

# element7 concrete

CONCRETE COATINGS GUIDE

## MY PATH TO HERE:

We were pulled into the industrial coatings arena in 2014 by our polished concrete customers: our planning, communication and execution was what they wanted for their kitchens, brewing areas, and winemaking floors. We were slow to embrace coatings because we were enamored with the timelessness of polished concrete. We found that we could create durable and timeless floors with moisture vapor transmission barriers and tasteful colors. Clients now have more to rave about with our complete flooring solutions.



Cory Hanneman | Managing Director



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# PREPARATION FOR SUCCESS



Long-lasting concrete coatings come from great preparation. For that reason, industrial coating of concrete is best done by experts. It is crucial to know how to impart tensile strength across cracks, how to create the correct texture of a floor for coatings to bond to, and how to mitigate moisture vapor transmission, or MVT. We are the biggest concrete nerds we know, and this know-how comes from years in the industry. We will help you understand the steps to create your floor and the trade offs between the choices. Our 1 to 4 scale below will help you understand the characteristics of each.

				
GRIP	EASY TO CLEAN	INEXPENSIVE	IMPACT RESISTANT	THERMAL SHOCK RESISTANT

## PROFILING

Before installing coatings, the concrete must be made rough by profiling. This process helps create a mechanical bond for the coating to adhere to the concrete. It is critical to create a surface profile for the epoxy to lock onto. Overall, this can be simple, but where we shine, is having executed thousands of high-end polishing projects and really knowing the materials we are working with.



## REPAIR

Concrete cracks because it is hard to crush (high compressive strength), but comparatively easy to rip apart (low tensile strength). We may use paste epoxies, 2-part hybrid urethanes, carbon fiber, or stitching with rebar, to impart tensile strength where your concrete slab has shown to lack it.



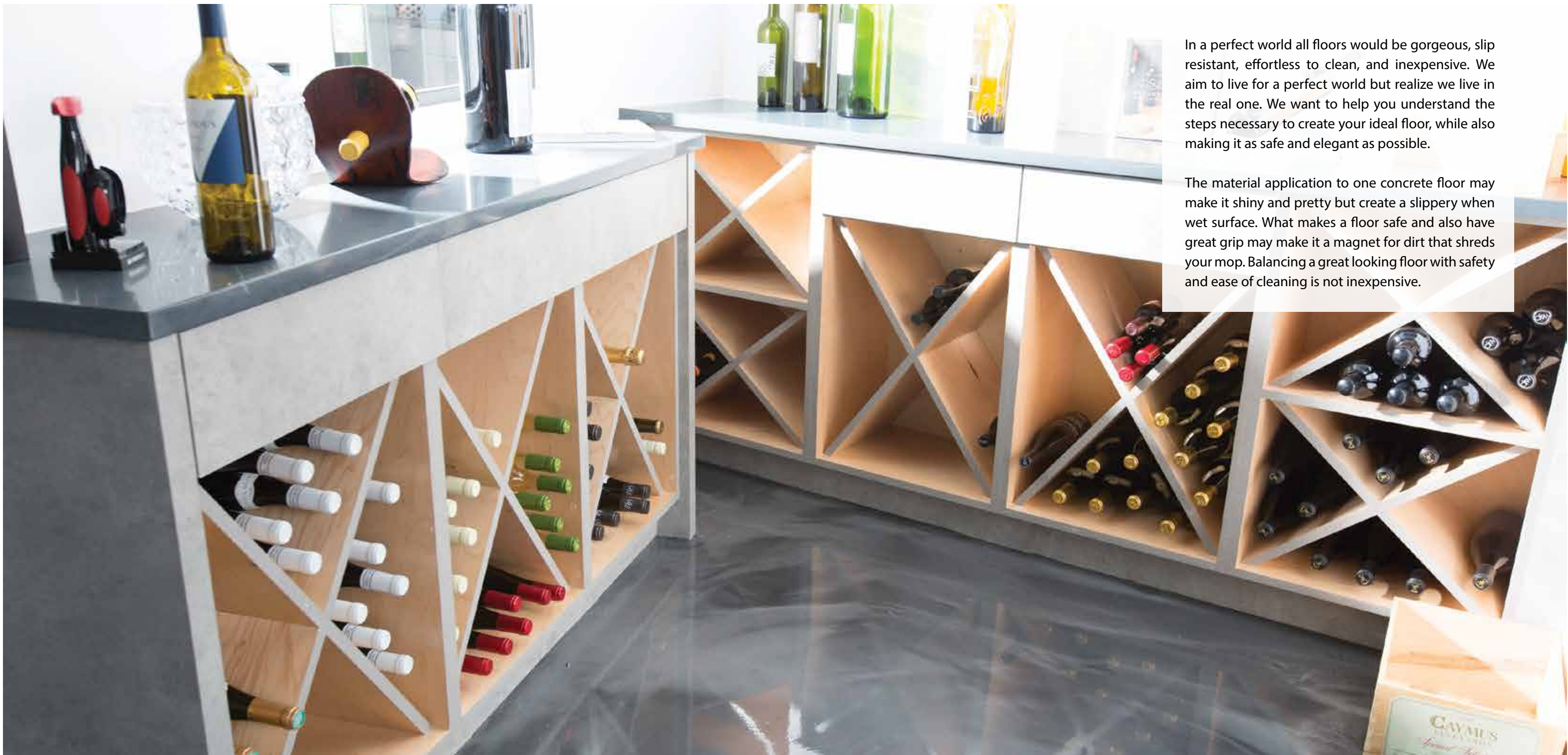
## MOISTURE MITIGATION

All concrete emits some moisture in a process known as moisture vapor transmission. Measured in lb/1,000sf/24 hr, MVT varies from floor to floor. An MVT rating of 2 is considered a very tight and dry floor that you could install anything on.



Even a tight, dry, 3,000sf floor could pass nearly 5 gallons of water in a week. Understanding how to sustainably stop this becomes paramount to the long term success of the floor. A team that has been rigorously studying concrete flooring for a long time will know best what parts of the slab are inherently most vulnerable to moisture and how to mitigate that.





In a perfect world all floors would be gorgeous, slip resistant, effortless to clean, and inexpensive. We aim to live for a perfect world but realize we live in the real one. We want to help you understand the steps necessary to create your ideal floor, while also making it as safe and elegant as possible.

The material application to one concrete floor may make it shiny and pretty but create a slippery when wet surface. What makes a floor safe and also have great grip may make it a magnet for dirt that shreds your mop. Balancing a great looking floor with safety and ease of cleaning is not inexpensive.

# AESTHETICS, FUNCTION + COST

## IMPACT RESISTANCE

In general, the thicker the coating, the more impact resistant.

## RESISTANCE TO THERMAL SHOCK

Epoxy is a wonderful material but it does not do well when washed with hot caustic in a refrigerated room. Nearly all of our offerings can be done with urethane mortars rather than epoxies to mitigate that.

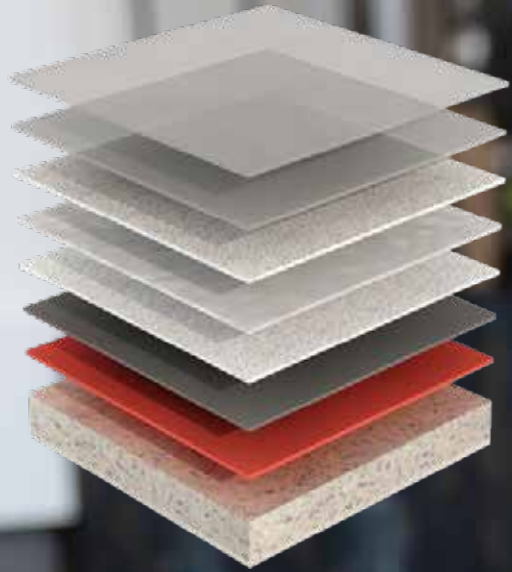
## APPEARANCE

Here is where we have the most fun. We can help you make beautiful spaces even when industrial performance from the floor is required.

## CHEMICAL RESISTANCE

Coatings are generally chemically resistant. There are, however, special additives and materials we can use if your project has unique challenges.

- URETHANE TOPCOAT
- 16 MIL PURE EPOXY
- COLORED QUARTZ
- 16 MIL PURE EPOXY
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- 16 MIL PURE EPOXY
- MVT PRIMER
- PROFILED CONCRETE



# RESIN QUARTZ

Resin is one of the most chemically resistant materials man has devised. Quartz is the second most abundant mineral in Earth's crust and is harder than steel. Together they make an amazing floor.



# INDUSTRIAL COATINGS

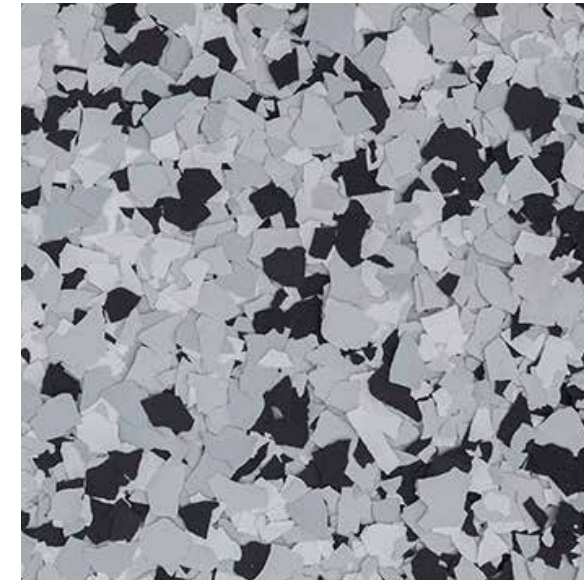


# PROCHIP

Vinyl chip epoxy floors were invented in the late 1960's, and like The Beatles, they quickly rose to popularity. Unfortunately, vinyl chip floors became so popular that paint companies flooded the market with do-it-yourself kits. Those early chip floors you've seen are probably a result of poor installation and misuse of material. The kits didn't include grinding machines, so the surface prep suffered and the epoxies were usually diluted 30-40% with solvents to make installation easier. Professional grade installations wear much differently.

When we do a chip floor, we start by repairing, profiling and mitigating moisture. That is followed by surface prep with 16 mils of 100% solids epoxy, then broadcast designer chips to rejection. We often order custom blends for projects.

After the epoxy has cured, we take up all the excess chips then coat the floor with two more layers of resin. The last coat of resin is more than five times abrasion resistant than the epoxy.



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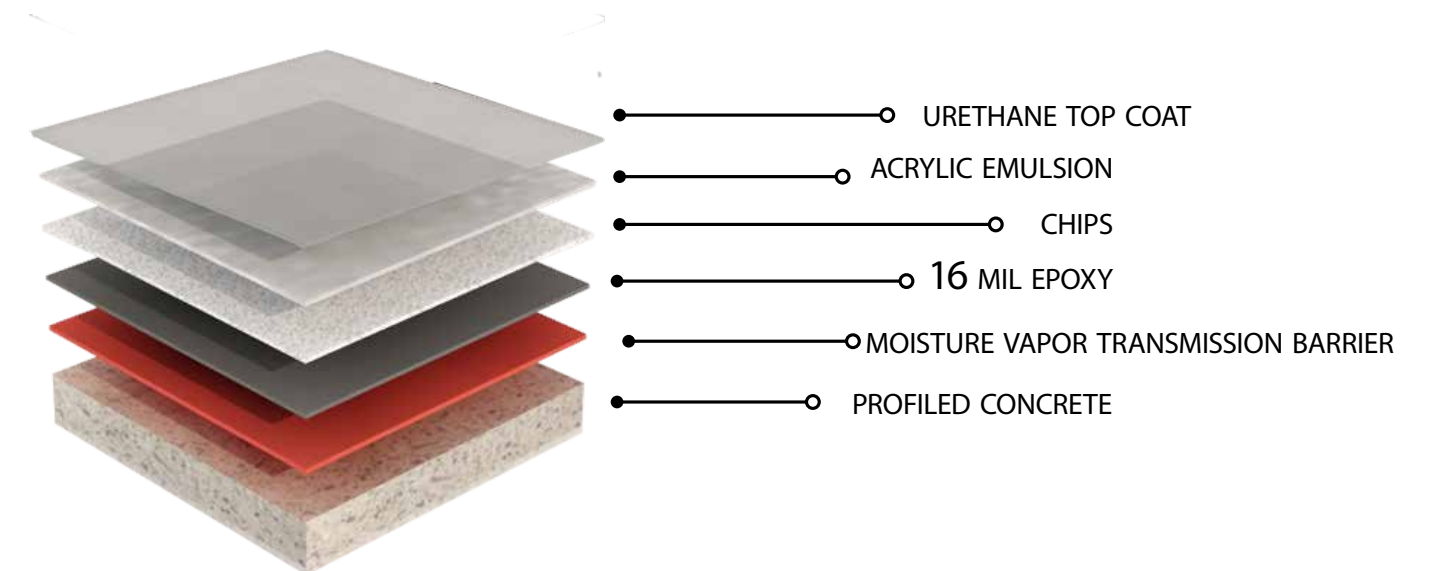
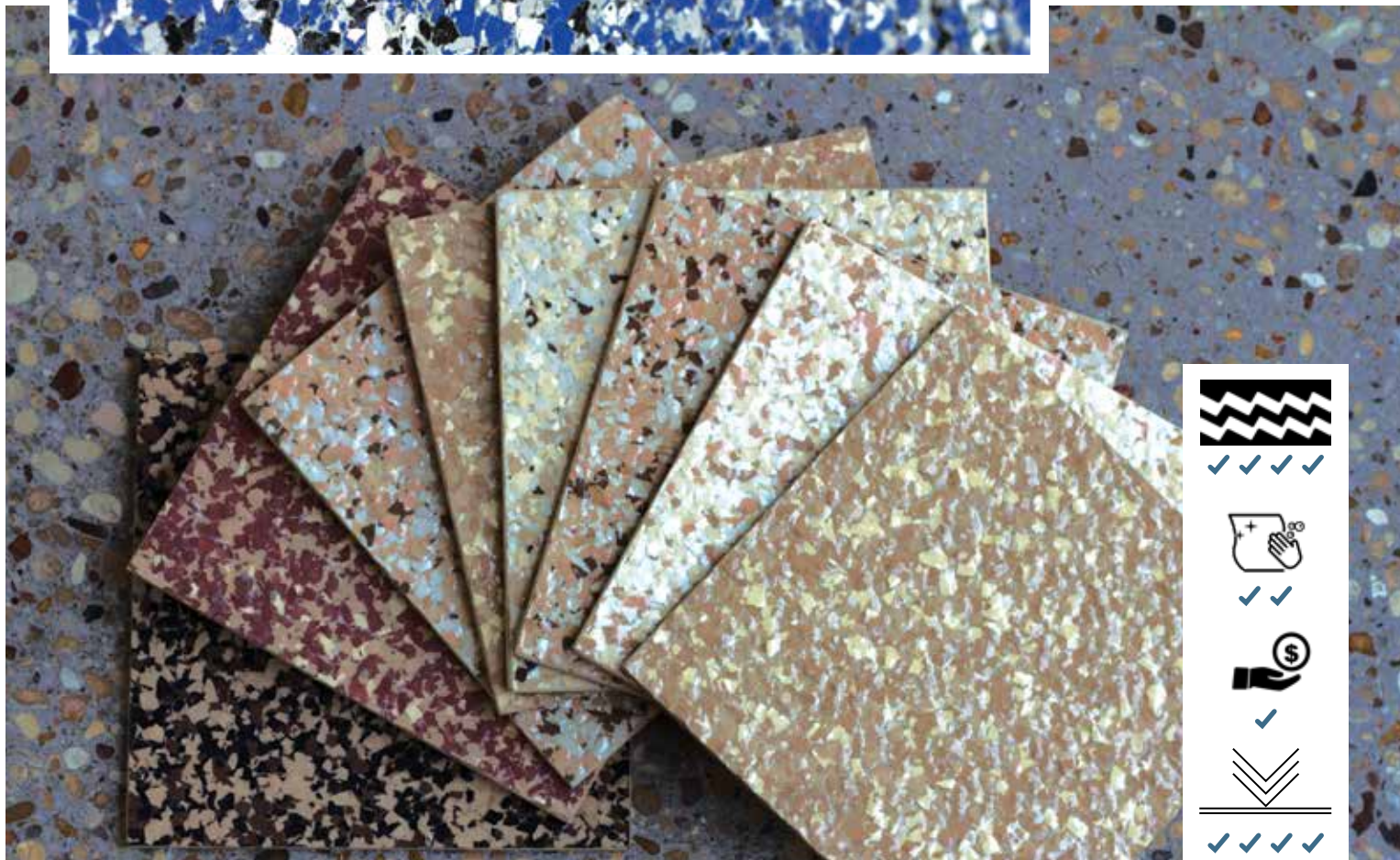
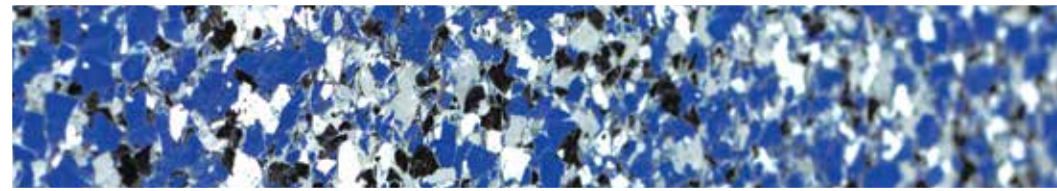
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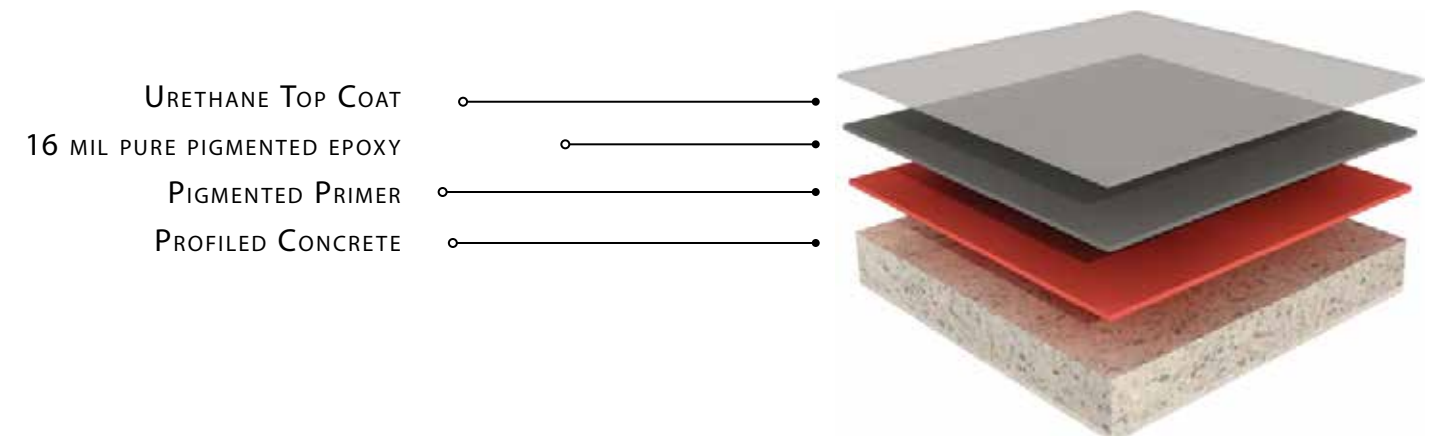


# METALLIC EPOXY

Metallic epoxy floors are great for night-clubs, retail, restaurants, bars and high-end automotive. Our metallic epoxy floors tend to be three times as thick as our solid color floors to achieve maximum movement and depth of color.



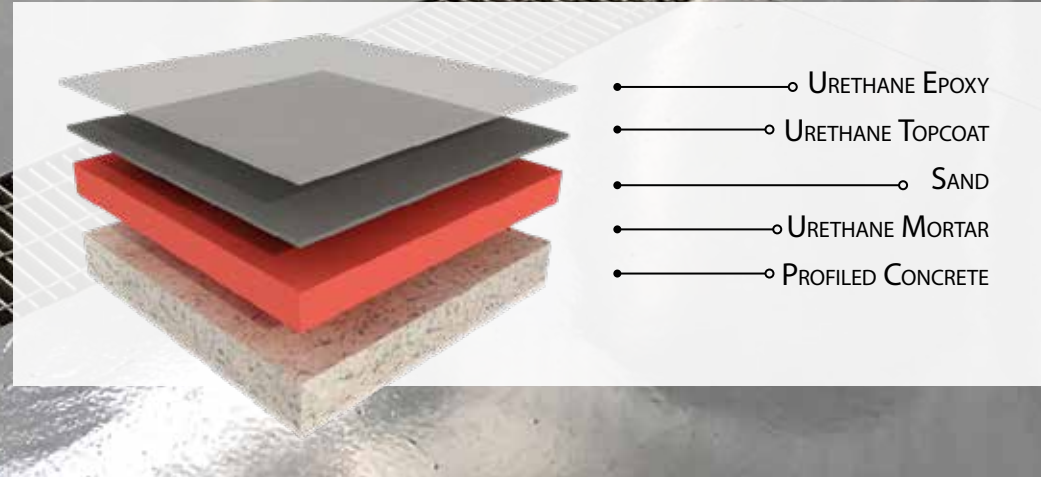
# SOLID COLOR EPOXY





# URETHANE MORTAR

Urethane mortar is the most durable industrial coating offered. It is supremely resistant to impact, moisture transmission, impact and chemical attack. We can finish it decoratively or in Spartan solid colors.



# EPOXY STONE

Epoxy-stone overlays work well in garages, pool decks, driveways, or any other exterior area. This floor coating is ideal where hiding dirt and the ability to pressure wash are needed. The same floor can be installed with polyaspartic for faster turnaround time and an even better floor performance.



# ELEMENT7CONCRETE



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