

Division 3 and Division 9 of Construction Specifications

Most of you should know that Division 9 in a Construction Specification deals with flooring materials but not everyone understands the relationship this has with Division 3. Division 3 covers the concrete substrate on a construction project and Division 9 the finishes, which include the flooring. The two are inextricably linked, particularly on a new construction project and knowledge of both should be understood. Hopefully the information here will aid you in future projects helping avoid problems and keep everyone out of trouble.

There are 50 divisions of construction as defined by the Construction Specification Institute. These divisions are the standard for structuring specifications and other project information in North America, providing a consistent framework for architects, engineers, contractors, and other stakeholders. The standard is the most widely used standard for organizing specifications and other written information for commercial and institutional building projects in the U.S. and Canada. It provides a master list of divisions, and section numbers and titles within each division about a facility's construction requirements and associated activities. Standardizing the presentation of such information improves communication among all parties involved in construction projects. (from Wikipedia). Following are the two divisions that involve flooring finishes and concrete substrates.

Division 3 covers all aspects of concrete work for a project.

Division 3 lists items that would typically be relevant to the flooring installation. The flooring contractor/installer doesn't usually attend the pre-pour meeting for the slab but if it does happen some issues affecting the slab and flooring installation could be addressed ahead of time. With the changes in the mix design of concrete occurring at light speed and the increased use of Type 1L cement, it is imperative the flooring contractor know what type of concrete they are dealing with. [ACI Guide 302.1R](#) is a good reference guide for a lot of this information. This guide describes how to produce high-quality concrete slabs-on-ground and suspended floors for various classes of service. It emphasizes such aspects of construction as site preparation, concrete materials, concrete mixture proportions, concrete workmanship, joint construction, load transfer across joints, form stripping procedures, finishing methods, and curing. Flat/level requirements and measurements are also outlined. A thorough preconstruction meeting is critical to



facilitate communication among key participants and to clearly establish expectations and procedures that will be employed during construction to achieve the floor qualities required by the project specification which is why the flooring contractor/installer should attend this meeting. It is also important that supervision and inspection are required for job operations, particularly those for finishing so the concrete and the flooring installation are not compromised. It is more important today, with Type 1L cement and all the other changes that are occurring with concrete on what seems to be a daily basis.

Some of the information contained in Division 3 is as follows:

- Floor flatness and levelness requirements. The time to get this right is during placement and finishing, and it will have a big impact on some projects if it is not right. Levelling a floor after the fact can be difficult and expensive.
- Type and placement of reinforcing. For slabs-on-grade, prefabricated, heavier gauge, welded wire reinforcing is preferred over rolled fabric since it will be easier to keep in the right location. Supporting the reinforcing is important but make sure the supports won't damage the vapor retarder.
- Selecting an appropriate mix design for concrete, and these change frequently vary from one geographic location to another or as changes in concrete are introduced or accepted.
- Selecting an appropriate admixture package to reduce the water content and limit shrinkage.
- Specify a vapor retarder complying with ASTM F1745 for slabs-on-grade. Detailing instructions for the vapor retarder are important to improve continuity and reliability.
- Select an appropriate curing method for the concrete. Curing is required, but it is best to limit the use of wet cure and curing compounds to promote drying and reduce the risk of bonding issues. Moisture retaining covers are a good option.
- Consider finishing of concrete. Hard trowel is typical for floors but may not be necessary or desirable depending on the types of finishes included in Division 9. A "fuzzy finish" is most appropriate for achieving good adhesive bond as well as allowing moisture to vacate the slab. Hard troweling has the opposite effect.
- Coordinate the placement of construction, isolation, contraction, expansion, and control joints with desired architectural finishes. Moving joints must be honored up through the flooring so their placement can be important for final aesthetics. Consider requiring a shop drawing of these joints in the concrete Specification.
- Requirements should be in place to protect the slab and keep it as dry as possible during construction and prior to the installation of flooring materials.



THE COMMERCIAL FLOORING REPORT

Lewis G. Migliore—President

P: 706.370.5888 or Email: lgmtcs@optilink.us

[Just Click Here to Go to Our Website for All CFR Articles](#)

LGMANDASSOCIATES.COM

***LGM* and Associates**

**Experts in Everything Flooring
From Substrates to Surfaces**

**No Issue is too Big, too Small or
too Far Away for Us to Handle**

Complaint Determination, Consulting,

Resolution of Flooring Issues

Concrete/Moisture Issues and

Certified Product Testing

Dispute Resolution, Legal/Litigation

Assistance, and Proffered Expert Witness

Project Assistance

Develop Flooring Specifications and

Product Sample Evaluation

"When No One Else has Answers,

We Do"

*Just click the image below or search under
Lew Migliore and let's connect on LinkedIn!!*

Linked in

**FLOOR
COVERING
INSTITUTE**

**Professional
Testing
Laboratory
Inc.**

fuse
COMMERCIAL FLOORING ALLIANCE

starnet
worldwide
COMMERCIAL FLOORING PARTNERSHIP

FLOOR DETECTIVE

Page Layout By: Anita S. Drennon

There are also two things you need to know about concrete. It is never dry, and it always cracks. And, so you know, no matter what the RH or CaCl test results read when taken, and they are only a snapshot of the moment at that place and time, the conditions do and will change. It is best to use an electrical induction meter, such as Tramex, to test anywhere and everywhere on the concrete before installing the flooring material.

Division 9 pertains to interior finishes and where we're concerned, flooring particularly where it defines conditions for substrate and preparation, the flooring material to be used, how it is to be installed, etc. Each construction project is different so the specifics of each application, installation and the types of materials will be unique to that project but fall under what defines that division. Below is what encompasses the information included in Division 9 of a Construction Specification. I'll share with you the information I wrote into a general specification for a million square foot building as an example. The spec itself is 12 pages long and contains everything from the type of flooring material desired, but not the specific flooring products, to maintenance. This spec was detailed and realistic without being burdensome, that is, it had specifics that are rarely, if ever, covered in a spec to protect the client and the providers of material and services. Covered in the spec were carpet tile, broadloom, vinyl and rubber flooring specifications— not the specific products themselves but the specifications they should meet such as size, face fiber, backing, etc. Also, quality assurance from the manufacturer that the product submitted met the spec and was appropriate for the application so something didn't get sold into the space that wouldn't work.

Division 9	Finishes
09050	Basic Finish Materials and Methods
09100	Metal Support Assemblies
09200	Plaster and Gypsum Board
09300	Tile
09400	Terrazzo
09500	Ceilings
09600	Flooring
09700	Wall Finishes
09800	Acoustical Treatment
09900	Paints and Coatings

NeverStrip®
FLOOR COATINGS
21st Century Floor Care Technology™

**Restore
scratched LVT
Flooring with
NeverStrip
Micron Sealers.**

NeverStrip Micron Sealers have been protecting all types of non-carpet flooring across North America for over 12 years. These sealers are cost-effective, refreshable, and require no stripping for reapplication.



Dallas, Texas office building floor

Learn More



Approved Vendor Partner



NeverStrip.com

Click on this Ad to Visit NeverStrip's Website for More Information

Nor would what was specified get substituted by someone trying to get a different product in. With a million square foot project the blood was in the water creating a feeding frenzy and all the sharks want to attack. To that we address the manufacturer's qualifications, their warranty and ask for product submittals. Regardless of the job size this information is just as important on every commercial flooring project.

Candidates who qualify for the project would then have their submitted products tested by us to insure they comply with the product specified and with their manufactured specification – just to make sure everything is what it is supposed to be. Once the final product selection is made and before it ships to the site, samples of that product are tested to make sure they comply with the spec. No one, not the architect, end user or manufacturer, wants to find out later what they thought was; wasn't. Any adjustments to bring the product into spec at this point are fairly easy to make as flooring manufacturing specifications can vary for any number of normal reasons and they can typically be brought into line with minor adjustments.

Mockups are an important part of the project specification whether new construction or renovation. They give a real indication of what a product will do on the floor under conditions it will be subjected to, and a comparison can be made between the considered products to see which one actually works the best. Laboratory testing is very telling and necessary but there's no test like reality to determine what the product actually looks like when put in use. Better to know that up front than to find out later.

Laboratory testing is just that, laboratory testing. It is important and can yield telling results. Language we use is this – "It must be noted that the samples received for testing represent a small portion of the overall product installed, or to be installed, on the job site. They may or may not reflect the specific attributes of the concern conditions being exhibited. Further, testing is conducted according to ASTM or specific test protocols, in a limited time frame and does not replicate job site conditions." And the tests are done on a few samples from a project that includes thousands of square feet.

Also in the spec was the inspection of the material before it ships. We do this regularly on projects, watching the product being manufactured and taking samples to test, which the manufacturer does also. Putting checks and balances in place ensures everything is what it's supposed to be. Manufacturers have no issues with this because the process helps all parties involved comply with the specs and avoid problems.

Next, we go to the flooring contractor/labor portion of the spec that is, Flooring Contractor and Installer Qualifications. Here it's stated that the flooring contractor must be capable of a project of this size, have the wherewithal to comply with the specs and be a viable business and meet specifications relative to that. The same goes for the installers. The spec can say who specifically is qualified. After all, this is a specification which deals with specifics of products, labor, conditions, and so forth. It is perfectly appropriate for the specification to say exactly what the writer and end user wants it to say to protect the end users' interests. You wouldn't want a pilot of a small propeller plane to be piloting a passenger jet – he can fly but not with the big boys.

The spec would also call for meetings with all relevant parties in attendance so that all aspects of the project can be discussed including the flooring guys at the pre-pour meeting – as mentioned earlier relative to Division 3. The meetings may be regular weekly sessions or conducted as needed. There is nothing more important than for all the parties communicating to prevent any problems from occurring and to decide on the strategy and logistics of the installation. Communications should virtually eliminate any chance of a flooring installation failure. As in any relationship, communication is of the utmost importance to prevent problems. Meetings should also be conducted with the flooring product suppliers as well and they should be included in the process; everyone must be onboard. The meetings should also deal with the sequencing of the installation and materials, scheduling of the work and what goes where and how and staging the work. It is advised that the installation and flooring materials, starting with substrate prep products, be monitored so that any issues or concerns be addressed and corrected before the job is completed to avoid major failures and prevent any finger pointing. To this we say document everything, every step of the way and take pictures and – most importantly – communicate and take nothing

for granted. There are programs you can use to do this easily and it is eminently important.

Delivery, handling and storage must also be in the spec so the strategy for receiving the flooring products and getting them to the job site must be known and provisions made.

It is important the area receiving the flooring is free of all other trades and materials so the installation can be undertaken and completed according to the manufacturers and industry's standards.

Substrate conditions must also be a part of the spec, and this portion of the spec will very much coincide with Division 3. Here information on the concrete, additives, curing agents and finishing are important if the building is new. If not then the current conditions of the concrete, moisture testing, bond testing and finishing and flatness must be included. All of this has to do with floor prep as well. Using agents in the concrete or contamination from job site conditions that prevent flooring materials from staying down is becoming a very big problem. So again we see the correlation between Division 3 and Division 9.

Installation methods for each flooring material must be included and defined and for determining the installation warranty. This is why qualified, experienced and seasoned flooring contractors and installers should be on the job so an installation can actually be provided by a firm with crews that have a history of excellence and service and can provide an installation warranty. And why you should do bond tests - with the introduction of new flooring products and PVC free flooring that doesn't always want to stick to the substrate. You don't want to wait until an installation fails to find out it didn't want to stick with what you were using or at all for that matter.

The installed flooring material should be protected during further construction and move in to prevent the flooring from being damaged. Any leftover materials of significant size should be left for any future repair or changes in the space as overage. Old materials removed should be recycled as well as left over new material scrap – this is an aspect of the spec that is very important today and to make sure no flooring goes to a landfill that shouldn't.

Division 9 of any specification will be specific to that particular project. Though many aspects of division 9 will be the same, or should be, such as floor prep, environmental conditions, substrate testing, protection and clear space to work in. There will be information that would define a particular project and specific to that project such as when the work is to be done, if the operation getting flooring is a 24/7 business, like a hospital or call center or any unique aspects of the facility receiving flooring.

Following the guidelines and using the correct products should ensure a flooring project that goes smoothly, with all parties working together, to deliver a satisfactory and long lasting installation.

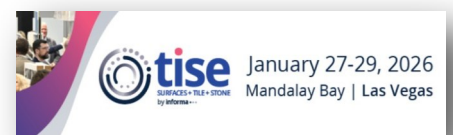
If you have questions about a project, need consulting or spec writing help, or help looking at a concrete mix design, or have a problem that needs to be resolved or tests conducted on materials or floors, we do that and we're happy to help you.

Come and see me at Surfaces where I'll be doing a presentation on:

Reducing the Risks of Flooring Failures—Wednesday, Jan 28 2:00 PM - 2:50 PM

Session Description: - Flooring failures are the bane of the industry, for whatever reason, be it installation, defective product, the wrong product in the wrong place, substrate conditions, or environmental influences - the list goes on. The increase in new products, with a variety of characteristics and now more PVC free products, present unique challenges for the flooring dealer, installer and contractor. The importance of knowing as much as you can to avoid flooring failures and drains on your business profits is imperative. This program will offer you insight, information and examples of what to avoid and what happens when you don't. This is information you'll not get anywhere else, in an independent, unbiased and objective presentation.

[Click the Photo to Register](#)



LGM's clients are not manufacturers but flooring contractors, general contractors, construction attorneys and major commercial end users. Our concentration is strictly in the commercial market, but we're here to help anyone. As was said by one of the leading flooring manufacturers years ago and still holds true today, "LGM are not the guys you want sitting on the other side of the table."

As professional industry consultants we are hired by clients to provide expert advice and guidance to solve specific flooring problems, prevent them or improve performance.

We have a deep knowledge, extensive experience, and a decades long proven track record in the flooring industry, earned through years of practice, leadership, and study.

Our team's experience and credentials in the flooring industry are irrefutable and second to none when the objective is to find out what went wrong, why, who's at fault and how do you fix it.

When you have a question on a flooring related issue, or a problem you need help with, we have the independent, objective, unbiased, correct information that can help you.



CLIMIT™
Real-Time Site Monitoring

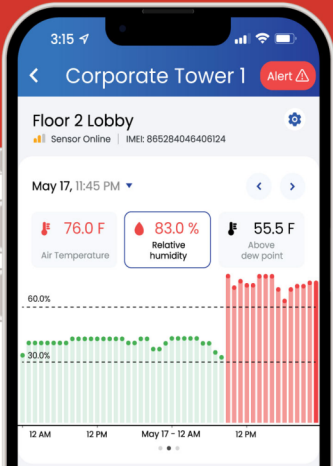
POWERED BY
FLOORCLOUD™

verizon
partner network

Stop Temperature & Humidity from Eroding Your Profits!

Visit www.climit.com or call us at 617-395-1668

- ✓ **Live mobile alerts when conditions on site are out of standards.**
- ✓ **Very simple to use!**
- ✓ **Share objective data with owners or general contractors.**
- ✓ **Generate reports withing seconds.**
- ✓ **No WIFI, Bluetooth or power needed.**



Sys²tem®

Moisture Vapor Barrier



Features / Benefits

- Speed up your construction schedule with a faster, easier, and less expensive installation technology
- Eliminates the need for moisture testing, expensive mitigation procedures and ineffective admixtures or topical treatments
- Eliminate moisture related flooring failures
- Easy to apply, fast, effective and economical
- Excellent for correcting substrate moisture related failures

Contact - Nance Carpet - Kimberlee Cloer <kimberlee.cloer@nancecarpet.com>

Click Photo to Visit Website

Commercial Flooring Report

Ad Size and Pricing	519 Oxford Street • Dalton, GA 30720—lgmtcs@optilink.us—706.370.5888
CFR Provides the most Coverage and Best Value for Your Advertising Dollar Link to Your Website is Embedded in Your Ad All Three Ad Sizes Can be Customized to Your Liking Free to Recipients - Sharing and Posting to Your Website is Encouraged Pertinent and Relevant Information in Each CFR Issue Totally Green – No Paper Used for Publication Over 100,000 plus Readers and Growing Archived on LGMandAssociates.com and other Websites Just Click Here 	
Ad Size—1" x 2" \$ 4,000—12 Issues \$ 335—per Issue	Ad Size—5" x 3.5" \$ 9,600—12 Issues \$ 800—per Issue
Ad Size—3.5" x 3.5" \$ 6,000—12 Issues \$ 500—per Issue	

<https://lgmandassociates.com/>