

5600000, Coating Structural Steel

Comments from Industry Review

Joe Mori

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Comments:

1. Section 560-2.6; For clarity, identify what this primer is proposed to be used for.
2. Section 560-6.4; This section requires that contractors field inspectors be at minimum a NACE level 1 or SSPC Level 1 Bridge Coating Inspector and that they report directly to a NACE Level 3 or an SSPC Level 2 Coating Inspector. Considering only field painting of new structural steel the requirements of SSPC QP1 only require that the QC Supervisor has successfully completed formal training in coating inspection. Per the QP1 program training programs include one or more of the following: SSPC PCI, BCI, NBPI, KTA Level 1, NACE CIP Level 1 or CCC&L Level 1. The 560 specification, as written, will require that a contractor maintain a NACE Level 3 inspector or SSPC BCI Level 2 under contract or on payroll even when work is not being performed. This could become very expensive & difficult to maintain particularly for smaller contractors. It is not required per the QP1 program that field inspecting personnel have NACE Level 1 or SSPC BCI Level 1 or that inspections be reported to a NACE level 3 or SSPC BCI Level 2. Can this section be relaxed to require only compliance with the QP1 program as written?
3. Section 560-7.1; Removing caulking and weld spatter as contaminants. On occasions new structural steel has caulking that was applied by the fabricator at the shop to meet specifications. In addition weld spatter that remained under the zinc primer is sometimes visibly present. In both of these cases the steel was previously inspected and approved for shipment by QC inspections at the shop level. In these cases will removal be required as stipulated in the section? Please clarify.
4. Section 560-7.2; Similar to number 3 above. Is this section applicable for new structural steel?
5. Section 560-7.3; On new zinc primed steel is solvent cleaning of all steel necessary? On new steel this has typically been performed only at field splices during preparation for priming of nuts, bolts, & washers.
6. Section 560-7.4; Is washing of all steel on new zinc primed steel an absolute requirement? If so what will be the cleanliness requirement standard for new zinc primed steel that will be

required? May we suggest WJ-4. Additionally, for new zinc primed steel what will be the required pressure. May we suggest Low-Pressure Water Cleaning (LP WC).

7. Section 560-7.5; Per this section salt tests are required after washing & between each coat. Please consider, for new zinc primed steel, that after the initial tests are performed prior to the first coat subsequent tests will be required between coats only if the time between coats exceeds 30 days or some other time at the states discretion. This will reduce the cost of testing. Keep in mind that testing requires not only the personnel and countless tests kits but the equipment to access the area and all the MOT & safety procedures that must be considered. Will the state also consider requiring only the first initial three tests on new steel with zinc primer if the tests are shown to be within the allowed threshold?

8. Section 560-7.6; Please identify if this section only applies to existing steel recoat.

9. Section 560-7.7; In new zinc primes steel this section would typically apply for the priming of field splice bolts, nuts, & washers and small abrasions to the zinc. Since these surfaces are typically primed with an aluminum epoxy mastic will the state allow preparation to meet the manufacturers printed requirements which is the use of SP 1, SP 2 & SP 3 for loose mill scale in lieu of specified SP 11? Furthermore will the state identify Aluminum Epoxy Mastic as an acceptable product for remedial field priming of bare steel or abraded zinc primer on new zinc primed steel?

10. Section 560-9.7; Are field applied stripe coats required on new zinc primed steel? This will dramatically increase the cost of painting new steel.

11. Section 560-9.9; Is testing for material cure necessary for new steel painting? Manufacturers recoat times shall be followed for application of finish over intermediate & zinc primer is required to be fully cured prior to transport to site.

12. Section 560-9.10; A small variation in color can be expected when manufacturers product multiple batches on a single project. Can the state revisit this requirement? With regards to variations in gloss & texture, uniformity in gloss & texture of the finis are in direct relation to the uniformity of the base coat or zinc primer. It is commonly known and accepted that inorganic zinc primers do not exhibit a uniform gloss or texture when sprayed, particularly on large continuous area's such as a steel webs. Spray patterns and dry spray are common conditions produced when spraying zinc primer. Therefore we ask that this requirement be revisited. A small amount of Orange Peel on the finished surface should also be tolerated since the products are in most cases being applied using airless equipment at a rate sufficient to comply with a stated thickness and under varying ambient conditions. Please also revisit this requirement.

13. Section 560-13; Is this section applicable for field painting of zinc primed new steel? As a QP1 contractor environmental compliance plans are provided, monitored, & enforced. In

painting of new steel (Intermediate & Final coats) the degree of generated waste is minimal. This section seems to apply more for coating removal hazards.

In general I feel that many procedures are over specified and will only lead to higher costs without necessarily ensuring a better product. If asked, I would prefer FDOT separate the specification for painting of new steel from recoating of existing. This often leads to misinterpretation of the spec by field inspectors and contractors.

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Comment:

Pay Item 560- 2 was blocked in 1999. Please remove it from the specification, along with the compensation information for payment per ton.

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Comments:

Text: In section 560-8.4, first sentence "..that are not be coated.." add a to? In section 560-9.1: Field apply the final coat finish. What about steel strain poles and mast arms? Do you intend for the final coat to be field applied?

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Comment:

(1) Article 560-7.51.3 Soluble Salts Detection and Removal: Typically, the standard discussed in the BCI course for nitrates has been 7ug/cm2. This specification lists 10ug/cm2. Is it the intent to utilize the 10ug/cm2 value?

(2) Article 560-8.2 Surfaces to be in contact with Concrete: Recommend that the surface is to be prepared in accordance with the Contract or the coating manufacturers recommendation. Also recommend that the primer be recommended by the coating system manufacturer for compatibility.

(3) Article 560-7.2 Mechanical Removal of Surface Defects: Recommend adding verbiage to address grinding sharp edges of corroded members. Sharp areas, even if coated properly, typically corrode quicker than the remaining member. Smoothing the edges of these corroded areas that are not removed during abrasive blasting is beneficial.

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Comments:

Section 560-5.3 - This could be an issue having to have an engineer 'observe' the calibration (s) of the inspection equipment. Possession or ownership of the proper inspection equipment and calibration standards should be part of their submitted QC Program.

Section 560-6.3 and 6.4 - While I'm a supporter of NACE, this will get very costly for the applicators having to have someone Level 1 and then requiring a Level 3 Supervisor. Since all the fabricators have their AISC Sophisticated Paint endorsement and considering that they are required to take a yearly training session for All their shop personnel (such as the training sessions we've been doing), would this not suffice. For the field painters, a Level 1 or 3 inspector as part of their staff should be the only requirement.

Section 560-7.5 - For new work where all the coating systems are applied in the shop and within a reasonable period of time, a chloride, sulfate and nitrate test *should* only be required on the bare steel. Even in field applications, it should only be required on the bare steel or when the primer is applied in the shop and a period of time has elapsed before the following coats are applied. I don't understand what they would prove by doing the tests over each coat.

Section 560-7.7 - The wording is a bit confusing here.

Section 560-9.11 - How would a fabricator be able to define these areas when bidding a project?

Section 560-9.5 - Phrasing should be added to use only the recommended thinners as listed on the manufacturer's PDS.

Section 560-11.1 - As to the blast profile, again some phrasing should be used to have a 'minimum of 1.5 mils' or as recommended on the manufacturer's PDS.

- Carboline recommends that the implementation date for the proposed changes to FDOT section 975 be moved to 1 year from the date that the proposed changes are officially incorporated by FDOT to allow sufficient time for the coating suppliers to address panel

preparation and lab testing of the proposed coatings by an independent lab (e.g. the salt fog testing requires 5000 hrs or ~ 7 months).

- Carboline recommends that the implementation date for the proposed changes to FDOT section 560 be moved to 6 months from the date that the proposed changes are officially incorporated by FDOT to allow sufficient time for product applicators/fabricators to incorporate these proposed changes into their programs.
- Carboline recommends that the section 975 spec indicates the manner in which outdoor testing will be addressed as it relates to coating approvals. Historically, a coating company would receive a conditional approval of their coating systems if the systems meet the requirements of the lab testing matrix. If the conditional approval concept applies, Carboline is requesting that FDOT define the terms of the conditional approval within the scope of the section 975 specification document.

Jeff Moore
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Comment:

Requiring the pollution control submittal (560-12.2.4) and containment system submittal (560-12.3) at the preconstruction conference is not realistic for all projects. If the project is phased in which the operation will not occur for a year, flexibility needs to be included to ensure a proper plan is submitted.

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Comment:

The Product Evaluation Office has identified that the QPL reference was deleted from this specification. The Department is requiring that all Division II specifications identify the QPL, therefore it needs to be replaced. 560-2 Materials. 560-2.1 Coating System: Use only coating products and systems meeting the requirements of Section 975 and listed on the Departments Qualified Products List (QPL). In addition, the reference to the Type M epoxy needs to include a QPL reference. If there are any other QPL category products identified, they will need the reference added too.

Rudy Powell

Comments:

560-2.1. Add “and listed on the Department’s QPL for coating of permanent bulkhead sheet piles and H piles” to the last sentence for clarity. The last sentence should read “Use Type M coal tar epoxy coatings meeting the requirement of Section 926 and listed on the Department’s QPL for coating of permanent bulkhead sheet piles and H piles.”

560-2.5. Is the certification absolutely required or is it unnecessary paperwork? If it is required, then who is to certify and what exactly is the certification? Is it a form, a letter, etc.?

560-3.2. Is this subarticle really needed?

560-5.2. Is 60 calendar days needed or can this be shortened?

560-5.3. What inspection equipment? Consider stating something like “such as but not limited to”

560-6.1 and -6.2. Is 60 calendar days needed or can this be shortened?

560-6.3 and -6.4. The requirements for shop and field are exactly the same. Is this correct?

560-6.5. Would work be stopped if a certification expired but there was another individual with a certification who could perform that work? This subarticle needs to be clarified. Also, I suggest deleting “and liquidated damages will apply” because this is covered elsewhere in the specifications and is not needed here.

560-9.1. In the 3rd paragraph what is “as needed?” I suggest either being more specific or deleting.

560-9.8. In the 2nd paragraph I suggest changing “written procedures” to “recommendations.”
