

# How to Specify Commercial Flooring

**BUILDING OPERATING MANAGEMENT'S**  
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# QUALIFY THE PRODUCT

- ASK:
  1. What Flooring Do You Have Now
  2. What Do You Like About It
  3. What Don't You Like About It
  4. What Are Your Expectations For Your New Floor Covering

# Longevity – Life of the Product

- How long is it expected to last
- Where is it going to be used
- How is it going to be used
- Does the fashion fit the function
- Plan for the long run
- Maintenance must pre-planned and ongoing

- Give thought to the downside risks of the project or to the guidelines and pertinent information that should be contained
- Be aware of changes that occur in the flooring industry that will affect the project – products and installation
- It is imperative the spec writer be informed and up to date and be advised when necessary

# FLOORING MATERIALS CHANGE

- New Backings
- New Yarn Systems
- New Installation Systems
- Substrate Issues And Mitigation Systems For Moisture And Alkalinity
- Flooring Products Not Made In The US Must Meet US Standards – Don't Take Chances

# THREE THINGS TO KEEP IN MIND WHEN YOU ARE CONSIDERING YOUR FLOORING INVESTMENT

1. Selecting The Right Flooring For The Right Spot
2. Choosing An Installer Who Conducts The Installation In Accordance With The Installation Standard
3. Cleaning And Maintenance

# CONSIDER FIRST THE PRODUCTS BEING SPECIFIED FOR USE ON A PROJECT

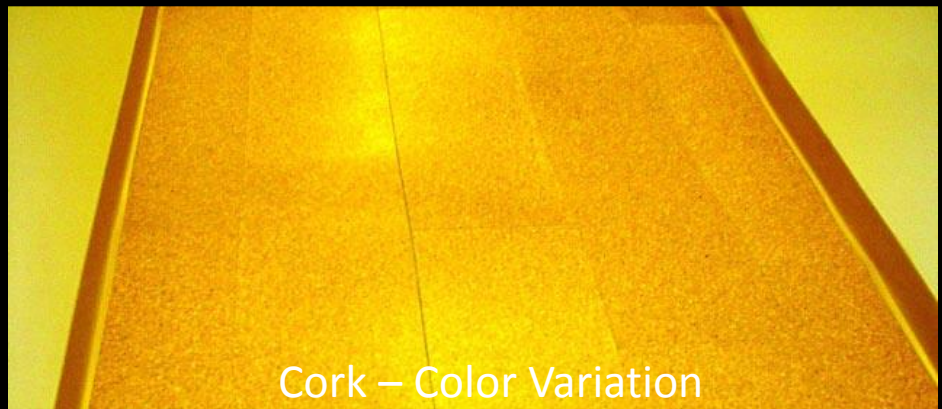
- Responsibility Of The Specifier To Determine The Suitability Of The Flooring Material For The Intended Use
- Research The Products Yourself, Objectively
- Have The Flooring Products Being Considered For Use Independently Tested Prior To Being Specified
- Capability Of Performance - It Should Still Be Determined Whether Or Not It Will Actually Live Up To Your Expectations
- Tell The Manufacturer What You Want The Flooring Product To Do (Performance Spec) But Not How You Want Them To Do It (Construction Spec)
- Ancillary Products - Adhesives, Floor Prep Materials, Cushion And Substrate Treatments And Mitigating Processes



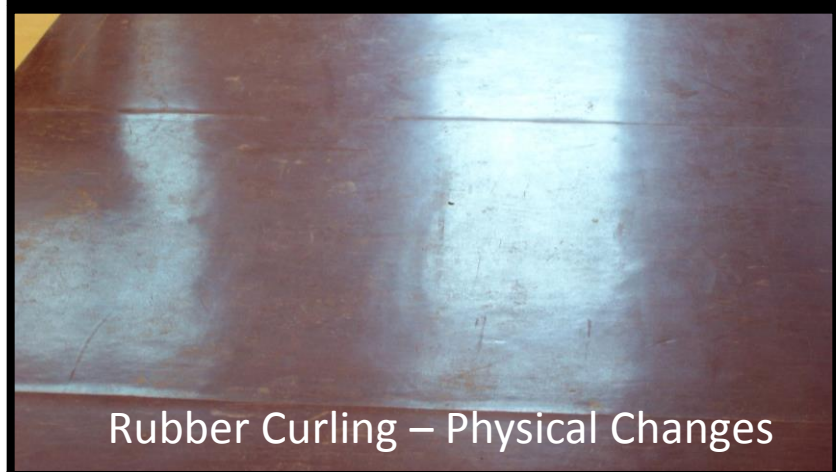
LVT – Wrong Material



Wood – Scratches/Soft Surface



Cork – Color Variation



Rubber Curling – Physical Changes



Terrazzo – Mottling



Vinyl - Asphalt Discoloration



# PERFORMANCE SPEC

- Tells A Manufacturer The Type Of Product You Want And How And Where It Is Going To Be Used
- Appropriate Product Best Suited For The Application
- From Running Line Offerings
- “Customize” Them For The Specific Application Such As Dialing Up Or Down The Pile Height, Altering The Stitch Rate A Bit, Or Altering The Color Shades – Taking The Bright Yellow For Example And Making It More Of A Brown Shade

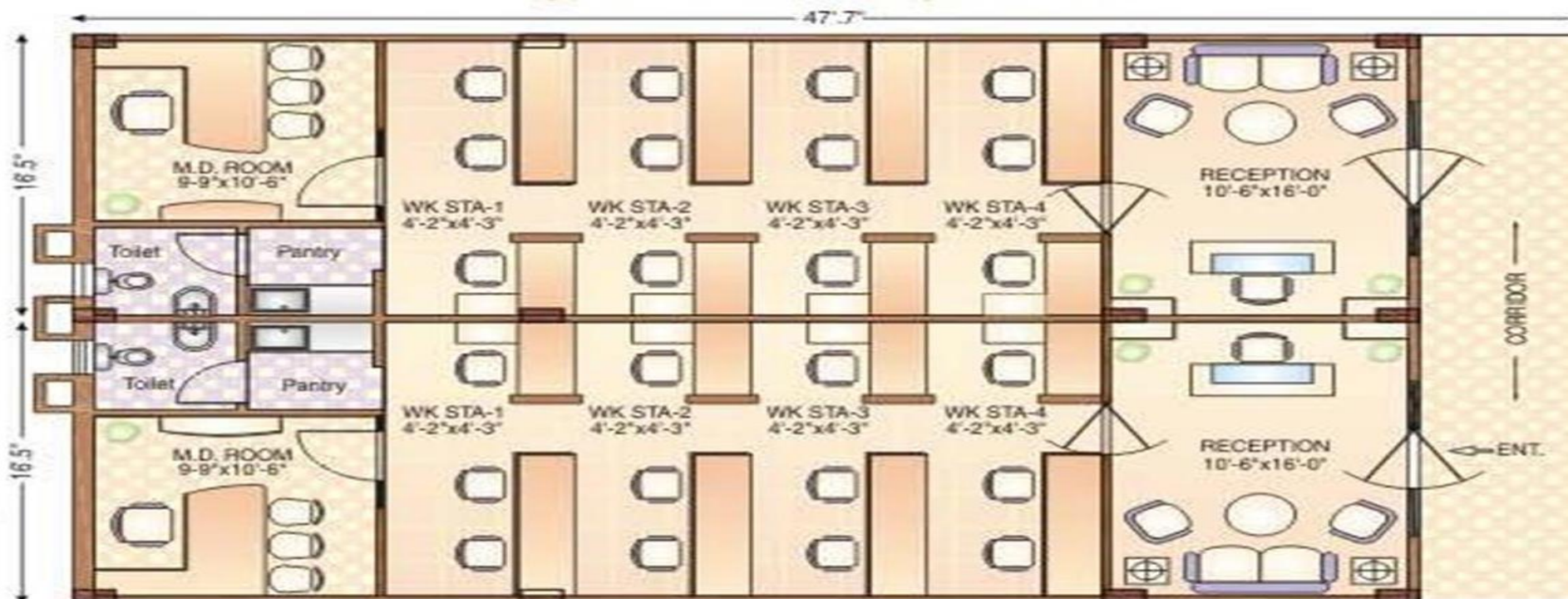


# CONSTRUCTION SPEC

- The Product Made Exactly To A Specific Construction for example:
- Tufted On A 10<sup>th</sup> Gauge Machine (10 Needles Per Inch Across The Width),
- 12 Stitches Per Inch
- Density Of 6800
- With A Trilobal Fiber
- Tuft Bind Of 20 Pounds
- Money To Burn, This Is Not A Good Idea Because You Have Just Custom Designed The Construction Of The Product For No Good Reason
- Plenty Of Carpets On The Market Considered Running Line That Can Give You The Same Performance
- Rarely Does Anyone Specify A True Performance Spec. Whether The Product Is Carpet, Vinyl, Tile, Wood, Rubber, Etc., There's Always A Product In The Line That Will Work For The Intended Use.

# KEY FACTORS

- **DESCRIPTION OF WORK PROJECT SITE:** clearly and concisely states what type of flooring work and what types of products and finishes are to be installed
- **RELATED WORK:** simply says the contract and drawings will provide additional and specific information and lets it be known in this section of the spec
- **QUALITY ASSURANCE:** Manufacturer assures the product is appropriate for the application and environment in which it is to be installed and that the product is merchantable for service, free of visible and latent defects and will perform for the purpose for which it is intended without compromise
- **MANUFACTURERS QUALIFICATIONS:** at least 10 years of experience in the production of the type of flooring material specified be financially sound, have technical support for their products and the installation of them and be capable of producing and delivering the product on time and without defects of any kind.
- **PRODUCT WARRANTY:** Product should be warranted and guaranteed against any and all manufacturing defects, visible or latent, structural or otherwise. Product must be merchantable for service and fit for intended purpose and use



# KEY FACTORS

- **PRODUCT SUBMITTAL:** Finished product from actual run must be submitted for independent testing prior to shipping to installation site to determine compliance with the manufacturer's specification and the specifications of this document
- **PRODUCT TESTING:** Submitted product will be independently tested for structural integrity, construction, compliance with the manufacturer's specifications and influence of compromising conditions, visible defects and compromises of product integrity
- **SUBMITTALS:** Flooring products and architects folder with specifications
- **AFTER SELECTION OF SAMPLES:** Material selected will be provided for mock up installations
- **SAMPLES AND MOCK UPS FOR SITE:** Adequate material to be furnished by each manufacturer to construct a suitable sized mockup or test installation – EXTREMELY IMPORTANT
- **FINISHED SAMPLES:** furnished to consultant and site for comparison to samples previously submitted
- **INSPECTION BEFORE SHIPMENT:** All material to be thoroughly inspected by the manufacturer prior to shipment

# Maximums and Minimums

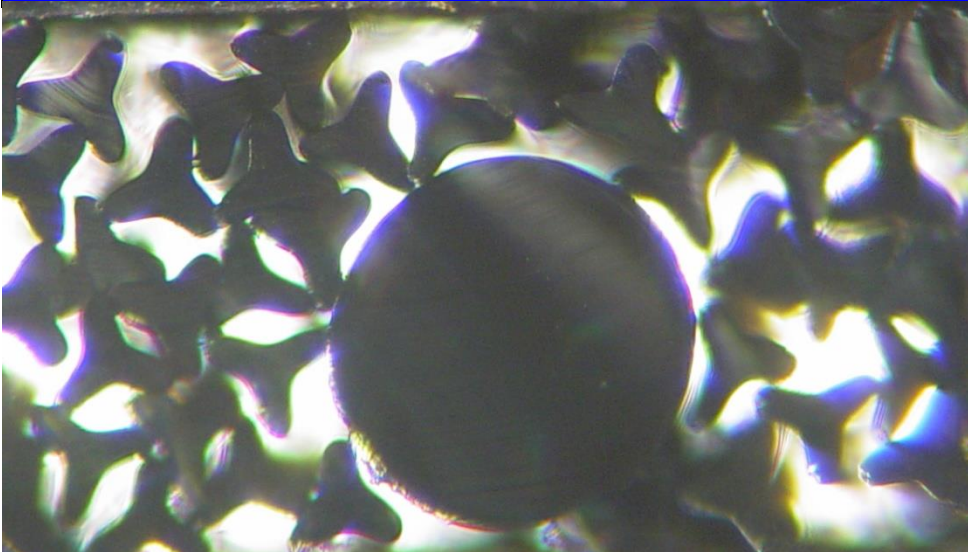
Pile Weight	± 7%
Tuft Bind	100 oz loop/48 oz cut pile
Delamination	2.5 lbs/inch
Breaking Load	100 lbs
Colorfastness to Light	4 @ 40 AFU
Crocking Wet & Dry	4
Pile Height	As Specified
Density	As Specified

## Fiber Testing

- Cross section
- Chemical Solubility
- Melt Point
- Shrinkage
- Bulk
- Denier

## Vinyl

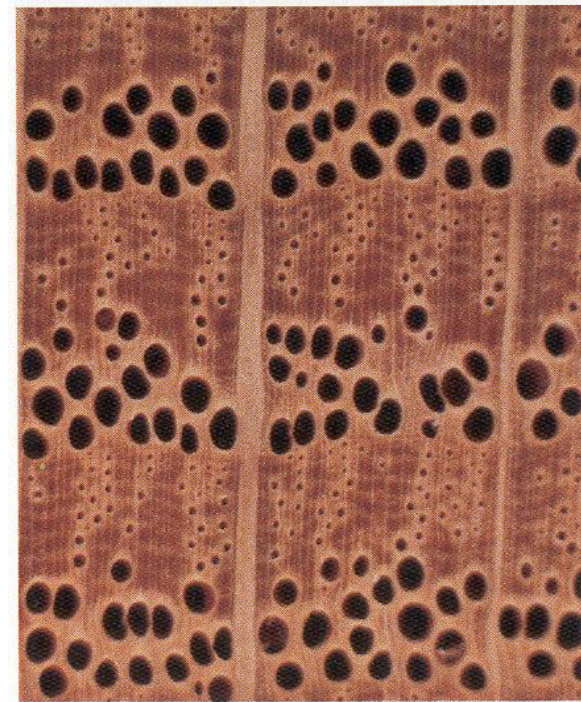
- Static Load
- Heat Resistance
- Light Resistance
- Wear Layer Thickness
- Flexibility
- Indentation



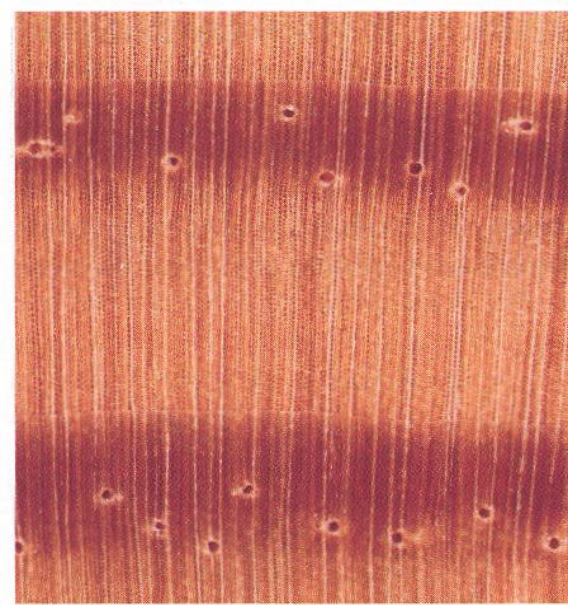


## Hardwood

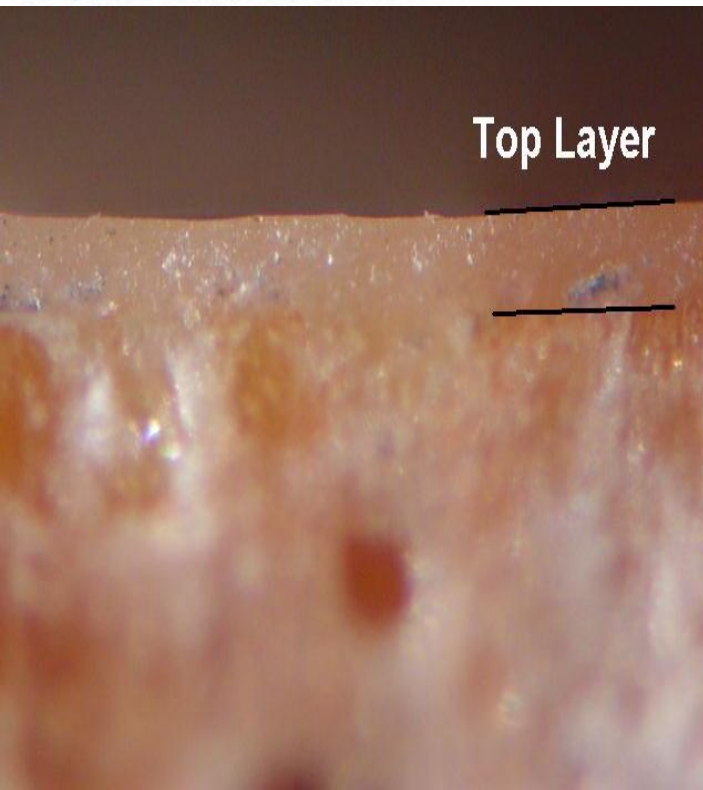
- Species Identification
- Hardness
- Taber Abrasion Wear Layer
- Cyclical Humidity



NORTHERN RED OAK



SOUTHERN YELLOW PINE



## NALFA TESTS

North American Laminate Flooring Association

- Ball Drop
- Abrasion Resistance
- Roll Chair
- Light Resistance
- Static Load
- Cleanability
- Thickness Swell



# KEY FACTORS

## **FLOORING CONTRACTOR AND INSTALLER QUALIFICATIONS:**

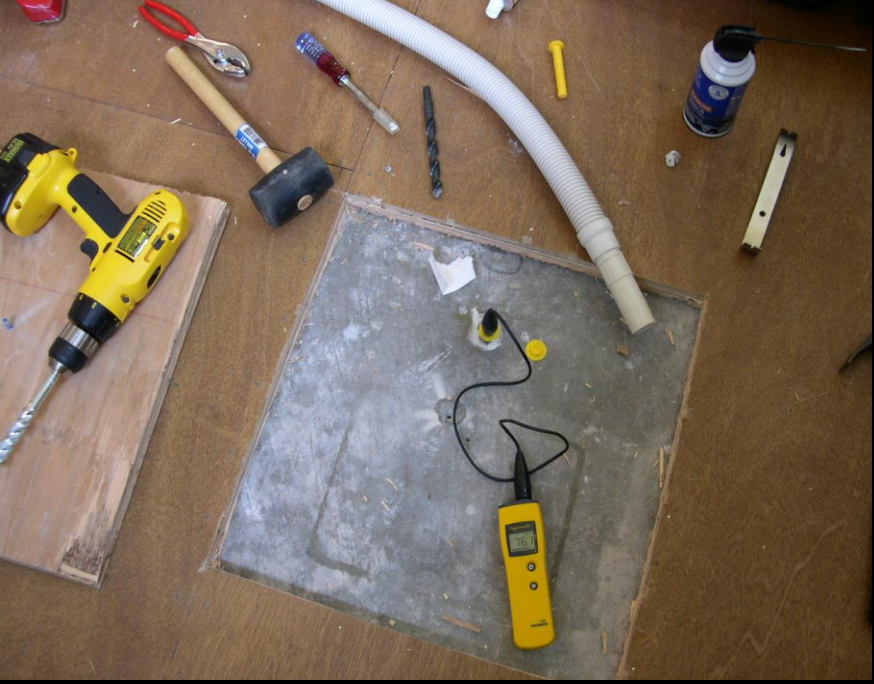
- Minimum of 10 years' experience in the installation of commercial flooring products
- Be financially sound
- Capable of complying with specifications for the project relative to the flooring contractors' responsibility
- References and known history
- On site project manager supervision
- Strict compliance with manufacturer's installation guidelines and industry standards
- Appropriate installation tools
- Material and accessories necessary to successfully install all of the specified flooring material
- Facilities to safely store and handle the flooring material products in an environmentally conditioned space
- Appropriate vehicles to safely transport the flooring materials
- No unqualified flooring dealers, such as a primarily retail floor covering dealer, should be considered for participation
- Subcontractors engaged in the project must meet the same qualifications as the primary flooring contractor on the project.

# KEY FACTORS

- **PROJECT MEETINGS:** Flooring contractor and their project managers and team leaders shall meet with the general contractor and architect prior to commencement of flooring installation to plan logistics, go over floor plan, layouts and installation schedule and to discuss any concerns or issues
- **SUBSTRATE TESTING:** All substrate testing shall be the responsibility of the general contractor and be done by an ICRI certified tester. The flooring contractors and installers are not substrate experts and testing shall not be part of their requirements or scope of work
- **SUBSTRATE CONDITIONS:** All compromising conditions that would inhibit or prevent the successful installation of the flooring material must be corrected and protected prior to the installation of the flooring material
- **INSTALLATION SPACE:** The installation space to receive flooring material shall be clean, dry and conditioned, prior to and after installation and free of encumbering conditions prior to installation
- **DELIVERY, STORAGE AND HANDLING:** The flooring contractor shall receive and store flooring material in a safe manner, handle material according to manufacturer's recommendations and store material in a climate controlled space for the duration of the project
- **SEQUENCING, SCHEDULING AND STAGING:** A pre-installation conference shall be convened to include flooring contractor, installation supervisors, installation crews, manufacturer's representative, general contractor, job superintendent, project managers, architect and owner or owner's representative, to establish procedures to maintain optimum working conditions, sequence deliveries, cover installation logistics, stage areas to be carpeted or hard surface flooring material installed, coordinate with other trades or work and move in of furnishings.

# Common Substrate and Environmental Concerns with Influence Failures

- Uneven Substrate Surface
- Contamination
- Moisture
- Alkalinity
- Porosity
- Temperature And Humidity



pH	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Colour	RED	ORANGE	YELLOW	GREEN	BLUE	PURPLE-VIOLET								
strength	Strong	ACIDS	Weak	Neutral	Weak	ALKALIS	Strong							





Alkalinity



Moisture



Porosity



Acclimation

# System 3



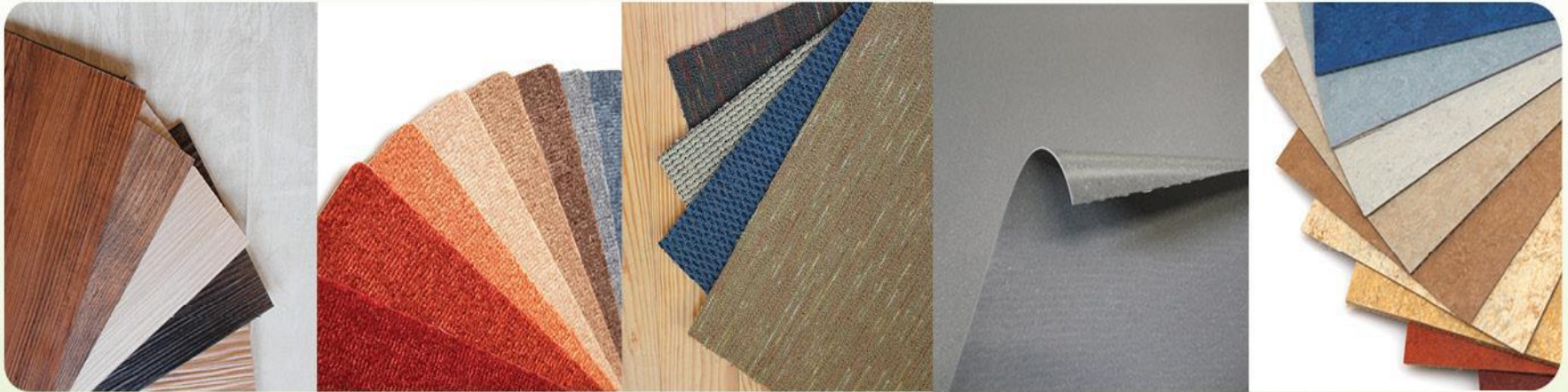


# KEY FACTORS

- **FLOOR PREP:** All substrates to receive carpet must be clean and dry and free of any compromising conditions such as dusting, oil, grease, paint, moisture, high alkalinity, contaminants of any kind and any residual materials, adhesive or otherwise, that would prevent or hinder the installation method used to install the flooring
- **INSTALLATION METHODS:** The methods of installation of all flooring materials to be used should incorporate systems such as the EnviroSTIX installation system for all hard backed and hard surface flooring materials or other proven installation technologies (or one of many other uniquely qualified installation systems)
- **INSTALLATION WARRANTY:** Installer shall warrant installation work for a period of two years (your choice) from the date of any particular phase of the project. Warranty shall include requirement to make necessary replacements and/or repairs due to defective installation of unsatisfactory workmanship which becomes apparent within 24 months of the installation date(s).
- **PROTECTION OF THE PRODUCT DURING AND AFTER INSTALLATION**
- **RECYCLING REMOVED PRODUCT**
- **EXTRA MATERIAL:** Attic stock of all floor covering materials
- **MAINTENANCE:** Provide manufacturers maintenance materials, information and guidelines for product after the installation
- **SPECIFICATION COMPLIANCE:** The guidelines and compliance of this specification are to be strictly adhered to without modification or exception

# ENVIROSTIX® APPLICATIONS

EnviroSTIX®  
APPLIED POLY-ACRYLIC ADHESIVE SYSTEM



VCT

Luxury Vinyl Tile

Roll and Tile Rubber

Sheet Vinyl

Linoleum

Carpet Tiles

Broadloom Carpet



# Preparing a Commercial Specification

- Step 1: Identify the intended END USE DESCRIPTION for the flooring to be specified. (Example: Conference room in a commercial office building).
- Step 2: Identify the END USE DESCRIPTION RECOMMENDATION associated with that area (moderate, heavy, severe or extreme).
- Step 3: Determine the construction and features of the flooring desired
- Step 4: Complete the appropriate Specification Sheet for the type(s) of flooring desired
- Note: Each job may require several types of flooring or have several different end use applications. And the manufacturers recommendations supersede so make sure you confirm with them where, how and what you want to use so you don't void any warranties

Typical End Use Description	Typical End Use Recommendation			
	Moderate	Heavy	Severe	Extreme
<b>Banks/Credit Unions</b>				
Entrance and Customer Banking Space			X	
Open Office Space		X		
Private Office	X			
<b>Bowling Center</b>				
Concourse (excluding food service or working areas)			X	
<b>Chapels and Other Religious Facilities</b>				
Educational Wing	X			
Worship Areas	X			
<b>Clubs/Lounges</b>		X		
<b>Golf Course Clubhouse</b>				
Administrative Areas (without golf shoe traffic)	X			
Dining Area (without golf shoe traffic)	X			
Grill Area (with golf shoe traffic)		X		
Pro Shop (with golf shoe traffic)		X		
<b>Libraries</b>				
General Areas		X		
Conference Rooms	X			
Corridors		X		
<b>Hospitality/Hotels/Casinos</b>				
Corridors and Hallways		X		
Meeting/Conference Rooms		X		
Guest Rooms	X			
Ballrooms		X		
<b>Lodging Facilities/Dormitory, etc.</b>				
Conference Room		X		
Combination Living/Sleeping Rooms		X		
Dining Facilities			X	
Offices	X			
Public/Common Areas (day room, tv lounge, etc)			X	
Sleeping Rooms	X			

Typical End Use Description	Typical End Use Recommendation			
	Moderate	Heavy	Severe	Extreme
<b>Medical Facilities (excluding patient treatment areas)</b>				
Assisted living areas		X		
Chapels	X			
Classrooms		X		
Clinical Waiting Areas (outpatient, pharmacy, etc)			X	
Consultation Rooms		X		
Dining Areas			X	
Entrance Areas (when used with entry way mats)			X	
Libraries	X			
Lobbies			X	
Elevators			X	
<b>Medical Facilities (excluding patient treatment areas)</b>				
Lounges		X		
Offices (Private or Semi-Private)	X			
Patient Rooms		X		
Playrooms, Child Waiting Areas			X	
Staff Sleeping and Watch Areas	X			
<b>Military Housing</b>				
Bachelor Enlisted Quarters				
Dining Facilities			X	
Offices		X		
Public/Common Areas (Day Rooms, Lounges, etc)			X	
Sleeping/Living Rooms	X			
Family Housing				
General Areas		X		
Sleeping Rooms	X			
<b>Office Building</b>				
Classrooms				
Conference Rooms		X		
Corridors		X		
Elevators		X		
Entrance (when used with entry way mats)			X	
Library	X			
Lobby			X	
Lounge		X		

Typical End Use Description	Typical End Use Recommendation			
	Moderate	Heavy	Severe	Extreme
(cont.)				
Private Office	X			
<b>Transportation Service Areas</b>				
Airport Ticketing Area				X
Airport Concourse				X
Rail Cars				X
Buses and Bus Ticketing Areas				X
<b>Retail Stores</b>				
Offices		X		
Restaurant & Cafeteria Dining Areas			X	
Sales Areas		X		
<b>Theaters</b>		X		
<b>Educational Facilities and Training Buildings</b>				
Classrooms			X	
Corridors			X	
Staff/Administration Offices	X			
<b>Youth Centers</b>				
			X	

# Common Causes of Flooring Failures

- OVERSELLING
- MIS-SPECIFICATION
- LACK OF PRODUCT KNOWLEDGE
- LACK OF INSTALLATION SKILL
- LACK OF INSTALLATION KNOWLEDGE
- ACCEPTANCE OF CONDITIONS AND SUBSTRATE
- ENVIRONMENTAL CONDITIONS - LEED
- NOT KNOWING WHAT'S WRONG AND HOW TO FIX IT
- IGNORANCE AND LACK OF COMMON SENSE

# KNOW THE PRODUCT YOU SPEC

- OBTAIN MANUFACTURERS OR ASSOCIATIONS  
PRODUCT INFORMATION AND GUIDELINES
- PERFORMANCE GUIDELINES
- INSTALLATION MANUALS
- PRIOR EXPERIENCE
- UNDERSTAND HOW TO WORK WITH THE PRODUCTS
- KNOW HOW AND WHO SHOULD INSTALL IT



# What's New In The Floor Covering Industry

- New Manufacturing Technology and Growth
- More Polyester
- Solution Dyed Polyester and Nylon
- Carpet Tile Growth, Lighter Weight, Varying Sizes
- Hard Surface Growth
- More Luxury Vinyl Tile and Plank
- Higher Styling and Brighter Colors
- PVC Free Vinyl
- New Installation Technology

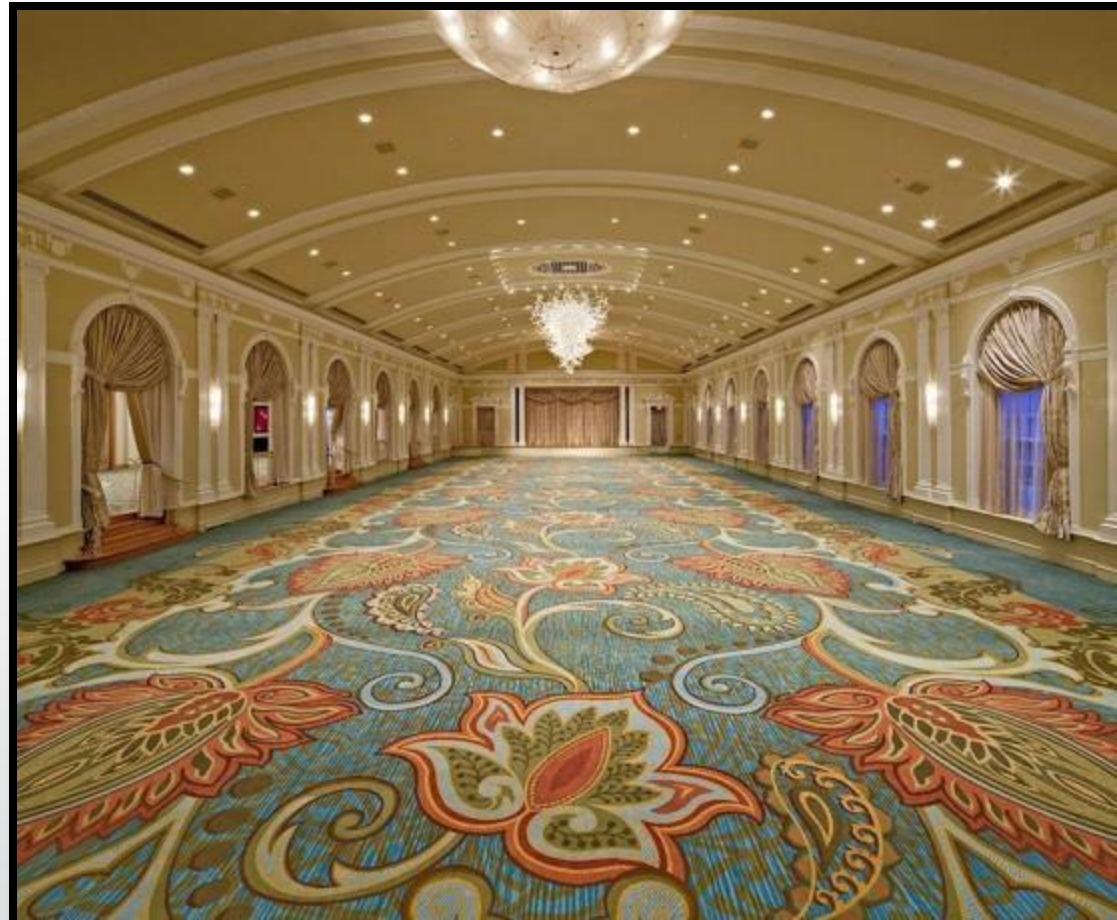
# NEW INSTALLATION SYSTEMS FOR ALL FLOORING MATERIAL

- Separate Adhesive Free Systems For Hard And Soft Flooring Materials
- Less Adhesive Sensitive Systems
- Taking The “Compromise” Out Of The Installation
- Less Sensitive To Substrate Moisture, Alkalinity, Curing Agents, Finishes, Additives And Fly Ash Issues In Concrete
- Eliminate Installation Failure
- More Mechanical (Click) Systems
- Systems That Fit The Market And The World



# CARPET

- Green Label Plus
- No VOC's
- Produced From Synthetic Or Natural Materials
- Traps Soil
- Allows Most Fashion And Styling Of Any Flooring Material
- Recyclable
- Quiet And Comfortable



# Carpet Tile

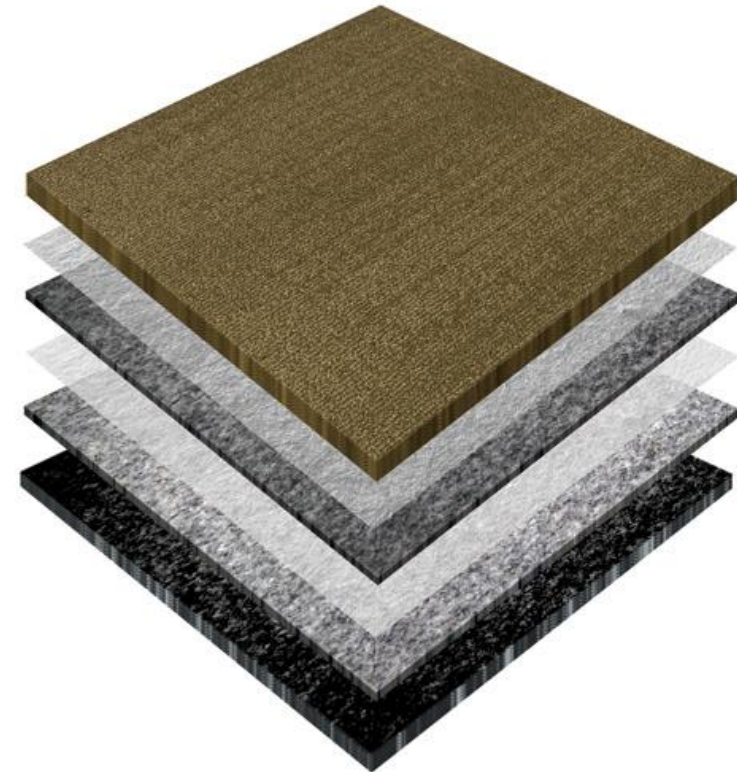
- Backing Often Contains Recycled Content
- Face Of Carpet Can Also Contain Recycled Fiber
- Carpet Has Excellent Sound And Thermal Insulating Properties
- Good Comfort Under Foot
- Variety Of Colors, Patterns, Textures, And Shapes
- Tiles Are Easily Installed And Replaced
- Easier Transportation, Packaging And Handling
- Highly Engineered And High Performance
- Easily recycled



# CARPET BACKING MATERIALS

## Carpet Backing Is A Multi Component System

- More Recycled Content
- More Fleece Type Backings
- More Hard Backed Product
- More Unique Backings
- More Adhesive Free Systems



# Bamboo

- Fast Growing
- Naturally Anti-bacterial
- Water Resistant
- Durable



# Cork

- Cork Flooring Is Made By Removing The Bark Of The Cork Oak Without Harming The Tree
- Anti-microbial
- Excellent Insulation Properties
- Resilient And 'Springs Back'
- Low In VOC'S



# LINOLEUM

- Made From Dried And Milled Flax Seeds Mixed With Other Plant Material (Linseed Oil, Pine Resins, Wood Flour, Ground Cork)
- 100% Biodegradable
- Waste Is Milled And Used
- Anti-static
- Hypoallergenic
- Fire-resistant
- Available In Sheet Goods And Tile





# Tile and Porcelain

- Durable
- Easy To Clean
- Low VOC
- Stain And Heat Resistant
- Suitable For Indoor And Outdoor Use
- Can Contain Pre And Post Consumer Recycled Content
- Can Be Made To Look Like Anything



# Locally Quarried Stone

- Very Durable
- Locally Mined And Fabricated Stone Requires Less Embodied Energy For Transport And Helps Support The Local Economy
- Marble Or Granite
- Easy To Clean
- Tile Or Slab



- Thinning Out Of Stagnate Trees For New Trees – Selective Cutting
- Renewable And Recyclable
- Extensive Varieties And Qualities
- Solid Or Engineered



# Reclaimed Wood

- Low Embodied Energy If Reclaimed And Manufactured Locally
- Higher Quality Because They Were Made From Old-growth Trees
- Unique Sizes And Species Of Wood Can Be Found
- Prevents Waste



# SEALED AND FINISHED CONCRETE

- Limestone (Main Ingredient) Is Abundant Worldwide & Can Be Processed Locally, Requiring No Additional Carbon Footprint In Shipping
- Uses Small Amount Of Product
- Requires Little Maintenance
- High Range Of Colored Sealants
- Concrete Is Also Easy To Clean, Moisture-Resistant, And Long Lasting



# Rubber Flooring and Base

- Often Contains Recycled Content
- Easy To Clean
- Durable
- PVC Free
- Tile And Sheet Goods



# VINYL FLOORING

- Resin Production Is Energy Efficient
- Vinyl Is Derived From Salt
- Water Based Solvents Used In Manufacture
- Inherently Recyclable
- Sterile Product
- Can Be Made To Look Like Anything
- Durable And Long Lasting



# EnviroHealth – 100% PVC Free Resilient Flooring





# Where are we headed?

- Continued Growth In Hard Surfaces Of All Kinds
- More Recycling Efforts
- More Recycled Content Being Used
- Resurgence In Flooring Sales
- Truckers Report Highest Increase In Shipments In 10 Years
- Fewer Manufacturers
- Fewer Quality Control Technical People
- Challenges Finding Good Installers
- Increased Prices



# SPECIFY THE RIGHT INSTALLATION AND PROCEDURES

# Specify the right installation and procedures

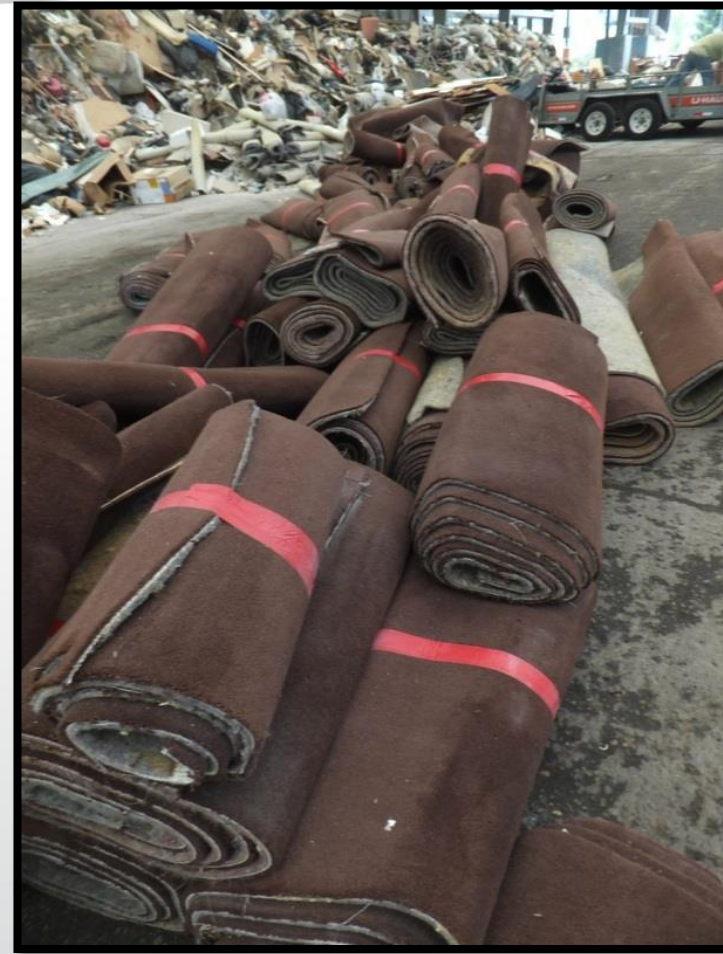
- Follow Manufacturers Installation Instructions
- Maintain Proper Ambient And Substrate Conditions
- Acclimate The Product

# PERVASIVE PROBLEMS

- Mis-specification Of The Product
- Overselling The Product
- Not Understanding The Product
- Extraordinarily High Expectations
- Believing Sales Pitch Without Verification

**1. GET IT IN THE DOOR  
AND KEEP IT ON THE  
FLOOR**

**2. MAKE SURE YOU  
HAVE THE RIGHT  
PRODUCT FOR THE  
RIGHT APPLICATION**





# Thank You For Attending!

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