

# THE CED TAGLINE

Construction Engineering Department

Modification Inspection

VOLUME 2 | NOVEMBER 2018

did you know?

### PRE CONSTRUCTION DOCS

Did you know some Crown districts require all pre-construction documents to be submitted to the MI Inspector prior to construction starting?

### REJECTED SHIPMENTS

Did you know that some general contractors will reject material shipments if the MTRs are not provided on/before the material is delivered?

### MATERIAL SIZE

Did you know that the MTR may show material that is larger than what is specified? The material will be cut during fabrication to meet the size requirements of the design.

### MATERIAL GRADE

Did you know that material can meet the minimum requirements of more than one material grade? When this occurs the material may be listed as multi-grade and would show all material grades that the material satisfies the minimum requirements for.

## Material Test Reports (MTRs)

Material Test Reports (MTRs) are used to verify that the material specified for a construction project meets the design specifications and to verify that the material a contractor is about to install meets the specification in the contract documents. Gathering MTRs as early in the construction project as possible ensures that changes can be made prior to construction starting. MTRs can be available as early as when the material is ordered and no later than when the material is delivered to the site. GCs should work with their material suppliers and fabricators to inform them MTRs are required during the pre-construction phase. Setting these expectations when ordering material or when selecting suppliers will help drive consistency.

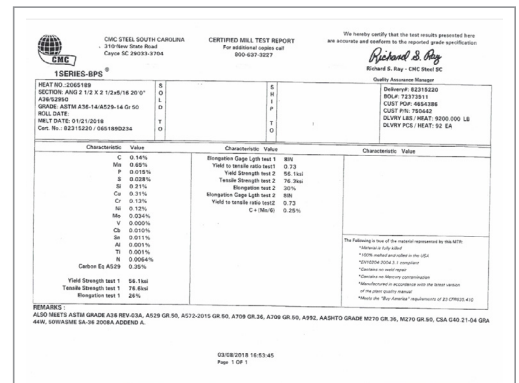
### MTRs - What to look for

Material Test Reports contain a lot of information, sorting what information is relevant can be a challenge. A few key pieces of information should always be confirmed.

**Material Size:** Material size should meet the design specifications.

**Material Grade:** Material should meet the design specifications or an approved alternative.

**Unique Identifier (Heat No.):** This identifier is unique to the batch of material and would be a key data point in the event that flaws were later found in the material or Crown needs to trace material via packing slips and MTRs.



### MTR Closeout Requirements

From Modification Inspection SOW CED-SOW-10007, Materials used that shall have an associated MTR include, but are not limited to:

- Structural Steel
- Structural Bolts
- U-Bolts
- Guy Wire
- Turnbuckles
- Shackles
- Anchor Rods
- Channel
- Port Holes

MTR submission is preferred but not required for the following materials:

- Nuts
- Washers
- Thimbles
- Wire Rope Clips

**Audit Trend:** MTRs and packing slips associated to EOR approved changes are one of the most often missed MTRs and packing slips.



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## did you know?

### CALIBRATIONS

Did you know that equipment used to measure tensions and twist shall be calibrated per the manufacturer's recommendations? This is a change from the previous requirement of every 12 months.

### SUBCONTRACTORS

Did you know that guy wire work cannot be subcontracted without approval by Construction Engineering? The sub is required to complete the qualification process and be listed on the Prime GC's approval letter.

### CEC-FRM-10261

Did you know that CED-FRM-10261 Tension, Twist, and Plumb Tool is required for MI Closeouts? This form cannot be substituted with any previously released forms.

### HARDWARE

Did you know that new shackles and turnbuckles must be supplied by The Crosby Group or Van Beest? Any substitutions without prior written approval by the EOR and Crown is cause for automatic rejection.

### SCREW PIN MOUSING

Did you know that on existing screw pin shackles the GC is required to install mousing?

## Tension, Twist, and Plumb

### Qualification Process

Many years ago when adjusting guy tensions was part of the modification scope of work Crown Castle would task our Modification Inspectors with checking the tensions during their inspection. This requirements led to inconsistent and contradictory results as compared to the General Contractor's reports. In many cases the Inspector was using different equipment and performing their inspection in different conditions than the GC which created these conflicts preventing the closeout of a job. To prevent this conflict Crown instituted it's qualification process which can be found in CED-PRC-10182 Qualification Requirements For General Contractors Performing Tension, Twist, and Plumb. Since all guy wire work must be performed by qualified vendors the MI is no longer requested to check tensions during their inspection, but they must collect and review documentation and photos.



### White Board Photos

Per Section 8.1.10 in CED-STD-10261 Guy Wire Construction and Tension, Twist, and Plumb the GC is required to take white board photos of the tensioning process. These photos are submitted to the MI for review and inclusion in the MI report. These photos and their associated review replace the need for the MI to perform a hands-on inspection of the tensions. Without good photos Crown nor the MI are able to accept the work without evaluating the risk associated.

### New Approved Shunt Style Tension Meter

A new tension meter has come to the market, the Straightpoint Colt2 Clamp On Line Tensionmeter! After an extensive review and field testing Crown Castle is now approving this product for use on our towers. For more information please visit [www.straightpoint.com](http://www.straightpoint.com).

