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for the Commercial Floor Covering Industry

TOTALLY GREEN PUBLICATION April 2010

COMMON CAUSES OF FLOORING FAILURES - PART 1

The primary business of LGM & Associates has to do with floor covering failures in the commercial market whether it is the product itself, the installation, substrate



influences or some other factor. Another segment we serve has to do with lawsuits or legal actions involving floor covering issues in a variety of situations. No two cases relative to failures in any area serviced are ever exactly the same. It is for this reason that the following information is being provided to help prevent you from having to endure the pain of a floor covering failure. And in the commercial market these things can reach millions of dollars in liability and losses no one need incur. That's the downside. The up side is that every flooring failure we've ever seen could have been prevented. It's this aspect that each of you has to be familiar with. Not only will it keep you out of trouble, be you a manufacturer, designer, flooring contractor, facilities manager, general contractor or architect, but it will keep the client happy and satisfied that you were actually able to provide them with what they wanted and have it live up to their expectations. So let's take a look at how you stay out of trouble.

Overselling a flooring material is the number one problem in the industry. Many will say that installation holds that position but it really doesn't. The wrong product in the wrong place represented as being more than it actually is creates more problems than anything else. To prevent overselling you have to understand the products being used or specified and qualify how they're going to be used. If a flooring material, and let's take carpet for example, is not constructed densely enough and it's used in a high traffic area when it will only perform well in a low traffic area, you're heading for heartache. You can't plead ignorance because, no matter the position you hold in the commercial segment of the industry, you are entrusted with knowing what will work where. If you present the product then you present it as the expert and you likely assume responsibility for it failing to deliver as expected.

Mis-Specification is actually specifying the wrong



product for the wrong application. This can take many forms. The structural integrity of the material may not be conducive for the category of usage. There are four categories of commercial traffic; Light, Moderate, Heavy and Extra – Heavy. Light may be an executive type office and Extra-Heavy would be an airport.

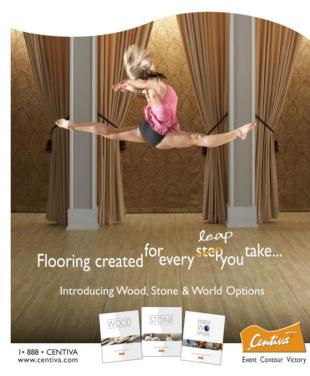
Click the above photo for the CRI Fact Sheet For Specifying Carpet



I am pleased to announce my speaking engagement during NeoCon in Chicago on Tuesday, June 15th from 11:00am-12:00pm Cost Effective and Sustainable Flooring Solutions Lack of product knowledge slides right under Mis-Specification because if you don't have knowledge of the product you won't be able to properly specify the appropriate product for the particular application. One of the



most dangerous things you can do is think you know what to use where when in fact you really may



not. A scary statistic, in my opinion, relied on by many, is using the manufacturer's rep as a technical resource. While this is not meant to cast aspersions on the reps, they are quite honestly not trained as technical people. Their job is to sell their products and only their products. Other than years of experience some of them may have many do not have the amount of technical



knowledge required to get the right product into the right place. If there's ever a question about how well a product is going to perform of if you've got a concern that the right product for the situation has been selected, the next step before you make a commitment is to have samples of the product to be used tested. We will typically for a client test a carpet for colorfastness, appearance retention and

cleanability. If it's a hard surface product we'll test it for abrasion resistance staining and stability. Very often however, the testing gets done after there's a problem. Often the testing proves a deficiency in the product that makes it



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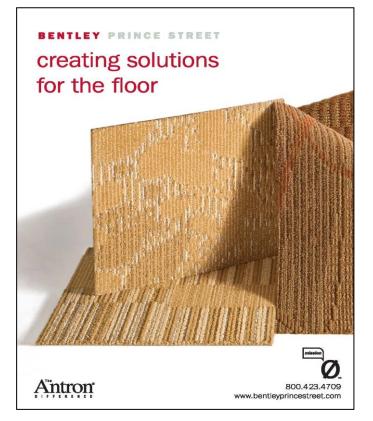
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inappropriate for the intended use. This type of information is always best determined before hand, unfortunately that's not the case. Testing really is cheap insurance and can decide a "go, no go" for a product and why. Changes can easily be made if the product is a "no go."



Once the right product has been selected the next step is to have it properly installed. This is becoming a greater challenge today because there are dealers and installers who are looking for work from the residential market bidding on commercial jobs. If the price seems too low for an installation it likely is for good reason. That reason is because these guys need the work but don't possess the skills to work with most of these products on a large scale project. Nothing wrong with being ambitious but you've got to know what you're doing to play in the big leagues and the commercial flooring market is definitely the big leagues. In the last two years we've seen job after job messed up because the guys installing the flooring material didn't know what they were doing. This has proven especially true in the hospitality market where woven and tufted patterned goods have been butchered by installers who had no idea how to work with them. Often the

General Contractor comes back to the manufacturer to file a claim when he should be going after the installers or installation firm. But wait, he may be the guy who accepted the bid or hired these guys in the first place because they were cheaper and now he wants to toss the hot potato to someone else.



This brings us to lack of installation skill and installation knowledge; an issue becoming increasingly dangerous for several reasons. One already stated, that installers from the residential side are installing commercial floor covering and don't know how to install it. They have no knowledge of what these products are and the level of expertise required to install them. If you entrust expensive commercial flooring products to an inexperienced installer and the installation fails or gets messed up you have no one to blame but yourself. It's like the adage, "You get what you pay for."

Properly installing

commercial floor covering material demands experienced, trained and certified installers. Anything less and you risk the chance of failure. I might add that the greenest thing you can do is to insure the correct product is installed properly that

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will perform as expected for as long as expected. Having to prematurely replace floor covering is as physically and financially wasteful and irresponsible as one can get - "Keep it on the floor, once it's in the door."



ACCEPTANCE OF CONDITIONS AND **SUBSTRATE**

The act of installing flooring material in a space and on a substrate not tested, tested incorrectly or one that is not ready for installation constitutes acceptance and makes the flooring contractor or installation firm responsible for any installation failure. Anyone who insists flooring material be installed under unacceptable conditions will be responsible for the failure. Insisting a flooring contractor install flooring material expressly contrary to installation standards or accepted practices should not happen. Let me sight an example that just happened while writing this edition of CFR. A flooring dealer called wanting to know how he could install Luxury vinyl tile, plank vinyl tile and a ceramic type flooring on a slab that is 60 days old. His moisture tests are all high, well beyond any flooring manufacturer's maximum and there is no operating HVAC in the space. This is a catastrophe waiting to happen. First of all you can't test the concrete in a non-conditioned space. The space has to be acclimatized as it

would be when the space is occupied, that means the HVAC system has to be operational and operating as it would if the space were occupied. Second the slab is 60 days old, not old enough to install anything successfully on. The next thing we're going to see is people wanting the flooring set into the wet concrete! This is ridiculous, ludicrous and insane. He also wanted to know what type of sealer he could put on the slab so he could install. Well, no one I know makes a sealer that can be used on an uncured slab. Not knowing the true conditions of the slab makes it impossible to do anything with it until the environment is controlled. Even after our conversation he was still searching for how he could do this. Really, is it worth it to install the flooring material when you're told you'll have an inevitable failure? You can't make enough profit on a job to cover what it will cost to rip up the flooring, mitigate the slab and replace the flooring, which doesn't include the cost of lost business and moving furnishing, fixtures and equipment.



Wood Subfloor Treatment

The next flash of enlightenment comes, or maybe not, when there is a failure and you don't know what's wrong or how to fix it. This is a daily occurrence here. One thing you can count on is that there is always a reason for a failure, the evidence never lies and it will point a finger clearly at the responsible party. Like the saving I have in my office spoken on CSI, "You have to follow the evidence regardless of where it takes you; it's the job." There's never been a case where we haven't been able to determine what went wrong, why, who caused the failure and what could be done about it. That is, how can the failure be fixed. Sometimes this can be a fairly easy fix but not always.

ENVIRONMENTAL CONDITIONS AND LEED

We're all concerned about our environment and hopefully all of us do our share to protect it whether that be recycling newspapers or getting involved in some type of cleanup effort. But the greenest we can be relative to floor covering is making sure we use

products that will work where they are installed, that there will be no performance or installation failures, that the product will be easy to maintain so it will look good for a long time and that it stays on the floor for the intended length of time. Anything less and we've not done a good job. I mentioned this earlier. Words don't change science or the laws of physics. The new LEED initiatives, if I understand them correctly and if not someone please enlighten me, suggest that the substrate be tested and flooring material be installed prior to the HVAC being in operation and even the C of O being issued. If this is the case, and I really hope it isn't, we're going to be replacing way more flooring material, interior finishes and structural materials than we ever would if this wasn't so. Nothing will acclimate and everything will react after occupancy to the extent that it won't be able to be fixed but will have to be replaced. There will be waste beyond belief of materials, money, energy to work overtime to fix what went wrong and business disruption worse than anything we've ever seen. Please tell me I'm wrong because if I'm not we're heading into a colossal waste of resources never experienced in the construction industry.



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KNOW THE PRODUCTS YOU SELL

It's important to, when and if possible, obtain manufacturers or associations' product information and guidelines for the use of their products and how to install them. If they have performance guidelines, and very few do, it is imperative you have them. This will give you an idea of which of a particular manufacturer's products should be used in the four performance categories mentioned earlier which are again, Light, Moderate, Heavy and Extra-Heavy. Get the installation instructions or manuals published by the flooring manufacturer, if they have them. If not get the installation instructions from the association that governs such as carpet, wood, ceramic, etc. The most obvious source for knowing if a product will perform is from prior experience, especially if you've been in the industry for years. You should know what will work if you have years of experience.

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INDUSTRY UPDATE

This is from the "streets" of Dalton, "The Carpet Capitol of the World" where we are located. Business is definitely picking up. There is a shortage of some fibers and backing material and some finishing plants have seen increases over the last two months. Finishing plants are where carpet goes to have the backing applied, topical applications for stain and soil treatments and shearing. Prices are also going up on everything such as latex, backing materials and face fibers, not a great time for this but a fact. One of the primary motivators is to get margins up to increase profits so mills can invest in new technology. There is a host of new technology in tufting and backing systems. We'll keep you updated on these in the future. Unemployment is among the top 10 in the nation but labor is about 5% of the cost of the product; not a big portion. Technology is making some tufting machines obsolete as the new machines do more, faster and can take the place of two or three machines.



Most of the plants you may have heard about closing produce spun yarn for the residential market which is being phased out as it is an expensive and time consuming process. Everything is about efficiency, speed and cost control especially with the larger manufacturers who make a multitude of different flooring products. The industry has historically been awash in capacity, which can affect pricing but capacity is being diminished slowly. Overall business seems to at least stabilized but there is no excitement for business near term.

NEW PRODUCTS:

The new Velcro Brand Carpet Protector is ready to go with introduction to the market last month. This product takes the place of pressure sensitive clear plastic coverings that have created a host of problems for the industry. The new Velcro Brand Carpet Protector is made for use on loop and cut and loop carpet; the vast majority of commercial carpet. Bentley Prince Street is the first carpet manufacturer to offer this unique product.



EnviroStix is an applied poly acrylic adhesive system that can be applied to all hard surface flooring material up to 6 feet wide. EnviroStix allows hard surface flooring to be installed on high moisture concrete surfaces and can be put into use immediately after installation. This installation system really works; it's effective, affordable and EnviroStix will guarantee the installation. http://www.baseking.com/products/envirostix/





Concrete Moisture Testing Technician Certification – Grade I

The International Concrete Repair Institute (ICRI) is pleased to introduce their Concrete Moisture Testing Technician Certification Program. The purpose of this program is to help improve the performance of concrete slab moisture testing in the U.S. to result in more consistent, accurate results that will help flooring manufacturers, architects, and contractors to make better decisions as to when a concrete floor is ready for a floor covering installation.

The certification program has 2 tiers. Tier 1 applicants are those who are not regularly engaged in moisture testing yet have an active interest in learning more about the tests, what the tests mean and how the tests should be performed. Tier 2 applicants are those who have applied for full certification. Both tiers require attendance at a 3 hour educational session followed by a written exam. Tier 2 full certification applicants will also be required to perform each of the 4 tests under the watchful eye of a qualified judge who will not provide any level of coaching. Prequalification for acceptance into full certification Tier 2 will be previous testing experience.

Tier 1 consists of a 3 hour educational session, a written exam and a training session. Those who complete the course and pass the exam will be issued an ICRI Letter of Education. Tier 2 consists of the same 3 hour educational session, the written exam and a field performance exam. By passing both the written and performance exams, an ICRI Concrete Moisture Testing Technician - Grade I certification will be issued to those who successfully demonstrate their knowledge and ability to properly perform and record the results of each of the four field moisture tests on hardened concrete. Those who pass both the written and performance exams will receive a certificate and wallet registration card.

Both the written exam and the field tests will be based on the following four (4) ASTM Standards, including all Annexes and Appendices:

pH Testing
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- F 1869 Measuring Moisture Vapor Emission Rate of Concrete Subfloor Using Anhydrous Calcium Chloride
- F2170 Determining Relative Humidity in Concrete Floor Slabs Using *in situ* Probes
- F2420 Determining Relative Humidity on the Surface of Concrete Floor Slabs Using Relative Humidity Probe Measurement and Insulated Hood

ICRI Certification for Slab Moisture Testing Technician– Grade I shall be valid for a period of five [5] years from the date of completion of all applicable certification requirements.

The two day certification program begins on the first day with registration from 8 - 9 am, followed by the 3 hour educational session. There will be a provided lunch and study break from 12 - 1 pm followed by the written exam from 1-2 pm. Following the written exam Tier 1 students will attend a training session where they may receive or observe hands on training on how to properly perform each of the four tests.

For those registered for the Tier 2 Certification, day two begins at 8 am, and each applicant will be required to perform all 4 ASTM tests listed above.

ICRI currently has six Slab Moisture Testing Technician Certification programs scheduled in 2010.

Atlanta - June 22-23 Denver - June 29-30 Chicago - September 14-15 Baltimore - October 5-6 San Diego - November 15-16 San Jose - November 18-16

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