Grit Polymer Blades comes with a total of 11 or 44 blades for a partial or complete replacement of all of the blades.
-item #: 15-425-0100POLYPT11  PRICE: $121.00
-item #: 15-425-0100POLYPT44  PRICE: $481.00

200 GRIT BLADE REPLACEMENT:
The replacement kit for the 200 Grit Polymer Blades comes with a total of 11 or 44 blades for a partial or complete replacement of all of the blades.
-item #: 15-425-0200POLYPT11  PRICE: $121.00
-item #: 15-425-0200POLYPT44  PRICE: $481.00

400 GRIT BLADE REPLACEMENT:
The replacement kit for the 400 Grit Polymer Blades comes with a total of 11 or 44 blades for a partial or complete replacement of all of the blades.
-item #: 15-425-0400POLYPT11  PRICE: $121.00
-item #: 15-425-0400POLYPT44  PRICE: $481.00

1000 GRIT BLADE REPLACEMENT:
The replacement kit for the 1000 Grit Polymer Blades comes with a total of 11 or 44 blades for a partial or complete replacement of all of the blades.
-item #: 15-425-1000POLYPT11  PRICE: $159.00
-item #: 15-425-1000POLYPT44  PRICE: $633.00

2000 GRIT BLADE REPLACEMENT:
The replacement kit for the 2000 Grit Polymer Blades comes with a total of 11 or 44 blades for a partial or complete replacement of all of the blades.
-item #: 15-425-2000POLYPT11  PRICE: $163.00
-item #: 15-425-2000POLYPT44  PRICE: $650.00

Blade Retainer replacements are different sizes based off of the brush size.
-13 INCH item #: 13-425-POLYRETAINER  PRICE: $10.00
-15 INCH item #: 15-425-POLYRETAINER  PRICE: $10.00
-17 INCH item #: 17-425-POLYRETAINER  PRICE: $10.00
-20 INCH item #: 20-425-POLYRETAINER  PRICE: $10.00
FLOOR DENSIFIER SOLUTION

PATENTED DESIGN FEATURES:

ABRASION RESISTANCE - The Power Cat 275 Floor Densifier solution increase the abrasion resistance by up to 400%

WATER REPELLANCY - Formula 275 chemically and mechanically locks up the powers on the surface of the floor. This inhibits oils, waters, and other contaminants from penetrating.

MARBLE-LIKE SHINE - 30% increase in light reflectivity.

DUST FREE - Power Cat 275 closes the surface of the floor and locks the concrete salts in place which prevents dusting. This dramatically reduces overall maintenance costs.

CHEMICAL “GREEN” FOOTPRINT:

- NO V.O.C.’s (VOLATILE ORGANIC COMPOUNDS)
- COMPLETELY ODORLESS
- NON-FLAMMABLE
- NON-TOXIC
- QUALIFIES FOR LEEDS CREDITS

Visit http://www.usgbc.org For More Information

SPECIFICATIONS:

SIZE - 5 Gallons
pH - 11.3
FLASHPOINT (TCC) - Non-combustible
SPECIFIC GRAVITY - 1.15

COVERAGE RANGE - 200 sqft/gal (18.5 sqm/gal)

APPLICATION:

Apply PowerCat 275 to the floor using a low-pressure, high volume spraying apparatus to lay down. Make sure to coat everything and let sit for thirty (30) to forty-five (45) minutes untouched. After thirty (30) to forty-five (45) minutes is up, you can start to work the chemical into the floor by using regular Midi-Grit scrub brushes on a floor machine. Low water and no squeegee/recovery system is needed. **You MAY need to lay more water down, watch out for dry spots.** After a full pass or two, lay your squeegee down and clean up the area of all liquids. Flush floor with water and squeegee up again to remove all densifier residue to prevent discolorization.