



Prestressing Concrete – General – Materials

Revision and Approval

Revision	Date	Nature of Changes	Approved By
0	11-16-2018	Original issue.	Steve Altman

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Background

Prestressing materials are a major element and component of Structure Construction (SC) work. This process establishes SC responsibilities and procedures for inspecting and authorizing all prestressing materials that are incorporated into the structure.

Review and authorization of materials for prestressing steel and anchorage systems is usually performed in conjunction with Materials Engineering and Testing Services (METS) and coordinated with the METS Representative.

Review and authorization of prestressing submittals is performed per [BCM 50-1.01C](#), *Prestressing Concrete – General - Submittals*.

Process Inputs

1. [Form CEM-3101](#), *Notice of Materials to be Used and per the [Standard Specifications \(SS\)](#)*¹
2. Contractor-submitted prestressing materials, including:
 - a. SS 50-1.02B, *Prestressing Concrete – Materials – Prestressing Steel*
 - b. SS 50-1.02C, *Prestressing Concrete – Materials – Grout*
 - c. SS 50-1.02D, *Prestressing Concrete – Materials – Ducts*
 - d. SS 50-1.02E, *Prestressing Concrete – Materials – Vent*
 - e. SS 50-1.02F, *Prestressing Concrete – Materials – Permanent Grout Caps*
 - f. SS 50-1.02G, *Prestressing Concrete – Materials – Debonding Sheathing*

¹ 2015 SS, Section 6-1.01, *Control of Materials – General*.

g. SS 50-1.02H, *Prestressing Concrete – Materials – Anchorage System*

Procedure

1. All work associated with this process is charged as [Project-Direct – Construction](#).
2. Inspection of field work for this process is:
 - a. [Benchmark](#) for review and authorization of materials delivered to the jobsite.
3. Before construction begins:
 - a. Confirm that the Contractor has submitted [Form CEM-3101](#), *Notice of Materials to Be Used*, for all prestressing materials.
 - b. Materials not released by METS can be field released by using [Form CEM-4102](#), *Material Inspected and Released on the Job*.
 - c. Accept cement by the *Certificate of Compliance* per 2015 SS².
 - d. Confirm that the Contractor understands that materials inspection from METS is requested using [Form TL-38](#), *Inspection Request*.
 - e. Discuss materials release procedure with the METS Representative:
 - i. Determine which materials will be released using [Form TL-28](#), *Notice of Materials to be Inspected at Job Site*.
 - ii. Determine which materials will be released using [Form TL-29](#), *Report of Inspection of Material*.
 - iii. Confirm the materials for which METS will issue [Form TL-608](#), *Notice of Materials to be Furnished*.
 - iv. Refer to the [Prestressing Manual](#), Appendix C, *Inspection Checklist*, for additional information on material release procedures.
4. During construction:
 - a. Review and verify authorized prestressing materials delivered to the job site prior to installation.
 - i. Review all materials for conformance with the requirements of the contract specifications.
 - ii. Refer to Caltrans *Prestress Manual* for additional information for inspecting prestressing materials.
 - iii. Field release materials inspected using Form TL-28, *Notice of materials to be Inspected at Job Site*.

² 2015 SS, Section 90-1.02B(2), *Concrete – Cementitious Materials – Cement*

- iv. Materials not released by METS can be field released by using form CEM-4102, *Material Inspected and Released on the Job*.
- v. Collect inspection release tags (Form TL 0624, *Inspection Release tag*) from materials delivered to the jobsite. Refer to *Prestress Manual*, Appendix C, *Inspection Checklist*.
- vi. For prestressing strands, collect release tags and A-area and E-modulus of elasticity numbers.
- vii. Compare inspection release tag with information on Form TL-29, *Report of Inspection of Material*, note Lot Numbers, quantity and date of release.

Review references include:

- [*Caltrans Prestress Manual*](#), Section 3, *Prestressing Ducts* thru Section 6, *Strand Wedges*.
- viii. Verify corrosion inhibitors meet contract requirements. Ensure product data sheet and a material safety data sheet are provided.
 - ix. Verify corrosion inhibitors are used in accordance to 2015 SS³ and refer to [*BCM 50-1.01D\(3\)*](#), *Prestressing Concrete – General – Quality Assurance – Department Acceptance*.
 - x. Check storage site for adequate protection of all prestressing materials.
- b. Document all inspection, construction, quality assurance, and field review of all prestressing materials in the Daily Reports per [*BCM C-4.04*](#), *Daily and Weekly Reports*.

Process Outputs

1. Authorized prestressing materials, ready for installation
2. Daily Reports
3. Completed field release form CEM-4102 and Certificates of Compliance

Attachments

None

³ 2015 SS Section 50-1.01D(3), *Prestressing Concrete – Quality Assurance – Department Acceptance*