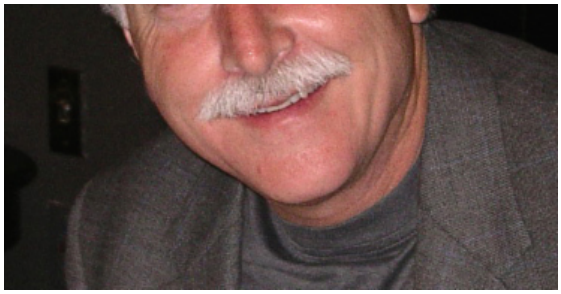
Content One-to-One

Donato Pompo and Richard Goldberg

By **Bart Bettiga** January 1, 2021 346

Leading tile industry consultants

At the Total Solutions Plus Virtual Conference held towards the end of last year, I was honored to participate in a session exploring recent trends from the field with NTCA Recognized Industry Consultants Donato Pompo and Richard Goldberg. In the conversation and subsequent roundtable discussion that took place after the presentation, their insights into many issues related to tile and stone installation were appreciated by the conference attendees. I felt this information was very valuable and should be shared with *TileLetter* readers.



Donato Pompo and Richard Goldberg are recognized by the NTCA as professional tile industry consultants.

Donato Pompo is the owner of Ceramic Tile and Stone Consultants (CTaSC). He also oversees the University of Ceramic Tile and Stone (UofCTS) initiative, offering courses available to purchase by industry professionals (see ad on page 87). Donato grew up in the tile industry, in both installation and distribution, has a background in biochemistry, and worked for an adhesive manufacturer before venturing into consulting, quality control, and forensic investigations. His company is based in Southern California, but performs inspections all over the country.

Richard Goldberg is the owner of Professional Consultants International, LLC and PROCON Consulting Architects, Inc. He was the NTCA Ring of Honor recipient in 2014 for work he performed on its Technical Committee and the development of documents for the *NTCA Reference Manual*. He is a registered architect for more than 40 years, and he also worked in the allied products industry for tile installation materials before getting into the consulting industry more than 20 years ago. His company specializes in not only the tile and stone industry, but also in masonry, concrete, waterproofing and exterior cladding systems, including ventilated tile facades, direct adhered systems, and more.

The following are highlights of this conversation that took place at Total Solutions Plus.

When you are called to investigate tile and stone installations from a forensic standpoint, what are some of the more common tests that you conduct to determine what is causing an installation problem or failure?

Pompo: It is important to identify a problem on a job and not focus on the symptom, because there are often many factors involved when something is wrong. It is never our intent to condemn a project. We look for options to preserve the project, where repairs and remediation can be done to solve the problem. Some of the tests we perform include a tensile pull test, to determine how well the material is bonded to the substrate. This is a way to determine coverage or excessive voids that are not bonded.

Goldberg: Another common test is conducted with an electronic moisture meter, which measures moisture content in the top one inch of a cementitious surface. It basically tells you whether there is a problem with moisture content, which would require further investigation. We also perform core tests often where we drill through the full tile assembly, take the cores into a lab, and evaluate the entire system.

Pompo: We also perform tests in the quality control process. We can inspect surfaces for proper slope that meets industry standards and requirements for a successful installation. We also test the surface of the concrete for flatness and levelness, as well as if there are any bond breakers or need for scarification and grinding.

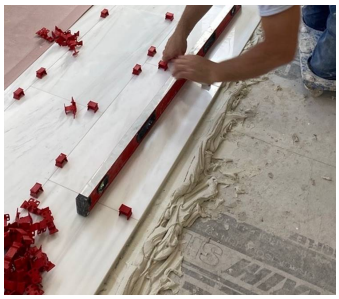
Common tests that industry consultants conduct include checking for moisture in the substrate and testing an assembly for adhesive bond and performance.

Goldberg: One thing to point out is that we are finding that more than ever before, we are being asked to play the role that a tile contractor should be playing. We are often asked to advise, direct and even at times to perform some of the work in the field. In the past, we used to just advise our clients, but today we are often asked to do more. For whatever reason, it appears that the skill level in the field is starting to diminish and this is a concern.

When it comes to preparing the concrete surface for a tile installation, many of our members are asking how you communicate to the general contractor and concrete contractor what type of finish the concrete contractor should apply to the substrate so that it is suitable for tile.

Goldberg: We advise that contractors avoid all steel troweled finishes. We typically say that a fine broom finish or a wood float finish is sufficient and our industry doesn't need a super flat or smooth slab because in the concrete contractor's mind this is what tile contractors need. But in reality you don't want a hard steel troweled surface to set to because you are likely to wind up having to provide additional scarification and surface preparation to make it suitable so that the tile can be adhered to the concrete.

When considering the top reasons why installations fail – or at least why you as consultants are called out to investigate a problem – is coverage of thinset the most often cited cause?



Inappropriate use of material – such as using thin-set mortar to build up or level a substrate – is a common error made in the field.

Pompo: One of the things to understand is that when there is a failure, it is generally never due to just one deficiency. It is usually multiple factors that impact the project in a negative way. An example could be that you might not have proper movement joints applied on a project, but there also could be contaminants to the substrate, and you might also have a lack of adequate coverage that does not meet industry standards. We try to look at all of this and not pinpoint any one thing and then stop. This is all part of the quality control process, where we randomly pull up tiles and check for things like coverage and bonding. Although coverage is an issue, there are other factors also that impact a bond, including the type and quality of mortar being used for the tile. It is also important to note that coverage doesn't just impact bond. Voids in coverage can create moisture and mold issues as well.

Goldberg: In addition to understanding and selecting the proper mortar and grout for the application, another big factor is awareness during the bid process of the amount of preparation that will need to take place to bring walls and floors into tolerance.

Pompo: Agreed. They often find out the substrate is not adequate and then discussion centers on who is going to pay for this to be fixed. Often what happens is the tile contractor tries to fix the problem with inadequate materials, like thinset that is not designed for leveling. When companies cut corners like this, problems undoubtedly follow.

Goldberg: Lippage or an unevenness from tile to tile is another big problem in our industry. The most important thing I can say about lippage is that everyone needs to meet on a construction site to discuss realistic expectations related to this issue. Despite the fact that there are standards, people don't understand what that means as it relates to tolerances that are acceptable in both the installation and the tile manufacturing process with regards to its warpage. You have to take into consideration all the factors in both the design and the construction and agree in writing what is acceptable lippage.

Pompo: We actually also recommend to installers when they are starting a job to often install a mock up or a small amount of tile with the requested grout joint width. And then meet with everyone to discuss whether this acceptable or if adjustments need to be made like opening up the grout joint or further substrate preparation needs to be approved. Lighting can also significantly affect lippage and this needs to be discussed and addressed as well.

Spot bonding with mortar on walls and floors has become a significant issue in recent years. The NTCA has published a document on page 268 in the 2020/2021 NTCA Reference Manual to address this.

It seems like the problem of spot bonding is getting worse. NTCA created a document in our *NTCA Reference Manual* advising against this practice. What are your observations about why spot bonding on both walls and floors is occurring, and is it as big of a problem as we think it is?

Goldberg: It is a problem and it seems to be increasing. When walls are out of plumb or floors are not in tolerance, this is when we see this occur. I really don't understand how tile contractors think that using mortar in dollops or spots can be acceptable. We see this on both walls and floors, and the results are a black eye for the tile industry.

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Bart Bettiga is the Executive Director of the National Tile Contractors Association and Publisher of TileLetter. Bettiga is a member of the Board of Governors of Coverings, one the largest tradeshows in North America. He has over 30 years of experience in the tile and stone industry and has served as the NTCA Executive Director since 2002. He is a well known speaker and author on ceramic tile and natural stone distribution and installation. He oversees the financial operations of the NTCA, TileLetter and the Ceramic Tile Education Foundation.