





# UPF POST-INSTALLED ANCHORS INSPECTION RECORD

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**Section 5 – Inspection Attributes (If N/A is checked, the remainder of the attribute block may be left blank)**

Attribute No.	Inspection Attributes	Anchor Type Applicable To	Initial/Date		Remarks
			FE/PI	QCE	
1	Drilled Hole Dimensions, Drill bit Manufacturer: _____	All Types			Manufacturer diameter: _____ Actual diameter: _____
2	Anchor Hole Cleanliness	All Types			
2a	Size, type, and manufacturer	All Types			
3	Maximum Embedment <input type="checkbox"/> N/A	All Types			
4, 5	Adhesive Expiration Date, Setting Time, and Rod Length <input type="checkbox"/> N/A	Adhesive Only			Setting Time Begin: _____ Rod Lg.: _____
6, 7	Undercutting Tool (Drill/Bit Size) and Hole Depth is Correct Prior to and After Undercutting <input type="checkbox"/> N/A	Undercut Only			
8	Setting Load (lbs): _____ <input type="checkbox"/> N/A	Undercut Only			
9	Tensioning Load (lbs): _____ OR Torque (ft-lbs): _____ <input type="checkbox"/> N/A	Undercut Only			
10, 11, 12	Anchor Type: _____ Diameter: _____ Length: _____	All Types			
13, 14, 15	Location, Minimum Embedment, Edge Distance, and Spacing (Including Relocated and Abandoned Anchors)	All Types			
16	Angularity from Perpendicular (Visual after Installation)	All Anchors			
17	<b>Torque Test?</b> <input type="checkbox"/> Yes <input type="checkbox"/> N/A M&TE No.: _____ Torque Wrench Setting (ft-lbs): _____ Cal. Date: _____ Cal. Due Date: _____ Anchors Acceptable? <input type="checkbox"/> Yes <input type="checkbox"/> No	Wedge, Undercut, or Sleeve Anchors			
18	Projection after Setting _____ inches <input type="checkbox"/> N/A	Undercut Only			
19	<b>Tension Test (Hydraulic Gauge)?</b> <input type="checkbox"/> Yes <input type="checkbox"/> N/A M&TE No.: _____ Gauge Reading (psi):: _____ Cal. Date: _____ Cal. Due Date _____ Ram ID/Type: _____ Ram Area (sq. in.): _____ Test Load Req.(lbs): _____ Test Load (lbs): _____ Anchors Acceptable? <input type="checkbox"/> Yes <input type="checkbox"/> No	Drop-In., Adhesive, or Undercut			



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20	Detailed Location of Tested Anchor(s) (provide sketch if necessary)
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### Section 6 – Failed Anchors

Are there any failed anchors?       Yes       No

If Yes, complete Section 9.

### Section 7 – Activities Complete

<b>FE:</b>	<hr/> <i>Print/Type Name</i>	<hr/> <i>Signature</i>	<hr/> <i>Date</i>
<b>QCE/PI:</b>	<hr/> <i>Print/Type Name</i>	<hr/> <i>Signature</i>	<hr/> <i>Date</i>

### Section 8 – Record Review

<b>PFE (or designee):</b>	<hr/> <i>Print/Type Name</i>	<hr/> <i>Signature</i>	<hr/> <i>Date</i>
<b>QCL (or designee):</b>	<hr/> <i>Print/Type Name</i>	<hr/> <i>Signature</i>	<hr/> <i>Date</i>



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**Section 9 – Failed Anchor Location** (provide sketch if necessary)

<b>Bldg/Location:</b>	<b>No. of Inspected Anchors:</b>	<b>No. of Acceptable Anchors :</b>
<b>Location:</b>		
<b>Reason for Failure:</b>	<b>Repair Steps Taken:</b>	

**Section 10 – Inspection Attributes for Reinstalled Anchors** (Oversize replacement anchors require approval on an FCR)  
 (If N/A is checked, the remainder of the attribute block may be left blank)

Attribute No.	Inspection Attributes	Anchor Type Applicable To	Initial/Date		Remarks
			FE/PI	QC	
1	Drilled Hole Dimensions, Drill bit Manufacturer: _____	All Types			Manufacturer diameter: _____ Actual diameter: _____
2	Anchor Hole Cleanliness	All Types			
2a	Size, type, and manufacturer	All Types			
3	Maximum Embedment <input type="checkbox"/> N/A	All Types			
4, 4a, 5	Adhesive Expiration Date, Setting Time, and Rod Length <input type="checkbox"/> N/A	Adhesive Only			Setting Time: _____ Rod Lg.: _____
6, 7	Undercutting Tool (Drill/Bit Size) and Hole Depth is Correct Prior to and After Undercutting <input type="checkbox"/> N/A	Undercut Only			
8	Setting Load (lbs): _____ <input type="checkbox"/> N/A	Undercut Only			
9	Tensioning Load (lbs): _____ OR Torque (ft-lbs): _____ <input type="checkbox"/> N/A	Undercut Only			
10, 11, 12	Anchor Type: _____ Diameter: _____ Length: _____	All Types			
13, 14, 15	Location, Minimum Embedment, Edge Distance, and Spacing (Including Relocated Anchors)	All Types			
16	Angularity from Perpendicular (Visual after Installation)	All Anchors			
17	<b>Torque Test?</b> <input type="checkbox"/> Yes <input type="checkbox"/> N/A  M&TE No.: _____ Torque Wrench Setting (ft-lbs): _____ Cal. Date: _____ Cal. Due Date: _____  Anchors Acceptable? <input type="checkbox"/> Yes <input type="checkbox"/> No	Wedge, Undercut, or Sleeve Anchors			
18	Projection after Setting _____ inches <input type="checkbox"/> N/A	Undercut Only			



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Attribute No.	Inspection Attributes	Anchor Type Applicable To	Initial/Date		Remarks
			FE/PI	QC	
19	Tension Test (Hydraulic Gauge)? <input type="checkbox"/> Yes <input type="checkbox"/> N/A <div style="text-align: right; margin-left: 150px;">Gauge Reading (psi):: _____</div> M&TE No.: _____ Cal. Date: _____ Cal. Due Date _____ Ram ID/Type: _____ Ram Area (sq. in.): _____ Test Load Req.(lbs): _____ Test Load (lbs): _____ Anchors Acceptable? <input type="checkbox"/> Yes <input type="checkbox"/> No	Drop-In., Adhesive, or Undercut			
20	Detailed Location of Tested Anchor(s) (provide sketch if necessary)				

**Section 11 – Remarks**

Check N/A, if there are no remarks and leave this section blank.  N/A



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## Section 1 Post-Installed Concrete Anchor Inspection Report Completion Instructions

	Field	Responsible Individual	Action
<input type="checkbox"/>	DMC No.	DMC	Enter DMC record number.
<input type="checkbox"/>	Discipline	RFE	Enter the discipline of the RFE completing the inspection
<input type="checkbox"/>	Project No.	RFE	Enter Project ID number.
<input type="checkbox"/>	Project Name	RFE	Enter Project name.
<input type="checkbox"/>	M&TE serial No.(s)	QCE/ PI/RFE	Reference M&TE Serial No.(s) in Attributes 17 and 19
<input type="checkbox"/>	Component ID	RFE	Enter Component ID. If no component ID then input N/A.
<input type="checkbox"/>	Bldg / Location	RFE	Indicate building acronym/location. If not building-specific (e.g., road grading, fencing) enter area/location. Insert the location where the anchors will be installed. If component is not uniquely numbered, use elevations, gridlines, column lines, reference from equipment, as required to accurately describe locations. A sketch may also be included, but cannot be the only location description in this block (e.g., "see sketch" is NOT an acceptable location).
<input type="checkbox"/>	Type of Anchors	RFE	Enter the type of anchors inspected
<input type="checkbox"/>	No of Anchors	RFE	Enter the number of anchors inspected
<input type="checkbox"/>	Prepared by/ Date Prepared	RFE	Print name of record originator and date prepared.
<input type="checkbox"/>	Quality Level	RFE	Identify the quality level by checking the appropriate box.
<input type="checkbox"/>	QCE / PI Concurrence	QCE/PI	Print, sign, and date confirming Quality Level.

## Section 2- Pre-Planning Requirement

	Field	Responsible Individual	Action
<input type="checkbox"/>	Submittal No.	RFE	Enter Submittal No. for (14 days) concrete compressive strength test utilized for approval to drill anchors.
<input type="checkbox"/>	CFE Approval Required	RFE/CFE	Check Yes or No to indicated approval. Acquire the signature of the Civil Field Engineer to confirm that the concrete is >14 days and >90% of design strength or that an FCR has been approved. Print name, sign, and date

## Section 3- References

	Field	Responsible Individual	Action
<input type="checkbox"/>	Document/ Drawing No/ Rev No.	RFE	Enter document number(s) that depict the required work including change documents associated with this work Enter document revision numbers (N/A revision for field change documents).



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### Section 4- Review for Embedded Items

	Field	Responsible Individual	Action
<input type="checkbox"/>	Rebar Size/ Spacing/ Orientation	CFE	List rebar size, spacing, and orientation
<input type="checkbox"/>	N/A	RFE	Responsible FE reviews for embeds from applicable design drawings (if none then N/A).
<input type="checkbox"/>	Embeds	Discipline FE	If N/A is not marked, Discipline FE(s) perform review to determine presence of embeds and indicates "No" or "Yes". If "Yes" is indicated, Discipline FE(s) enter the drawing number and revision.
<input type="checkbox"/>	Initial/ Date	Discipline FE	Discipline FE(s) initial and date to indicate a review for embeds has been performed.

### Section 5- Inspection Attributes

(If N/A is checked, the remainder of the attribute block may be left blank)

	Field	Responsible Individual	Action
<input type="checkbox"/>	Inspection Attributes – RFE	QCE/PI/RFE	Inspect applicable attributes and initial and date indicating the attribute(s) meets the requirement(s) of the design output and this procedure. If the attribute(s) does not require inspection, indicate not applicable (e.g., N/A) (initial/date not required).

### Section 6- Failed Anchors

	Field	Responsible Individual	Action
<input type="checkbox"/>	Failed Anchors?	QCE/PI/ RFE	Indicate whether or not there are any failed anchors. If Yes, complete Section 9.

### Section 7- Activities Complete

	Field	Responsible Individual	Action
<input type="checkbox"/>	Activities Completed	QCE/ RFE/PI	Print, sign, and date ensuring activities associated with the work scope are complete, attributes are accepted to the latest revision of the installation documents, technical data is correct, and documentation is complete.

### Section 8- Record Review

	Field	Responsible Individual	Action
<input type="checkbox"/>	Record Review – QCL	QCL or designee	Print, sign, and date indicating document has been reviewed and is complete. If quality level is CC, indicate not applicable (e.g., N/A, initial and date). NOTE: This is a review of record completeness, not a technical data review.

**NOTE: The following Sections are only present if added for Inspection of Failed Anchors**



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## Section 9- Failed Anchor Location (Provide sketch if necessary)

	Field	Responsible Individual	Action
<input type="checkbox"/>	Bldg/Location	QCE/ RFE/PI	Indicate building name. If not building-specific (e.g., road grading, fencing) enter area/location.
<input type="checkbox"/>	No. of Inspected Anchors	QCE/ RFE/PI	Enter the number of inspected anchors
<input type="checkbox"/>	No. of Acceptable Anchors	QCE/ RFE/PI	Enter the number of acceptable anchors
<input type="checkbox"/>	Location	QCE/ RFE/PI	Insert the location where the failed anchor(s) are installed and sketch specific anchor(s). If component is not uniquely numbered, write in elevations, gridlines, column lines, reference from equipment, as required to accurately describe component location(s). A sketch can be the only location description in Section 11, "Remarks" but it must include the items listed above (e.g., "see sketch in Section 11" is an acceptable location).
<input type="checkbox"/>	Reason for Failure	QCE/ RFE/PI	Enter the reason for failure
<input type="checkbox"/>	Repair Steps Taken	QCE/ RFE/PI	Enter the repair steps taken

## Section 10- Inspection Attributes

	Field	Responsible Individual	Action
<input type="checkbox"/>	Inspection Attributes	QCE/ RFE/PI	Inspect applicable attributes and initial and date indicating the attribute(s) meets the requirement(s) of the design output and this procedure. If the attribute(s) does not require inspection, indicate not applicable (e.g., N/A) (initial/date not required).

## Section 11- Remarks

	Field	Responsible Individual	Action
<input type="checkbox"/>	Remarks	QCE/ RFE/PI	If there are no remarks indicate by checking N/A (initial/date). If there are remarks or sketches, insert them in the space provided.



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## *All Installations: Inspection Attributes*

Inspection Attribute	Required Inspection
Attribute 1	Drilled Hole Dimensions. Ensure that the proper size drill bits are used. Drill bits shall be randomly monitored such that they maintain the allowable tolerances. Physical measuring of holes is not required. Installer to record drill bit manufacturer, manufacturer diameter, and actual diameter.
Attribute 2	Hole Cleanliness. Hole cleanliness shall be in accordance with manufacturer's instructions.
Attribute 2a	Verify size, type, and manufacturer in accordance with design output.
Attribute 3	Verify maximum Embedment if specified by manufacturers recommendations. N/A, if not applicable.
Attribute 4, 4a	Verify (4) adhesive expiration date is acceptable and (4a) record the time that setting begins.
Attribute 5	Adhesive Rod Length. Rods for adhesive anchors will not have a length code stamp, therefore, the installer shall verify the total rod length during installation. Record the rod length.
Attribute 6	Length of Undercut Tool Prior to Drilling. See manufacturer's instruction for details. Length of the undercut is to be equal to the required embedment depth of the anchor.
Attribute 7	Undercut is Acceptable (depth & size). Undercut is determined to be dimensionally acceptable if: 1) the undercutting blades pass the "Go/No Go Gage" test, or if verified with calipers, and 2) the undercut is located at the proper depth. Depth of the undercut may be verified by inserting the verified undercut tool into the hole and verifying that the indicator pin slides completely to the end of the slot. A verified undercut tool is one that passes the "Go/No Go Gage" test and is measured such that the distance between the bottom top of the undercutting blades and bearing sleeve is equal to the embedment depth of the anchor. (See manufacturer's installation instructions for details).
Attribute 8	Setting Load: The setting load may be obtained either by hydraulic setting or using the hand bolt setter. If hydraulic setting is used, the pressure is read from the pump gage and compared with the corresponding Table in the manufacturer's installation instructions. If the hand bolt setter is used, the indicator pin is checked to verify it slides fully to the end of the slot per manufacturer's instructions.
Attribute 9	Tensioning Load. Either tensioning load or installation torque may be verified as determined by Construction (it is not required to do both).
Attribute 16	Angularity (degrees from perpendicular). Visually inspect after installation by ensuring proper seating of the nut and washer. NOTE: Mechanical aides will be combined with visual inspection.
Attribute 17	Installation Torque. Verify torque with a calibrated torque wrench. For Maxibolts, Construction has the option of testing the anchor by torque (Attribute 17) or by direct tension testing (Attribute 19). If Maxibolts are hydraulically tensioned, per Attribute 9, then installation torque does not need to be verified.
Attribute 18	Anchor Projection After Setting. Maxibolt projection after setting is within a tolerance of plus 1/2 inch to minus 1/4 inch. Projection is taken as overall length minus the embedment length.
Attribute 19	Direct Tensioning. For Maxibolts, Attribute 19 may be waived if the anchor was hydraulically tensioned (Attribute 9) or if torque verification is performed after installation per Attribute 17.
Attribute 20	Detailed Location. For all anchors, provided an accurate location to within 1 inch of the installed location, based on stationary, reproducible reference points (e.g. column lines, survey coordinates, elevations). This information may be in the form of a sketch.