

To Core ... Or Not To Core?

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We all know that hardened concrete is very permeable and will absorb many liquids and other unwanted chemical contaminants such as oils, fuels, battery acids, and food processing fluids -- just to mention a few.

But how do you tell, conclusively, if the substrate is “clean” enough for your coating or flooring system?

If the concrete has never been covered or coated, then these types of contaminants may be very visible as staining or discolorations on the surface, especially after floor prep. If there has been a floor covering installed and then removed it may be hard if not impossible to tell if there are further contaminants lurking down in the concrete.

Most epoxy, adhesive, and resilient flooring manufacturers have a requirement in their respective installation literature: “The concrete must be clean, absorptive and stain-free prior to installation ...”. The product warranty will also be linked to this requirement.

This leaves it up to the installer to “know” whether the substrate is clean or not ... and whether there is a “bond breaker” lurking beneath the surface.

About the only way to know conclusively is to take a core sample and have it analyzed by an independent lab.

I can hear all the groans now. “We don’t have the money, the time or the inclination to take a core. Do we have to”? These are the main objections to coring that we have heard through the years. And we have been in your shoes.

Taking a core and having a lab analyze it used to be a very expensive proposition. An individual core could cost upwards of \$5,000 for analysis! Therefore coring was used mainly in forensic testing to point blame for a failed floor.

Today, core testing prices (as well as the methods employed) have come a long way. Methods and protocols have been perfected that tell us exactly what constituents are in that particular concrete slab. And they have become relatively inexpensive at ~\$700 per core.

Think of the costs involved with a catastrophic failure of a flooring system -- even on a 10,000 sq ft slab. Floor system removal. Remediation of the concrete contaminants. Reinstallation of the flooring system. Then add possible liquidated damages (down time and lost revenues). A failure due to contamination can get very pricy ... very rapidly. A failure may even force a company out of business.

We should also be aware of the limitations of coring and analysis.

A core is only good for a particular piece of concrete. So when you do core, make sure that you try to capture a very dirty or darkened stain when taking the sample.

Taking one core sample and having it come back as “clean” is no guarantee that the rest of the floor is also clean. But it does show that you have done your due-diligence in trying to determine whether the slab is suitable to receive the coating or flooring system.

We All Have a History

An additional way to identify potential hazards in a concrete slab destined for a new flooring system is to ask around.

What was the facility used for in the past? What is its history? Was it ever a warehouse, an auto garage, or a food-processing plant? Did the facility ever have animals in it? Was it previously a restaurant? A medical clinic?

You will be surprised what you can learn by just asking around the area, especially if the facility has been vacant for a time. Ownership records also help.

Remember that when it comes to a floor failure, the courts will try to hang the subsequent liability on the installer. “You are the professional, you should have known” is the phrase that reverberates in legal circles.

So do yourself a favor. Don’t roll the dice. Minimize the potential for failure. Concrete is the most complex substrate there is. Be prudent.

Educate your customers about the advantages of taking core samples and gathering a detailed history of the facility’s prior use. Such due diligence ultimately protects their renovation project, their investment, and their future business operations.

When there is no budget for investigation and the alarm bells are ringing loud and clear, it may be better to just walk away.



Call, email or Skype us with your questions about testing protocols, recommendations for where to have your cores tested, what your lab test results reveal, and recommendations for what installation protocols to follow.

We’re tethered to our electronic devices to assist you ... customer or not.