

CLOSING THE GAP

New specification bridges concrete, floor covering trades

BY CHRIS MASKELL



For decades, there has been misunderstanding and dispute around what an acceptably flat substrate surface is and who on the construction team is responsible for providing it. Trying to figure this big-ticket item out after budgets are set and contracts awarded can be a painful and expensive process, especially when it is likely no one in the mix will have carried the cost to take on the work.

New or existing concrete slabs scheduled for a floor covering like rubber, vinyl or linoleum will ultimately require that deviations in surface flatness (undulations) not exceed manufacturers' tolerances — usually $\frac{3}{16}$ -inch over a 10-foot length (4.5 millimetres over three metres) — before the floor covering installer takes over to begin their work. Any low or high spots that exceed this tolerance will need to be corrected by others.

But who?

The floor covering installer does not correct undulations greater than $\frac{3}{16}$ -inch over 10-feet nor level concrete because it is not within their scope of work. This is the concrete trade's work and is referred to as dry concrete finishing. Floor covering trade apprenticeship training programs do not include correcting deformed concrete slabs. As well, most flooring contractors are not setup to deal with concrete on this scale, so

they don't have the necessary specialized equipment or skillset.

However, floor coverers are expected to carry out minimal surface preparation, such as filling minor dents and divots often using a one or two-millimetre thick skim (or scratch) coat of a cementitious product over an otherwise acceptable surface. (Skim coats do not attempt to level or flatten a subfloor.) Slabs that are poured to specification by the concrete trade at the beginning of a project, typically 3/8-inch over 10-feet, naturally change shape while they cure and dry. They deflect (sag) as shoring (support) is removed from beneath and new loads are placed on them. Concrete that may have met spec when placed (early in construction) no longer meets spec months later, and one or two skim coats is not going to fix it.

INDUSTRY DISCONNECT

Correcting concrete deformation is a big deal because it can impact the structural aspects of a slab.

So, why doesn't the concrete trade just pour a flat slab?

For the most part, they do pour flat slabs that meet their specification requirement. But that requirement does not meet the needs of the floor covering trade. Measurement of the concrete surface takes place 72 hours after wet concrete finishing using the floor flatness/floor levelness (FF/FL) value system, according to ASTM standard E-1155. Measurements stop two feet from walls, construction joints and support columns, and don't pass through doorways. Because of this, significant issues can remain for the floor covering installer after spec is met. Meanwhile, floor covering product manu-

facturers require flatter, stricter tolerances from wall-to-wall and throughout the space.

This disconnect in the construction process is made worse by ambiguous or incomplete specifications, which allows for the misassumption that a naturally deforming slab will still be flat enough for the floor covering installer to start work and they'll pick up where the last trade left off by 'patching and grinding as necessary' as part of their installation scope. Instead, correction is required by a specialized trade (dry concrete finishing), separate contract and budget, and should be planned early on at the design stage before contracts are issued.

WORKING TOGETHER

As the newly placed concrete changes shape over the months following placement, getting the concrete flat to meet the next trade's needs (flooring) is the responsibility of the constructor (general contractor). They will need to price, schedule and contract the necessary work because both the concrete and flooring contractors won't have carried the cost to prepare a slab that has become out of tolerance since being poured.

What is needed is the right language being placed into Division 1 of the architectural specifications where constructors can take note of the requirements and include the cost (or secure a cash allowance) for corrective work in their bid for a project. With a budget that anticipates providing flatness of 3/16-inches over 10-feet to the installer,

the project stands a chance of avoiding slab rejection.

To this end, a cross-section of industry experts met over a 16-month period to discuss the issue. Out of the meetings came agreement that a specification that clearly identifies the requirements would be one approach to help solve the problem. Structural engineers, cement manufacturers, architects, specification writers, general contractors, concrete forming, placing and finishing trades, flooring manufacturers and floor covering contractors had input into the development of an industry-wide solution.

The new concrete spec satisfies all involved when it comes to delivering an acceptable concrete slab. It removes the ambiguities that have led to this multimillion-dollar problem, often described as the gap between Division 3 (concrete) and Division 9 (flooring). The spec addresses not just flatness/levelness but a host of issues, including surface porosity and profile, temperature, moisture, other testing requirements and more. It introduces minimum industry standards that help guide the process and places responsibility to pay subcontractors for this work with the constructor. Use of this new specification ensures everyone can bid equally, plan accordingly, avoid delays and expensive extras to ultimately deliver a quality product, on time and on budget. The spec, along with education to support it, is available for free download at www.nfca.ca/new-concrete-spec.html. ■

Chris Maskell is CEO of the National Floor Covering Association whose mission is to promote industry standards for resilient, carpet, hardwood, laminate, cork and bamboo floor covering installations.

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