4001502 CONCRETE STRUCTURES – FINISHING CONCRETE
COMMENTS FROM INDUSTRY REVIEW

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Comments:
Another comment about the new class 5 coating specification is that the coverage rate of 50 +- 10 sq ft/ gallon does not meet most manufacturers recommend coverage rates. With my product Tammscoat, which was very close in meeting the unused 2008 specification (Only failed the 5% urea immersion)should be applied at 80 to 100 ft2/gal. Applying this product at 40 to 60 ft2/gal will not allow for it to breathe properly promoting possible coating failure. I would like the section for coverage to be worded to allow for manufacturer's recommendations for their coating to meet the FDOT Spec. I also commented on still requiring the impact resistance and elongation to the new spec.

Response: Andrew, thanks for taking the time to review this revision. I am not convinced that it is in the Department's interest to allow coatings at thinner application rates. This topic will require more research before I am willing to sponsor a change to long term practices. I did not feel it necessary to include elongation and impact resistance as part of the revised Section 975 since elongation is normally tested on steel panels and this material is not intended to be used on steel substrates. Unlike steel girders and moveable objects, class 5 coatings are usually applied to structures after placement and do not incur the usual impact damage associated with erection.

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Jeff Moore
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Comments:
Text: To avoid confusion or different interpretations, change the last sentence of 400-15.2.64 to read "The finished coating should yield a coverage of 50 +/- sq ft per gal, regardless of the number of applications."

Response: The department requires one application of 40-60 ft2/gal. Successive coats will not meet this requirement.

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Otto Drozd
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Comments:
Type: None
Text: 4001502 400-15.2.6.4 Application The proposed change to apply at a rate of 50 +- 10 can not be achieved in the Field on a single coat. Either call for a two coat system or go back to the

manufacturers recommendations 80 to 120.

Response: The Department requires one coat applied at 40-60 ft2/gal. Manufacturer's on the QPL are required to provide coatings that meet this requirement.

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Comments:
The stated FDOT rate of coverage may not comply with the manufacturers printed recommendations for all available textures. Application at a rate not within the tolerable rate defined by the manufacturer may lead to substandard surface finish or system failure when using a smooth texture. Have all the available textures for each product listed in the QPL been tested to meet FDOT field qualifications per section 975? Has FDOT had field mock-ups performed using smooth texture to determine that all coatings in the QPL can reasonably meet the rate requirement satisfactorily? Will the manufacturers void their warranties if the product is not applied within the boundaries they have established? We have performed field tests on pre-cast concrete panels during daylight hours using a smooth texture and have experienced severe mud cracking, craters, & blisters. Since multiple textures (smooth, fine, coarse, & xcoarse) are available for each of the products listed please define what is the coating texture intended by the specification.

Response: The Department requires one coat applied at 40-60 ft2/gal. Manufacturer's on the QPL are required to provide coatings that meet this requirement.

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Comments:
BASF is the worlds's largest chemical company. We manufacture coatings for a wide range of industries from Bridge builders to Auto Assembly plants. Our coatings are generally formulated to a performance specification such as durability, color retentions, salt resistance, resistance to mildew growth etc. We feel the DOT spec change that will requires that all class 5 coatings be applied at 50 +/- 10 square feet per gallon may cause harm to FDOT. Specifically, our coatings meet all FDOT performance requirements when applied according to our manufacturers instructions. By telling the contactor to NOT FOLLOW the Manufacturers instruction and instead just apply the coating at 50 feet sq.ft. per gallon the DOT then assumes liability for

coating failures. We formulate, test, and prove materials to meet our clients performance requirements. When installed per our instructions the client will get good results and all that he has paid for. When materials are not installed according to the manufacturers instructions, the end result is not predictable. Tell us what PERFORMANCE you need. Allow industry to formulate to meet that need. Some will formulate with advanced chemistry that enables faster, easier, safer installations. Others will use older chemistry that focuses on lowest possible product cost. However, regardless of formula The application thickness of the coating does not determine the durability or performance of the coating. Overly thick applications of some coatings (50 sq ft per gal) will cause sagging, mud cracking, slow cure, FALSE CURES with flash sets on the outside of the coating while vapor drives push from the inside of the coating - causing bubbling. Install the coatings according to the manufacturers recommendations with the requirement that FDOT PERFORMANCE requirements be 100% met when applied according to the manufacturers instructions. I would like to discuss this in greater detail. Thank you

Response: FDOT has used this specification for many years. The Department requires one coat applied at 40-60 ft2/gal. Manufacturer's on the QPL are required to provide coatings that meet this requirement.

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Comments:
For the Concrete Coatings Industry Review (4001502)

> **400-15.2.6.4 Application:** Apply the finish coating in a manner *utilizing a method* recommended by the manufacturer. When applying the finish coating by spraying,
> supply heavy duty spray equipment capable of maintaining a constant pressure necessary for
> proper application. Mix, apply, and cure all coating materials in accordance with the manufacturer's printed instructions. Apply the finished coating at a rate of 50 ±10 ft^2/gal.

I still think that the finished coating needs to be based on a thickness vs a rate of application. As you can see from the chart below the application rates for the manufacturers all over the place. Thorocoat doesn't even have a product that is applied 40-60 ft^2/gal. Tammscoat doesn't really either, because the product that gets to that is specified at two coats 80-100, to get to the 40-60.

So are the specifications contradicting themselves…the QPL says all the products below are qualified to be used on our projects, the specs say to follow the manufacturer's

recommendations, and that the finished coating should be applied at a rate of 50 ±10 ft2/gal . What if the manufacturer does not recommend 50 ±10 ft2/gal? What should the contractor follow, the manufacturer's recommendation or the specs?

There are so many different types of finishes now that a contractor has to figure out with type of coating to apply: smooth, fine, coarse. And it's not as simple to pick the one that is applied at 50 ±10 ft2/gal .

	smooth		medium	fine		coarse	extra coarse	smooth	medium	fine	coarse	extra coarse
unit	ft^2/gal							mils				
Texcote XL-70	80-120			40-50		50-60	30-40			x-15	15-x	
Texcote Bridgecoat 300	80-120			40-50		50-60	30-40			x-15	15-x	
Thorocoat	75-100			75-100		75-100		8-6		11-8	11-8	
Tammscoat (2 coats, porous)	80-100	80-100		50-65	60-75							
Tammscoat (2 coats, smooth)	80-120	100-130		75-100	85-100							
Modac Acrylic Texture Coating	53-74		60-84	58-81		54-75		10-14	10-14	10-14	13-18	

Response: The Department requires one coat applied at 40-60 ft2/gal. Manufacturer's that seek QPL status are required to provide coatings that meet this requirement.

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