

Epoxy Terrazzo & Terrazzo Flooring



PACHYDERM

Resinous Terrazzo & Seamless Flooring Systems

Key Resin Co.
4050 Clough Woods Drive
Batavia, OH 45103



Course Number: RFT-1

Learning Units: 1.0 LU/HSW Hour

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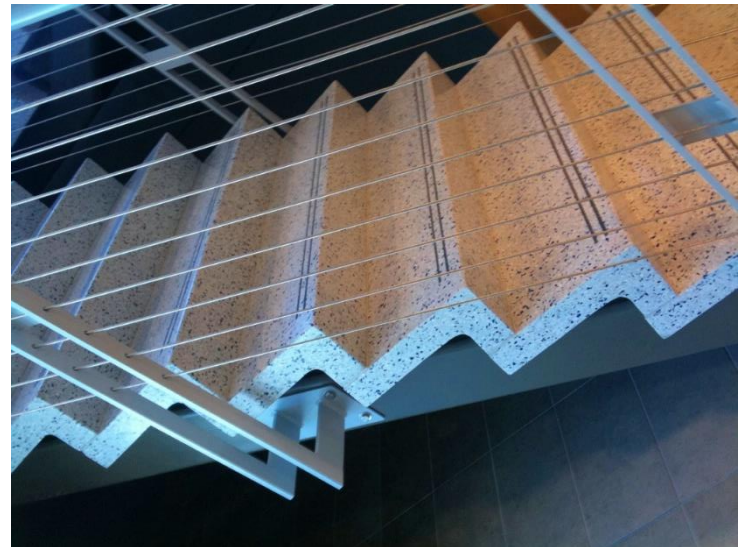
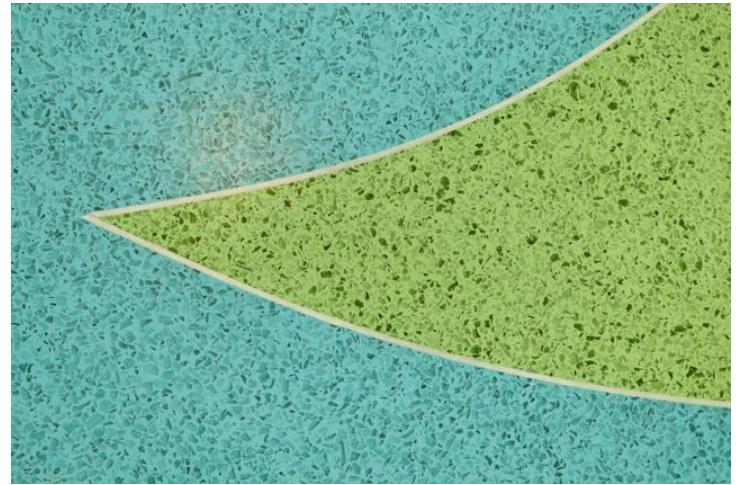
Questions related to specific materials, methods, and services will be addressed at the conclusion of this presentation.

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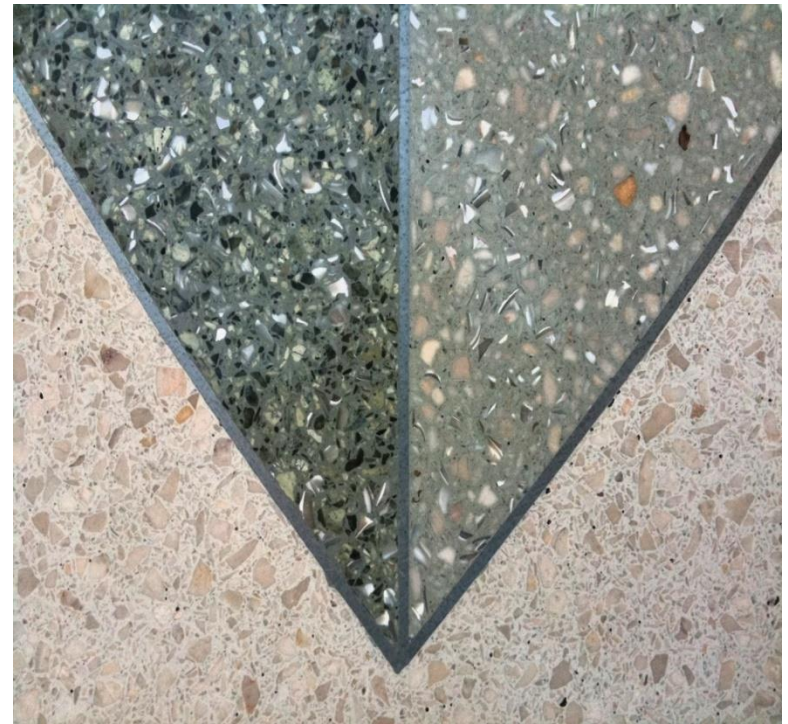
Components of Resinous Terrazzo

- Cement or Epoxy Matrix
- Aggregate
 - Marble, Granite, Shell, Glass, Synthetic Chips, Get Creative!
- Poured in Place
- Ground or finished to a monolithic surface
- Precast for Walls, Stairs, and Counter Tops

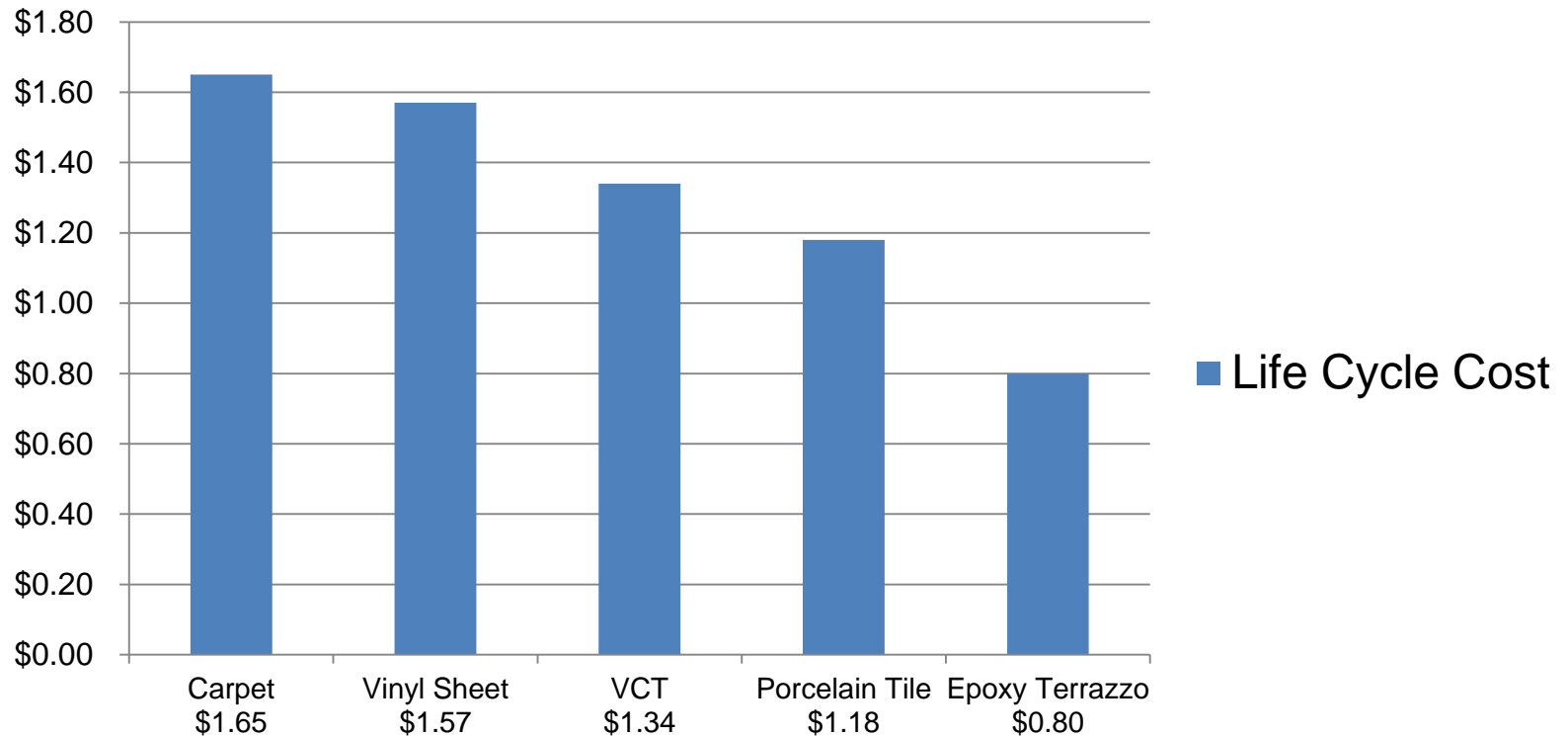


Terrazzo Aggregate Choices

- Natural
 - Marble & Granite
- Premium
 - Glass (Recycled Mainly)
 - Sea Shell
 - Plastic
 - Mirror
 - Silver Coated Glass
 - Bamboo Rings
 - Nuts
 - You Pick?!?! (\$\$\$)



Life Cycle of Terrazzo vs. Conventional Materials



LEED

Terrazzo flooring and other resinous flooring systems can help contribute towards various LEED points.

MRc1.2	Building Reuse – Maintain Interior Non-Structural Elements	1–2 Points
MRc2	Construction Waste Management	1–2 Points
MRc4	Recycled Content Using 100% Recycled Aggregate Yields 70% Recycled Content	1–2 Points
MRc5	Regional Materials Extracted, Processed, and Manufactured Regionally	1–2 Points
IEQc3.2	Indoor Environmental Quality: Air Quality Before Occupancy	1 Point
IEQc4.1	Low Emitting Materials – Adhesives and Sealants	1 Point
IEQc4.3	Low Emitting Materials – Flooring Systems	1 Point
IDc1	Innovation in Design	1–5 Points

Design Flexibility



1/8" zinc divider strips are used between the colors

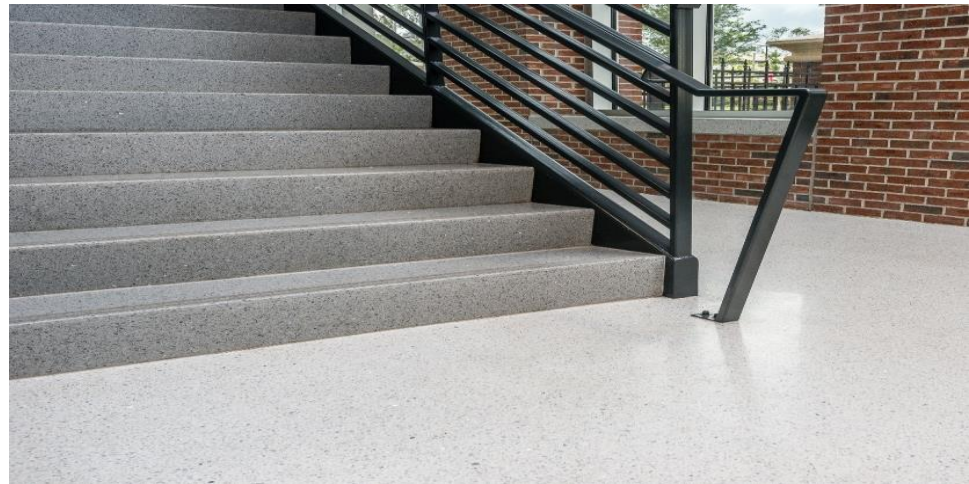
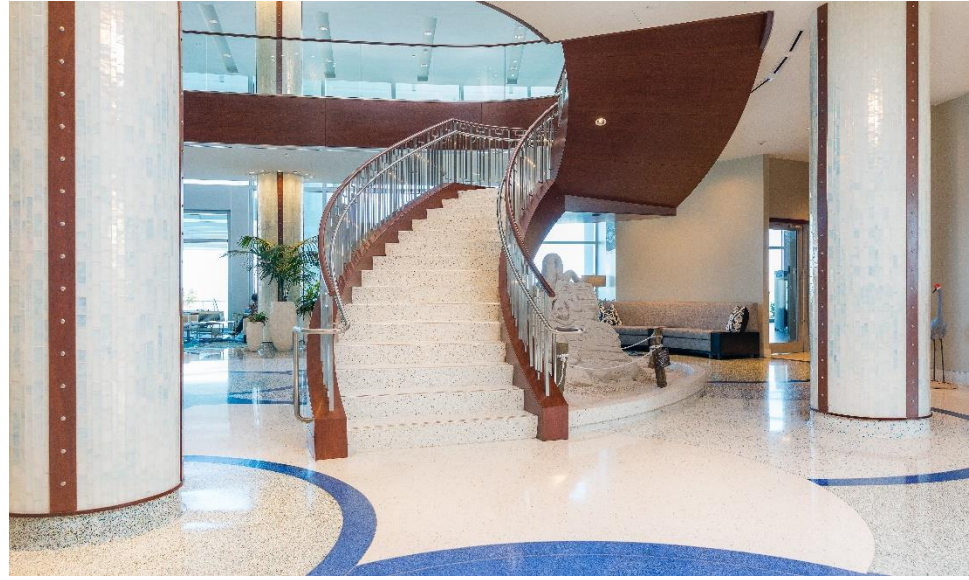
Metal Art Work



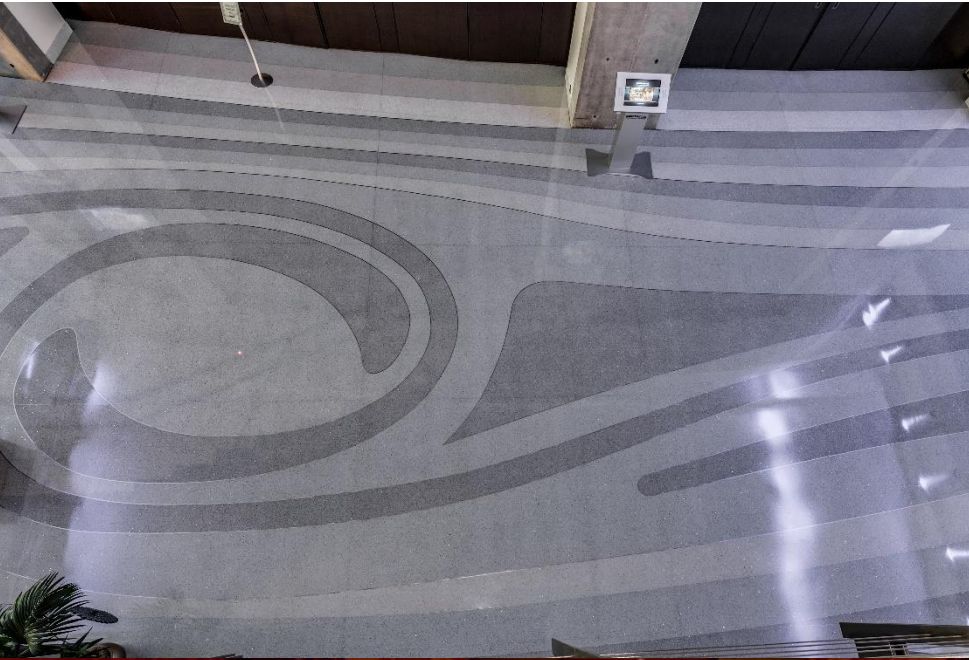
Cove Base



Stair Treads & Risers



Create Atmosphere



Tampa International Airport



Elementary School



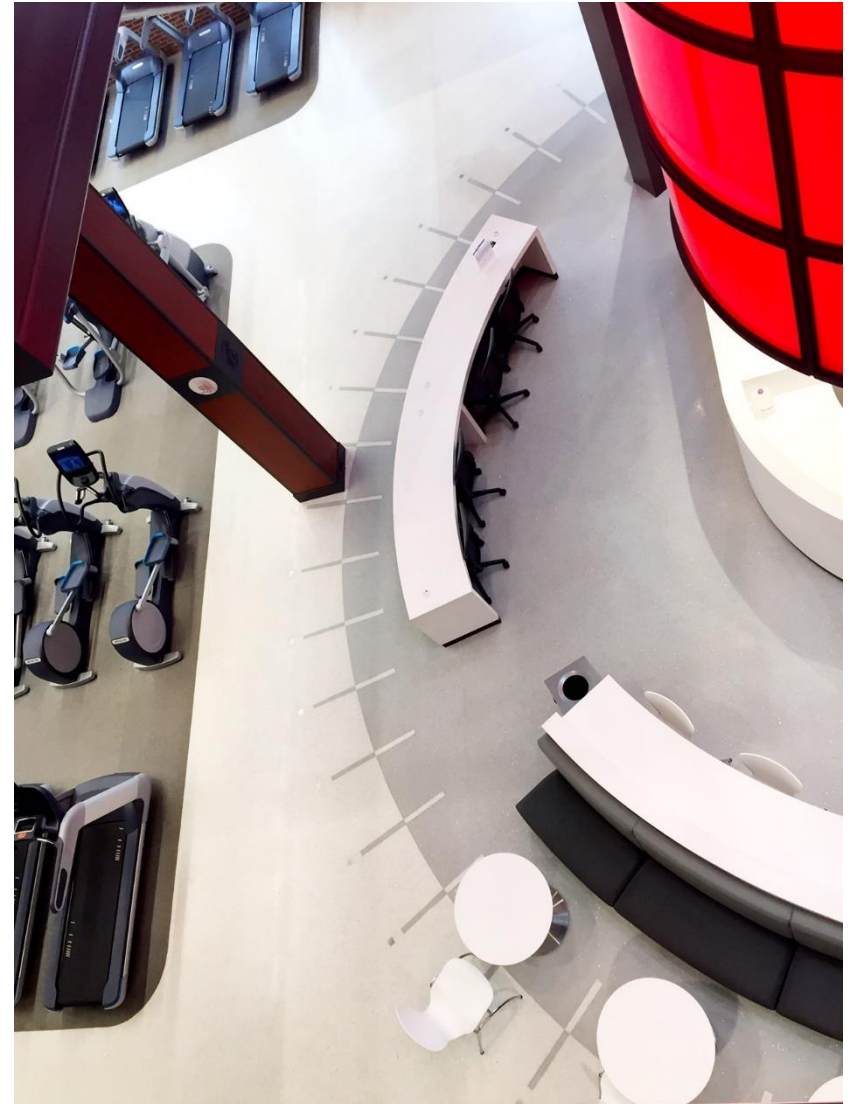
W Hotel on South Beach



ERAU Welcome Center



UT Fitness Center



Fountainbleau Hotel Lobby



UT Bob Martinez Awards Hall



Landmark Center One Lobby



Proper Surface Preparation

- Vacuum shot-blasting is the recommended technique of preparing existing concrete.
- No Dust
- Removes latents and curing agents
- Creates profile to ensure bond of epoxy to concrete

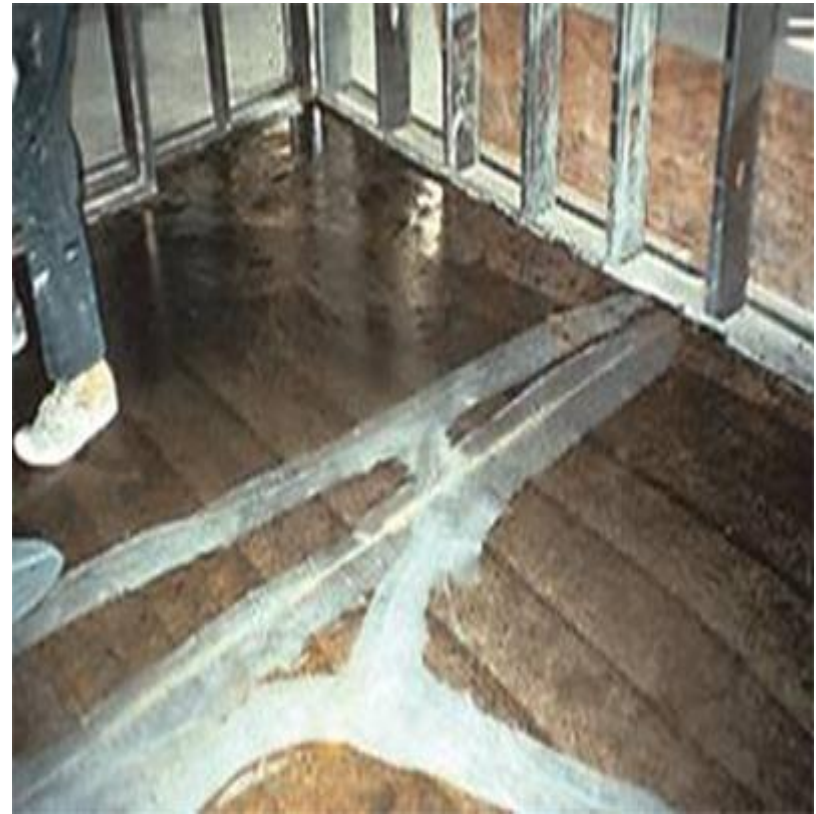


Shot-Blast Machine



Surface Profile: Shot-Blast Floor Before & After

Pre-Treat Cracks & Joints



Moisture Testing

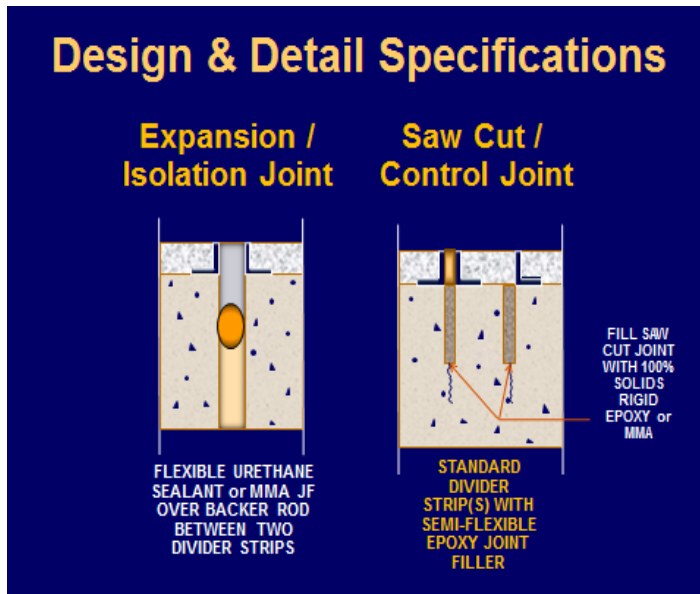
- Required prior to installation.
- Moisture Testing Methods:
 - ASTM F-2170-11 (RH Probe) - preferred method
 - ASTM F-1869-11 (CaCl)
 - Out dated
- Readings higher than 79% will require the use of a moisture mitigation system:
 - Penetrating systems
 - Topical high-build systems
 - Slurry reservoir systems.



Moisture Test Kit in Use
ASTM F-2170-11 (RH Probe)

Divider Strips

- Available in zinc, plastic, aluminum or bronze, in various widths and thicknesses.
- Used at color changes and as joint treatments.



Large Seamless Spans



Applications of Seamless Flooring

- Kitchens
- Laboratories
- Airplane Hangar Floors
- Bathrooms Showers
- Exterior Pedestrian Areas
- Electronics and Semi-Conductor Facilities



Cleanability - Seamless

- Do not wax
- Regular cleaning with neutral detergent and water is usually all that is needed.



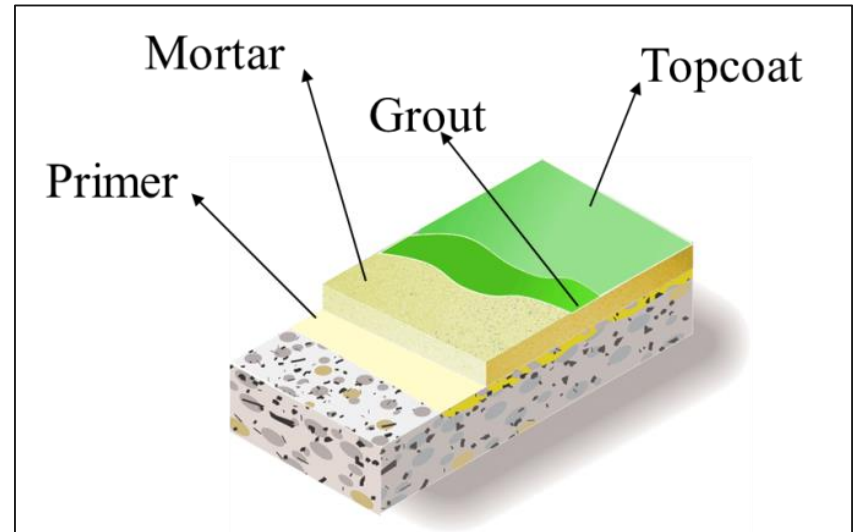
Define the Needs of the Space

- Coefficient of Friction?
- Heavy traffic?
- Chemical resistance?
- Thermal shock?



Industrial Seamless Floors

- Solid color look?
- Body and topcoat resin:
 - Novalac Epoxy
 - Urethane
 - Polyaspartic
 - Methyl methacrylate (MMA)



Non-Decorative Seamless Floor: Mortar System



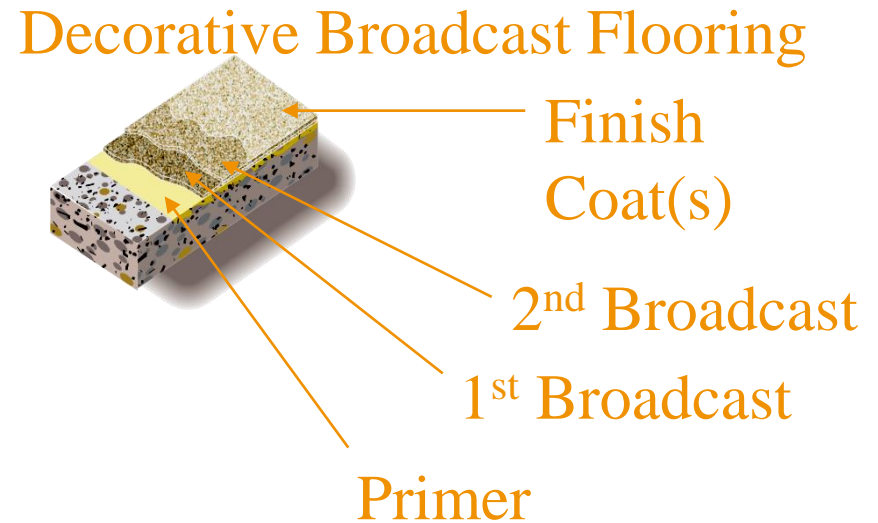
Urethane Cement

- Moisture Vapor Tolerant
- Chemical Resistant
- Varying Thicknesses
- Thermal Shock Resistant
- Versatile



Decorative Seamless Floors

- Broadcast
 - Vinyl Flake
 - Quartz
- Aggregates are finished with a clear resin.
- Topcoat:
 - Epoxy
 - Urethane
 - Polyaspartic
 - MMA



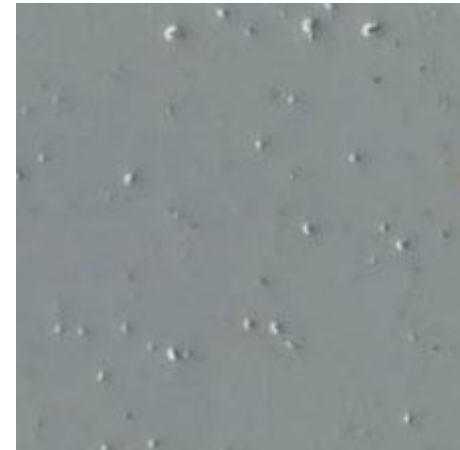
Decorative Quartz

- Ceramic-coated quartz aggregates are blended with a clear resin.
- Trowel-applied or broadcast
- Blended and singular colors



Slip-Resistant Options

1. Aggregate is blended into the final topcoat then apply resin topcoat.
2. Fully broadcast body coat; texture shows though the topcoat.
3. Trowel-apply a mixed coating of non-slip aggregate and resin as a one-step application.



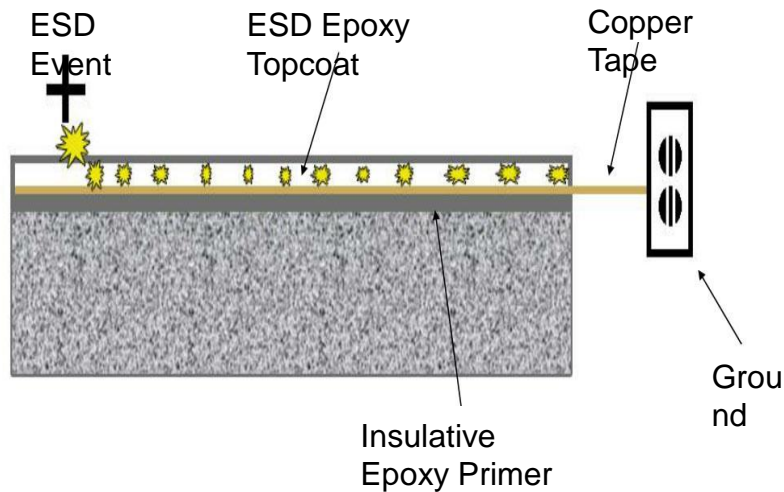
1. Aggregate Added to Topcoat



2. Full Broadcast Texture

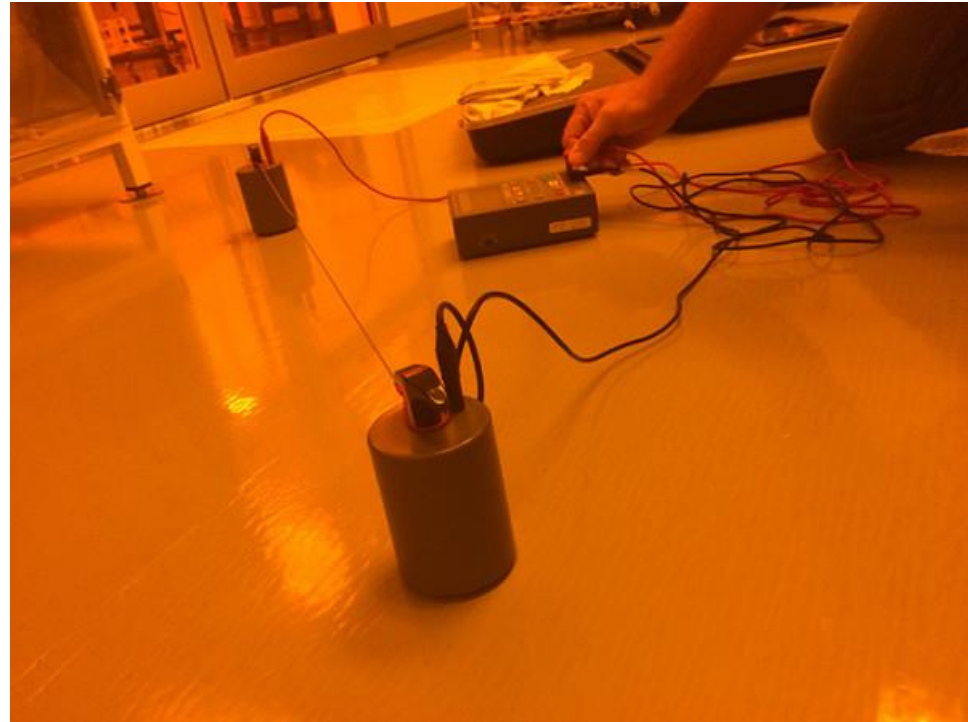
ESD / Conductive Systems

- ESD system is electrically conductive in the range of 1,000,000 to 1,000,000,000 ohms.
- Conductive floor system provides lower electrical resistance in the range of 25,000 to 1,000,000 ohms.



ESD / Conductive System Applications

- Electronics Manufacturing
- Pharmaceutical Processing
- Military/Avionics
- Explosives Manufacturing
- Plastics (Nuisance Static)



Elastomeric Systems

- Waterproof
- Flexible



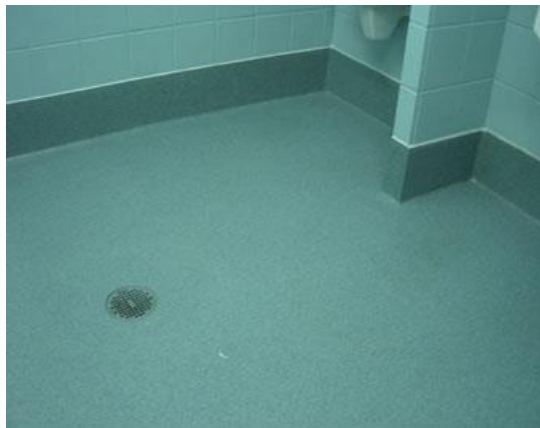
Elastomeric Systems

- Plaza decks
- Sidewalks
- Ramps

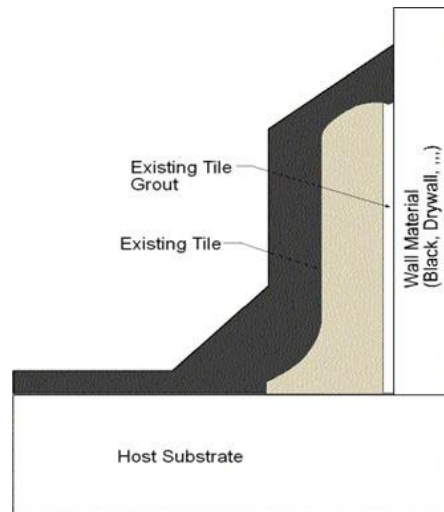
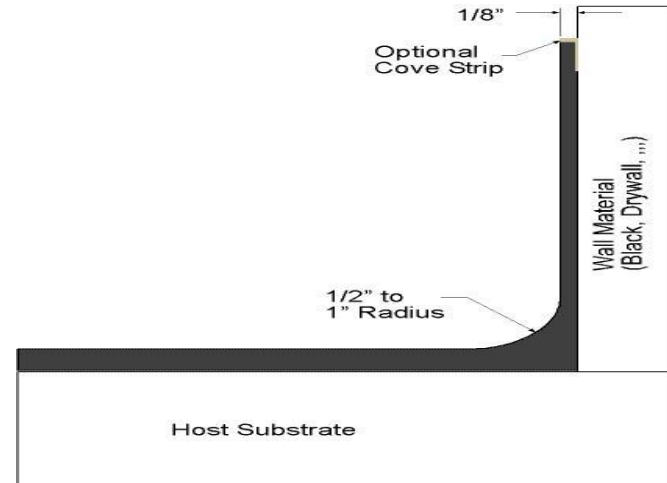
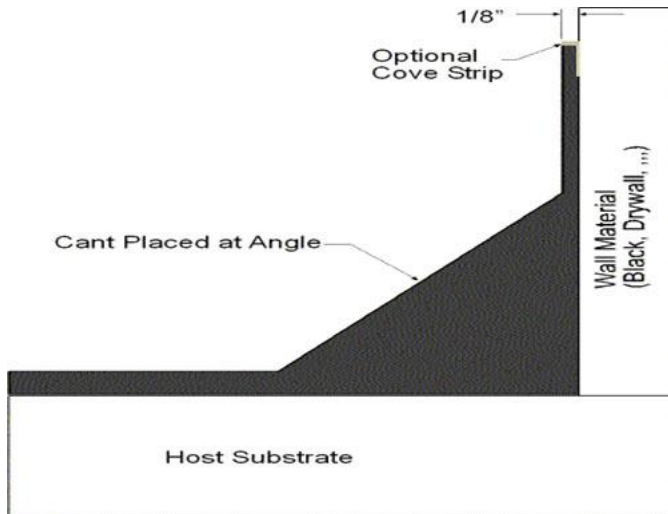


Cove Base

Various thicknesses, heights, and coverages of cove base can be utilized.

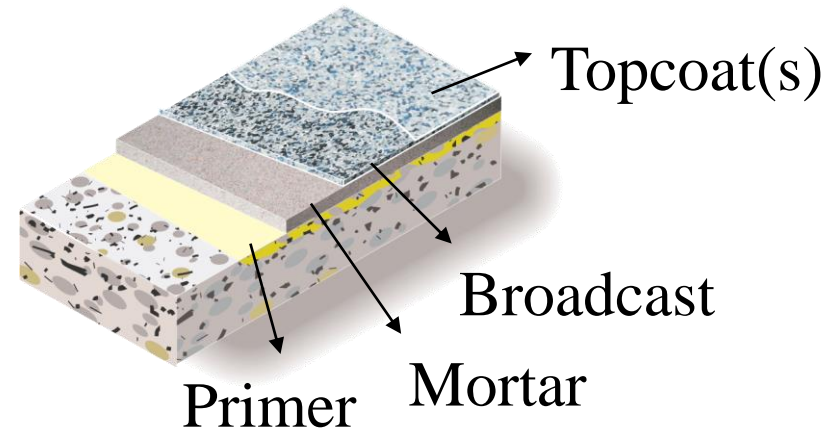
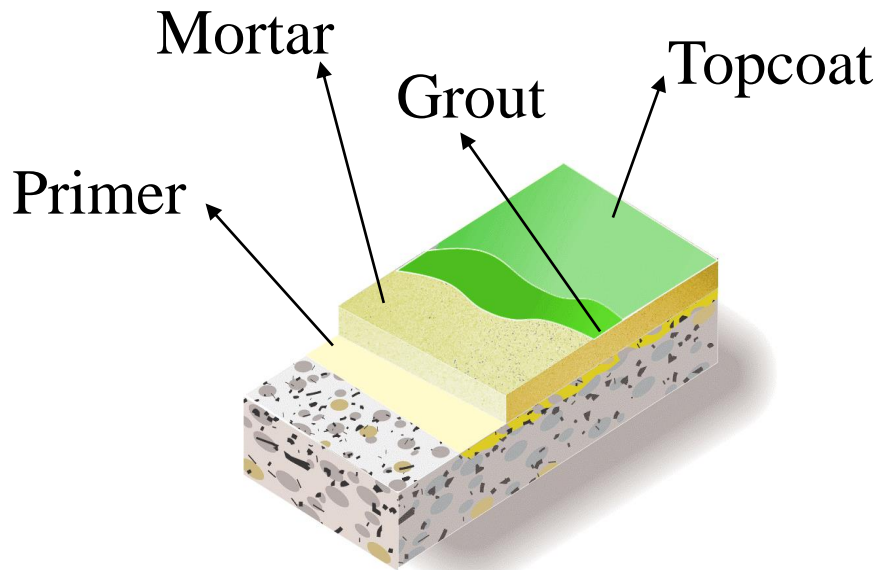


Cove Base Details



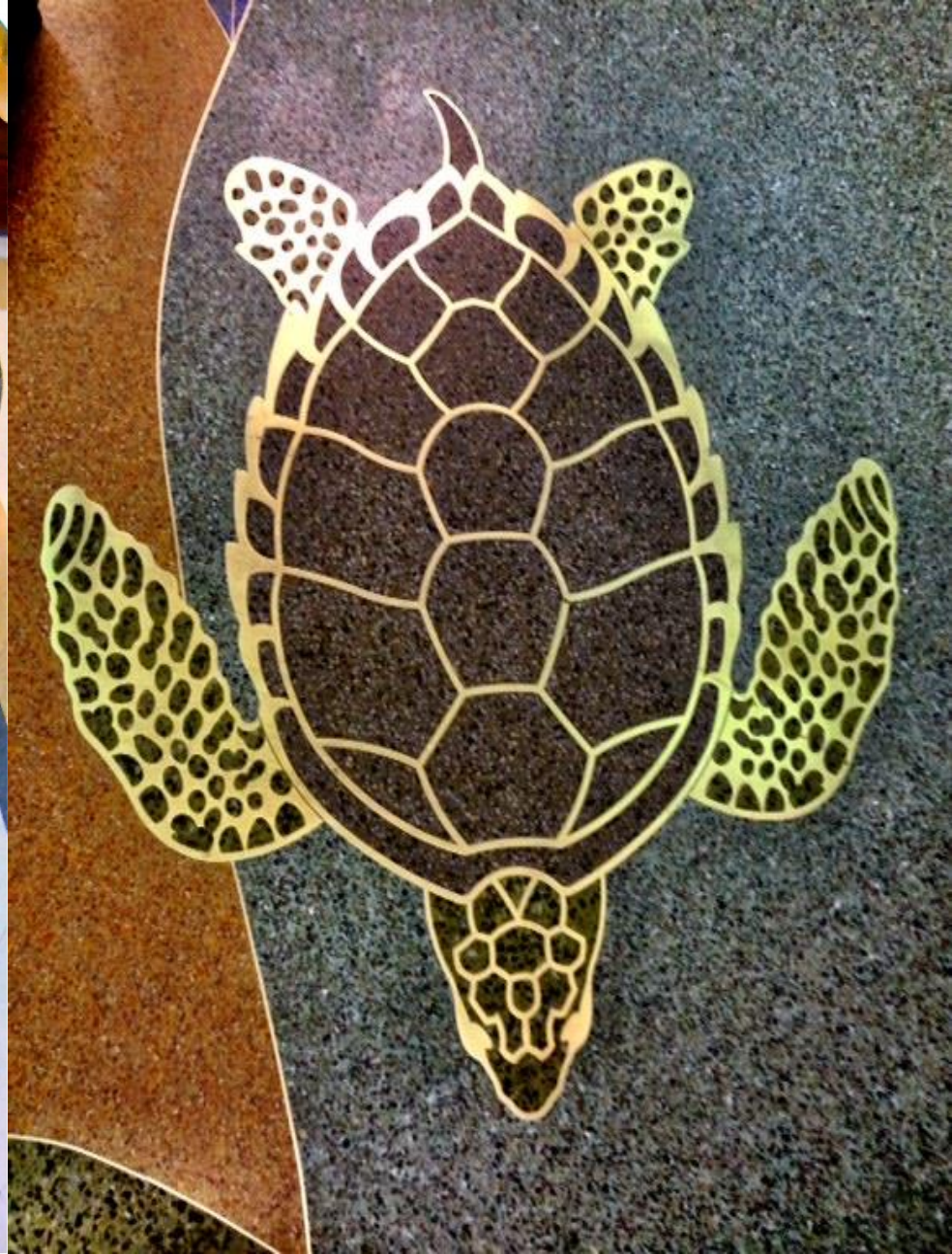
Mortar Systems

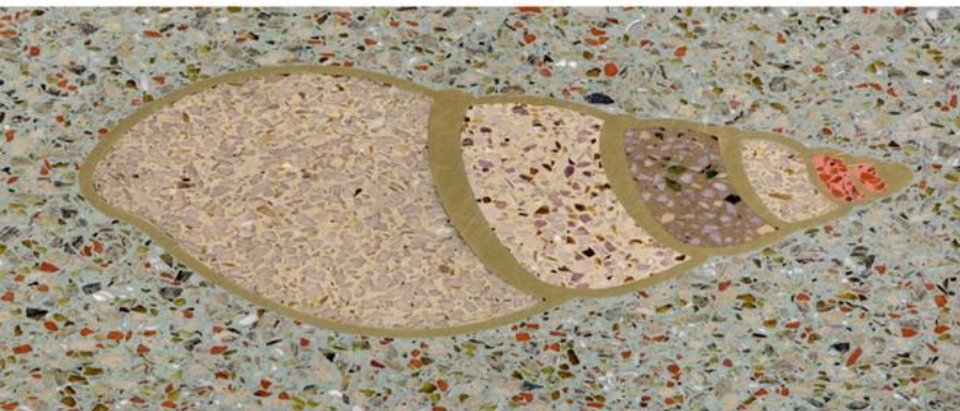
- Thicker than self-leveling slurry systems
- Hand troweled
- Utilized for heavy (weight) traffic areas











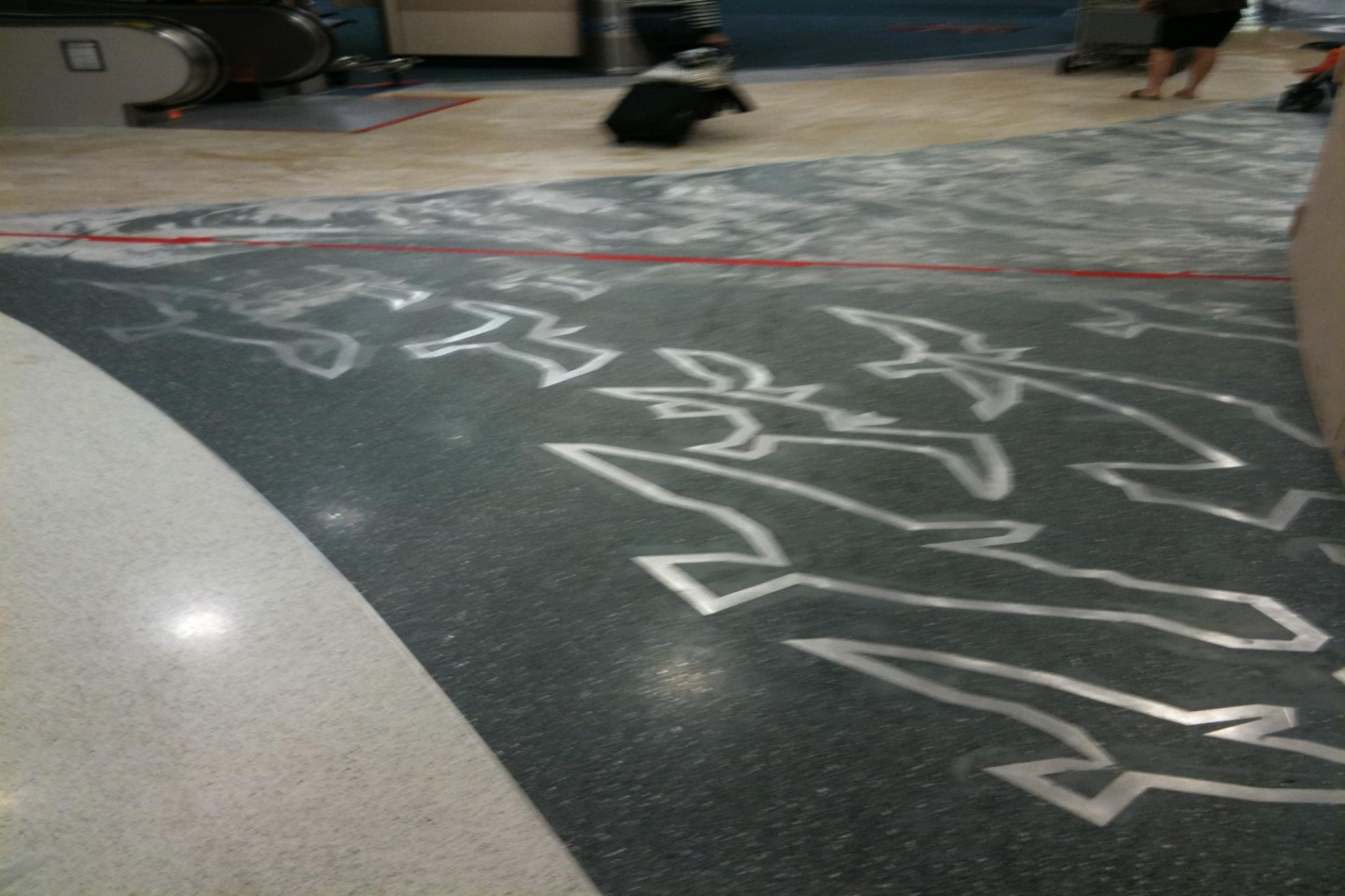












TIA – Before and After





Federal Reserve Bank - Philadelphia, PA - BEFORE

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Federal Reserve Bank - Philadelphia, PA - AFTER

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Thank you for your time

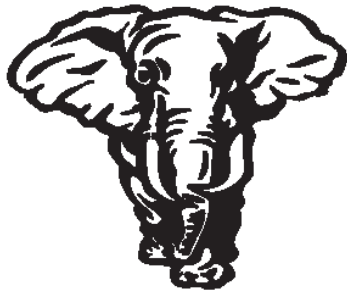


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