PCI Plant Quality Talk
Quality Enhancement Committee

PCI
Precast/Prestressed Concrete Institute

SERIES 3, ISSUE 1 – PRESTRESSING STRAND TRACEABILITY

MNL-116 and MNL-117 require that prestressing strand used in pretensioned applications meet ASTM A416/A416M, *Standard Specification for Low-Relaxation, Seven-Wire Steel Strand for Prestressed Concrete* for uncoated strand and ASTM A882/A882M, *Standard Specification for Filled Epoxy-Coated Seven-Wire Prestressing Steel Strand* for coated strand.

Requirements

- Each coil must have tags indicating the heat number that ties to a mill certificate. Each mill certificate must indicate the strand meets ASTM specifications.
- Plant testing of strand is not required if heat numbers and mill certificate indicate the strand meets ASTM specifications.
- Certificates must be kept on file for at least five years after usage date.
- Incoming strand shall be inspected for damage, excessive scaling, and pitting.
- Light rusting that can be removed with finger pressure or light rubbing is allowable. A good test is to try to remove the rust with a pencil eraser. Rust that can be removed in this way is acceptable. Do not use the strand if there is pitting.
- At least annually, the plant should verify that it has evidence on file that the strand being used has been tested in accordance with ASTM A1081/A1081M, *Standard Test Method for Evaluating Bond of Seven-Wire Steel Prestressing Strand*. The strand manufacturer should be able to provide ASTM A1081/A1081M test data upon request.
- Tensioning records are required to identify date of use, bed location, pack number, jack equipment, and other information. (Refer to MNL-116 Section 6.3.3 for full requirements.)

Best Practices

- Have a comprehensive mill certificate cataloging program within the Quality Department of your company.
- Upon receipt of prestressing steel, review the mill certificates from the supplier for conformance with the purchase requirements (e.g., size, area, modulus of elasticity, steel grade).
- Store unopened packs in a safe, secure area, off the ground.
- Ensure accurate daily record keeping of strand usage.
- Educate plant personnel about the importance of strand pack identification tags.

Other Resources

For additional information on the acceptability of rust on steel prestressing strand, reference Sason, A. S. 1992. “Evaluation of Degree of Rusting on Prestressed Concrete Strand.” *PCI Journal* 37(3): 25-30. https://doi.org/10.15554/pcij.05011992.25.30.

Note: Please complete this form and return to the Quality Control Manager. All crew members should be observant and report to their foreman anything out of the ordinary on a project. See something, say something.

NOTES	ATTENDEE SIGNATURES
_____ DATE _____ PRESENTER	_____ _____ _____ _____ _____ _____