

1. 462-7.4.2.1.4(4620000 POST-TENSIONING
COMMENTS FROM INTERNAL/INDUSTRY REVIEW

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Comments: (5-22-15)

462-2.4 Other Material References, All the materials identified on the APL need to be marked with an asterisk and the asterisk comment added stating “Use products listed on the Department’s Approved Products List (APL).

Response:

Paul Vinik
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Comments: (5-27-15, Internal)

1. 462-7.4.2.1.4(5) Equipment:

If 90% of absolute vacuum is what is desired, then why not just state it. Calculation is given for in Hg or psig, but what if contractor uses inches of water or mmHg or a gauge with other pressure units. This seems cumbersome.

experienced operators available within 48 hours notice. ¶
→ → → → → 5. For vacuum assisted injection, provide vacuum pump equipment able to measure and have sufficient capacity to ensure a minimum of 90% vacuum in the PT system prior to filler injection. Provide continuously running vacuum pump or vacuum reservoir capable of maintaining vacuum during the wax injection process. Percent vacuum in the PT systems is calculated as: ¶
→ → → → → → $100 \times \text{Vacuum Gauge Pressure} / 29.92 \text{ in Hg}$ ¶
→ → → → → → or ¶
→ → → → → → $100 \times \text{Vacuum Gauge Pressure} / 14.7 \text{ psi}$ ¶
¶
→ → → → → 6. Ensure that all injection and inspection equipment is

Response:

2. 462-7.4.2.1.4.3(2)(a) Vacuum Wax Injection:

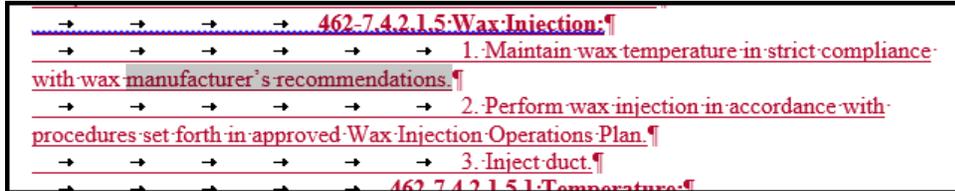
This rating will be pressure specific. For example, a pump may be rated for 10 ft3/min at 10 psia but only 5 ft3/min at 5 psia and each pump will have a pump curve relating power and operating conditions. Should this be accounted for in the previously stated requirement?

→ → → → → 2. For vacuum assisted injection, provide vacuum wax injection equipment meeting these minimum requirements: ¶
→ → → → → → a. Vacuum pump with a minimum capacity of ten cubic feet of air per minute equipped with a vacuum pressure gauge. ¶
→ → → → → → b. Hoses, vacuum reservoirs, and connections required for attachment to the PT system. ¶

Response:

3. 462-7.4.2.1.5 Wax Injection:

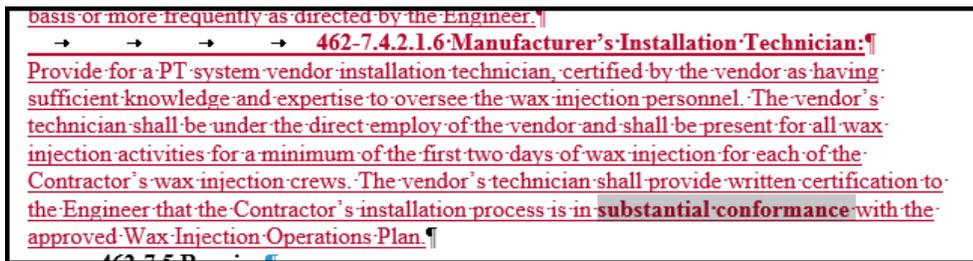
Is a letter from the manufacturer recommending alternative conditions than what is stated on the product data sheet sufficient? If not, then I suggest in compliance with the manufacturer's published product data sheet. In the structural steel coatings arena, manufacturers will recommend whatever the contractor wants with little resistance.



Response:

4. 462-7.4.2.1.6 Manufacturer's Installation Technician:

Is substantial conformance good enough? Why not complete conformance?



Response:

Anonymous

Comments: (6-3-15)

This may sound petty, but if you are using a sequential number and decimal system to categorize the specs and you propose to change a lower tier section from (a) to a number such as 462-2.2.2.1 (a) to 462-2.2.2.1 (1.), should it not actually be 462-2.2.2.1.1 and NOT 1. Just seems like a complete waste of time.

Response:

Pat McCann
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Comments: (6-4-15)

462-1 includes: "1)a. Use only approved PT systems meeting the requirements of Section 960 and selected from the Structures Design Office (SDO) website for Approved Post-Tensioning

Systems. (2)b. Use only PT systems of appropriate type and size required to construct tendons shown in the Contract Documents."

1. Is the use of flexible filler considered an un-bonded tendon? If so they won't you need to add a category of approved PT systems that are Un-bonded/Internal?

Response:

2. Suggest some language be added to this section to say: Provide filler material (grout or flexible filler) as required by contract documents. The plans should also include the type of filler required.

Response:

D5 Construction

Comments: (6-22-15)

1. **462-1 bullet 6.:** "Provide sufficient test data to verify that the work..." sufficient to who? The engineer?

Response:

2. **462-7.4.2.1.6:** "Provide for PT system vendor installation technician, ... The vendor's technician shall provide written certification to the Engineer that the Contractor's installation process is in substantial conformance with the approved Wax Injection Operation Plan." Where does the QC fit here? What if the QC is not in agreement, who takes precedence?

Response:
