



RESINOUS FLOORS & WALLS

PERFORMANCE APPLICATION & INSTALLATION

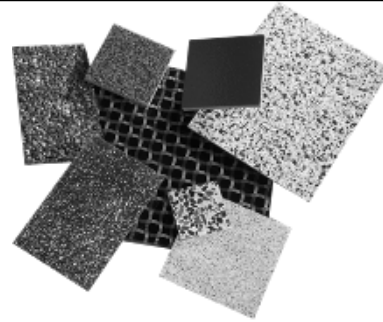
Carl J. Vose
ISPE Product Show
Track 3, Session 4
September 26, 2018



CERTIFIED AIA/CES
PROGRAM

Learning Objectives

- **Resinous Flooring Products**
- **Applications**
- **Solutions**
- **Current Floor Finishes/Cost**
- **Ensuring Successful Installations**
- **Discussion**



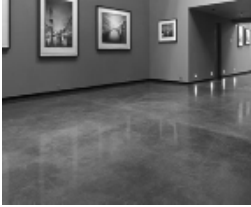
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Traditional Floor Products



Terrazzo
Sheet Vinyl
Rubber
Sealed Concrete
Polished Concrete
Stained Concrete



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Why Resinous?



SEAMLESS – Hygienic. Easier to maintain, easier to clean.



CHEMICAL-RESISTANT – Longevity. Stands up to spills, splashes & staining.



ABRASION & IMPACT RESISTANT – Longer life cycle. Holds up to heavy traffic & equipment.



SLIP-RESISTANT – Safer work environment.



EASIER & QUICKER TO CLEAN – Easier on maintenance crews.



Saves on water. No waxing.



ESD – Protects against electro static discharge for a safer work environment & protects equipment.

THERMAL SHOCK/THERMAL CYCLING – Protects floors from cracking due to extreme temperature and/or changes in temperatures.



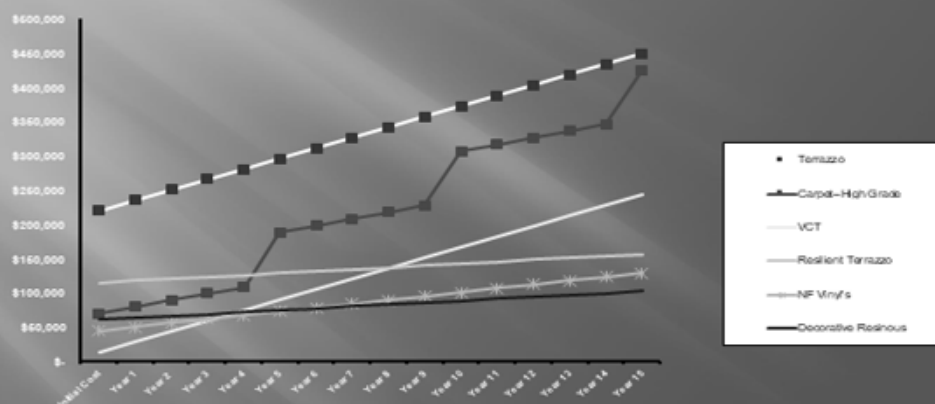
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Commercial Flooring Life Cycle Cost – 10,000 sq.ft.



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System Configurations

Coatings

High Build Coatings

Broadcast Systems

Troweled Mortars

Terrazzo Alternatives



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Resin Options

	EPOXY	URETHANE	ACRYLIC (MMA)
Cure Time Minimum	12 hours	6 Hours	1 Hour
Minimum Slab Temp.	60 deg. F.	40 deg. F.	0 deg. F.
Chemical Resistance	Good	Excellent	Acids Good, Solvent Poor
Heat Limitation	160 deg. F.	250 deg. F.	180 deg. F.
Partial Renewable Material	No	Yes - Castor Oil	No
Odor	Low	Low	High



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Balancing Safety & Cleanability

System Type	Texture Level	Material Properties / Coverage	Cleaning Method
Mortar system / coatings	No Texture		Mechanical Clean /Mop Clean
	Texture 2	90 Grit Silica (6) 2lb. bags 1 unit -200 sf	Mechanical Clean /Mop Clean
	Texture 3	46 Grit Silica (1) 50lb. 200 sf.	Power Wash / Bristle Brush/ Mechanical
	Texture 4	46 Grit Emerundum (1) 40lb. Covers 200 sf	Power Wash / Bristle Brush/ Mechanical
	Texture 5	24 Grit Emerundum (1) 40lb. Covers 200 sf	Power Wash / Bristle Brush/ Mechanical
Decorative mortar	No Texture	NA	Mechanical Clean /Mop Clean
Flake Broadcast	No Texture	NA	Mechanical Clean /Mop Clean
Quartz Broadcast	Smooth	NA	Mechanical Clean /Mop Clean
	Medium	Silicone Dioxide Broadcast Aggregate Steel Squeegee	Power Wash / Bristle Brush/ Mechanical
	Standard	Silicone Dioxide Broadcast Aggregate Rubber Squeegee	Power Wash / Bristle Brush/ Mechanical



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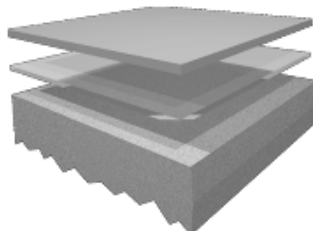
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Coatings

**Self-Leveling
High Build Decorative
ESD
Thickness Range (8–30
mils)
Used for Sealing Concrete**



Sealer
Primer
Substrate



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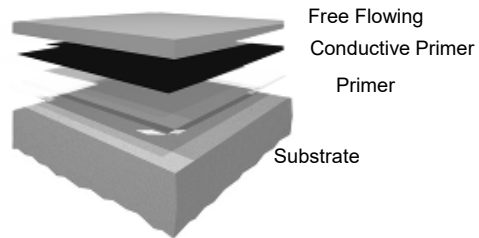
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ESD/CONDUCTIVE SYSTEMS

Conductive flooring- floor material that has a resistance between $2.5e4$ to $1.0e6\Omega$.

Dissipative floor material- floor material that has a resistance between $1.0e6$ to $1.0e9\Omega$.



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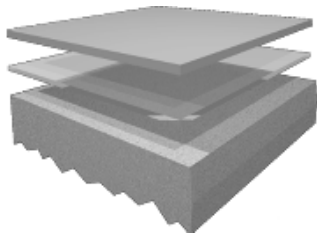
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High Build Systems

1-2 mm Decorative Options Concrete Requirements



Self Leveling/High Build

Primer

Substrate



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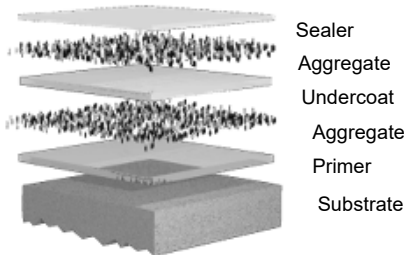
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Broadcast Systems

Thickness Range (1/16" – 3/16")

**Moderate – High Durability
Performance**

***Condition of concrete is critical to
performance of finished system**



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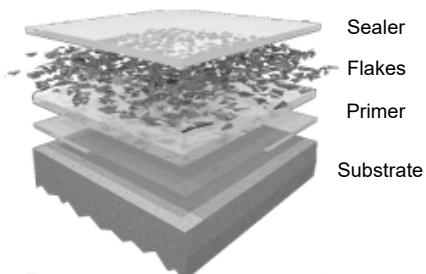
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Flake Broadcast

Thickness Range (1/16" – 3/16")

Moderate – High Durability Performance



Sealer

Flakes

Primer

Substrate



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Alternative to Stained Concrete

(3/32")

Decorative stains into

the process

Mottled, lightly textured appearance

UV-Resistant

Slip-Resistant

Low Maintenance



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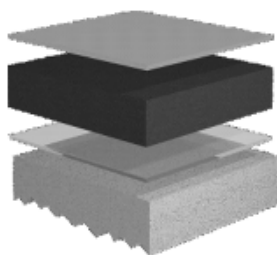
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Troweled Mortar

Thickness Range (3/16"–3/8")
Excellent Durability Performance

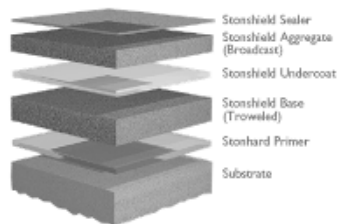


Sealer

Mortar System

Primer

Substrate



Stonshield Sealer

Stonshield Aggregate
(Broadcast)

Stonshield Undercoat

Stonshield Base
(Troweled)

Stonhard Primer

Substrate



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Mortar Base – Renovation Properties



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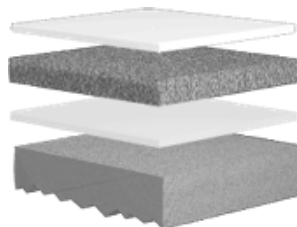
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Decorative Troweled Mortar

Thickness Range (3/16"–1/4")

Decorative, Custom Patterns

Extensive Palette
Low Maintenance



Sealer

Mortar w/groutcoat

Primer

Substrate



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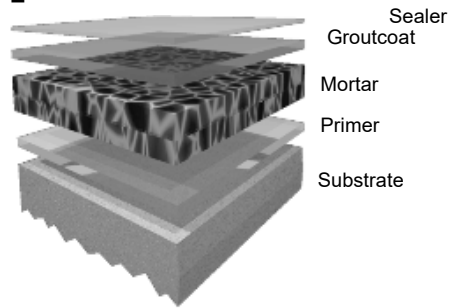
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Troweled, Resilient, Urethane

Thickness Range (1/8" - 3/16")

**Highly Decorative
Sound Absorbent
Ergonomic
Stain Resistant**



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Urethane Elastomeric Membrane Systems

10 -125 mils

Permanent Elastomeric Properties

Positive Side Waterproofing



Positive Side Waterproofing

30 - 40 mils

Protects areas below mechanical rooms, pumps & mezzanines

Slip-Resistant

Low Maintenance



Traffic Bearing Membrane

60-80 mils

Protects surfaces in
parking garages, ramps,
helipads & pedestrian
bridges

Slip Resistant
UV Resistant



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Polymer Modified Outdoor Surfaces

Tactile

Slip Resistant

UV Resistant

**Stands up to
chemicals, salts &
weather**



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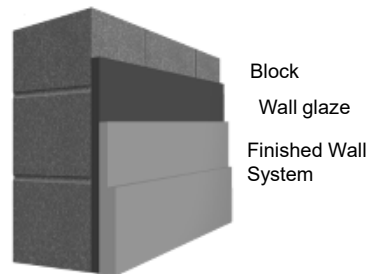
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High Performance Wall Systems

10 mils – 25 mils
Seamless
Reinforced Systems
Flexible Systems
Impact Resistant

WALL COATING
OVER BLOCK



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WALL TO WALL
OR WALL TO
CEILING
TRANSITION

10 mils – 25 mils
Seamless
Reinforced
Flexible
Impact Resistant
Integral to Floor

Patching Compound

Wall Substrate



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High Performance Wall Systems

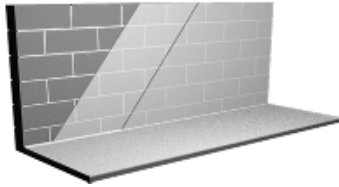
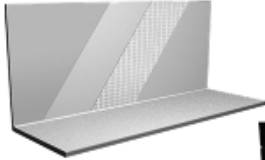
Multiple Configurations

Coatings

High Build Wall Systems

Vinyl Flake Systems

Mortar Based Systems



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Hygienic Curbs

Smooth & Sanitary

- Non-absorbent
- Non-porous
- Corrosion-resistant
- Non-toxic
- Easy to clean and maintain



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What Goes Wrong with Most Curbs



- Flexible sealants can deteriorate after intensive daily high pressure cleaning.
- Curbs got cracked by impacts of pallet trucks & forklifts
- Dirt, cleaning water, humidity and scraps can build up in the voids behind the cracked sealants or curbs



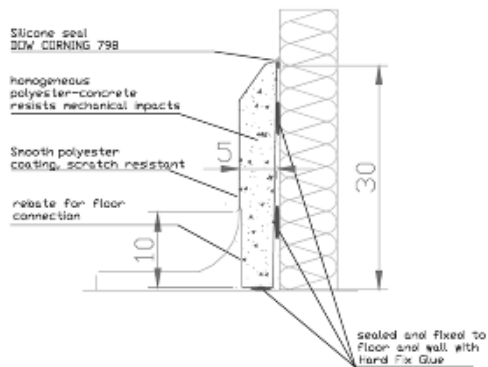
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1500x300x50mmH with sloping top and rebate where the floor can be mounted into the curb (seamless connection).



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Hygienic Curbing Install Examples



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Ensuring Successful Installations



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Osmotic Pressure/Moisture

COATINGS – 1-2 lbs. per 1000 SF per 24 hr.

VCT/Sheet Vinyl – 3 lbs.

BROADCAST – 3 lbs.

MORTAR– 3-7 lbs.

**OSTMOTIC RESISTANT
GROUT/MEMBRANE –
15+ lbs**



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Osmotic Pressure Mitigation

Application

Can reduce 15+ lbs. to less than 3 lbs.

1/8" Thickness/15-125 mil

Can be utilized as floor patch

Compatible under multiple flooring products



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Concrete Preparation



Mechanical Preparation
Abrasive Shot Blast
Diamond Grinders
Scarify



Mechanical Preparation



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Terminations

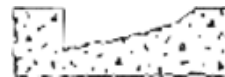
Chasing



Vertical Sawcut



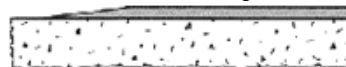
Chiseled Shoulder



Finished Chase



Never Feather Edge!



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Termination Details



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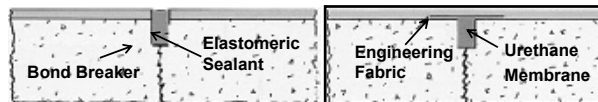
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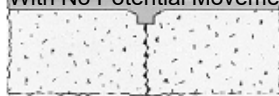
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Crack Treatment

Cracks with potential movement



With No Potential Movement



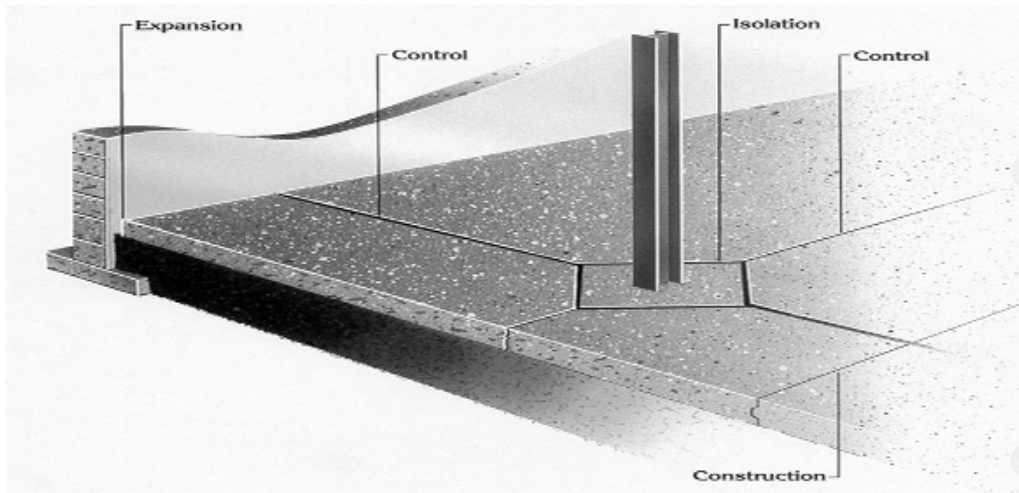
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Joint Identification



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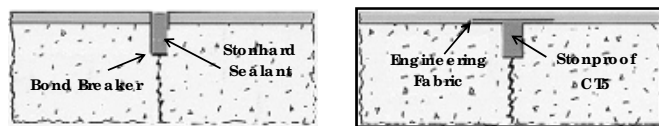
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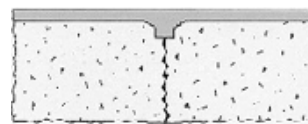
Crack Treatment & Joint Treatment

Control Joint

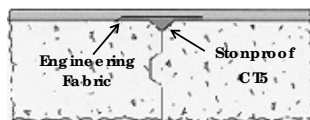
With Potential Movement



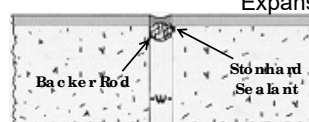
With No Potential Movement



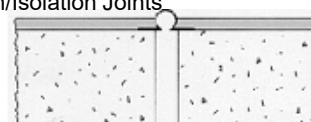
Construction Joint



Formed in Place



Pre-Formed



Expansion/Isolation Joints



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Application/Mixing



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Application/Installation



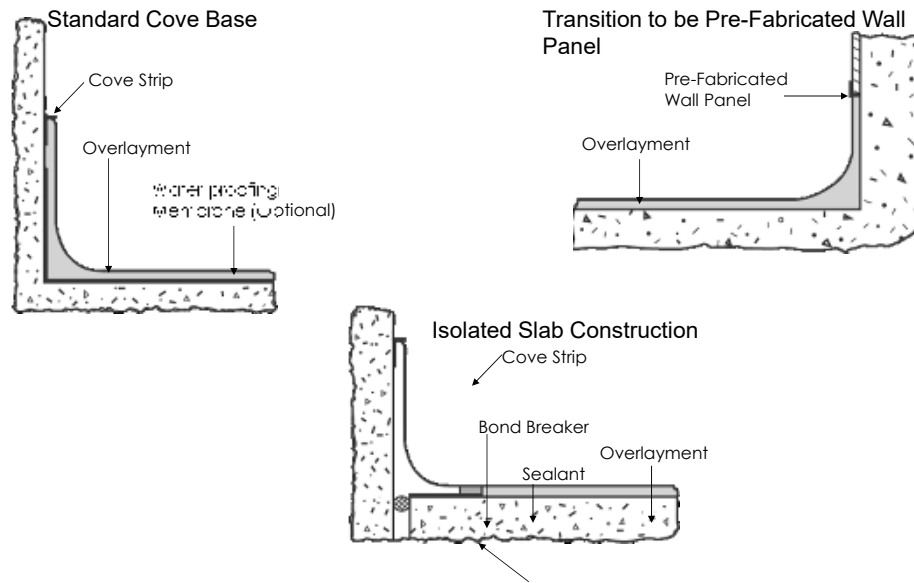
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Coves



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Coating & Finishing

Seals & Protects
Improves Cleanability
Increases Chemical
Resistance
Adds UV Protections

Modify Texture

Various Finishes

- Pigmented
- Clear
- Gloss
- Satin
- Flat



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Specify for Installation Success

Experience
Warranty
References
On-site Tech Support
Service and Follow-up



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Full Time Project Management
Safety Inspection & Enforcement
Quality Control
Adhering to Schedule
Project Documentation

MANAGING THE
 INSTALLATION



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WHO WE ARE

Manufacture & Install

Turnkey applications
Single Source responsibility

Global Enterprise –

Sales operations in over 65 countries
on 5 continents

7 manufacturing facilities

300 Project Engineers

200 Specially Trained Installation
Teams

Over 5 Million Square Feet/month

95% customers repeat



FLOORS FOR EVERY ENVIRONMENT



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Questions?

**Thank you. This concludes the
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