

| SPECIAL INSPECTION AND VERIFICATION OF STEEL CONSTRUCTION | | | | | |
|---|--|----------------------|------------------------|--------------------------|----------|
| SPECIAL INSPECTION REQUIRED Y/N | VERIFICATION AND INSPECTION TASK | TYPE OF INSPECTION | | REFERENCED STANDARD | COMMENTS |
| | | QUALITY CONTROL TASK | QUALITY ASSURANCE TASK | | |
| 1. INSPECTION TASKS PRIOR TO WELDING: | | | | | |
| Y | a. WELDING PROCEDURE SPECIFICATIONS (WPSs) AVAILABLE. | P | P | AISC 360 TABLE N5.4-1 | |
| Y | b. MANUFACTURER CERTIFICATIONS FOR WELDING CONSUMABLES AVAILABLE. | P | P | | |
| Y | c. MATERIAL IDENTIFICATION (TYPE/GRADE). | O | O | | |
| Y | d. WELDER IDENTIFICATION SYSTEM. | O | O | | |
| Y | e. FIT-UP OF GROOVE WELDS (INCLUDING JOINT GEOMETRY): | O | O | | |
| | 1) JOINT PREPARATION. | | | | |
| | 2) DIMENSIONS (ALIGNMENT, ROOT FACE, BEVEL). | | | | |
| | 3) CLEANLINESS (CONDITION OF STEEL SURFACES) | | | | |
| | 4) TACKING (TACK WELD QUALITY AND LOCATION) | | | | |
| Y | f. CONFIGURATION AND FINISH OF ACCESS HOLES. | O | O | | |
| Y | g. FIT-UP OF FILLET WELDS: | O | O | | |
| | 1) DIMENSIONS (ALIGNMENT, GAPS AT ROOT) | | | | |
| | 2) CLEANLINESS (CONDITION OF STEEL SURFACES) | | | | |
| | 3) TACKING (TACK WELD QUALITY AND LOCATION) | | | | |
| Y | h. CHECK WELDING EQUIPMENT. | O | --- | | |
| 2. INSPECTION TASKS DURING WELDING: | | | | | |
| Y | a. USE OF QUALIFIED WELDERS. | O | O | AISC 360 TABLE N5.4-2 | |
| | b. CONTROL AND HANDLING OF WELDING CONSUMABLES. | | | | |
| Y | 1) PACKAGING | O | O | | |
| | 2) EXPOSURE CONTROL | | | | |
| Y | c. NO WELDING OVER CRACKED TACK WELDS. | O | O | | |
| Y | d. ENVIRONMENTAL CONDITIONS: | O | O | | |
| | 1) WIND SPEED WITHIN LIMITS | | | | |
| | 2) PRECIPITATION AND TEMPERATURE | | | | |
| Y | e. WPS FOLLOWED: | O | O | | |
| | 1) SETTINGS ON WELDING EQUIPMENT. | | | | |
| | 2) TRAVEL SPEED | | | | |
| | 3) SELECTED WELDING MATERIALS | | | | |
| | 4) SHIELDING GAS TYPE/FLOW RATE | | | | |
| | 5) PREHEAT APPLIED | | | | |
| | 6) INTERPASS TEMPERATURE MAINTAINED (MIN/MAX) | | | | |
| 7) PROPER POSITION (F, V, H, OH) | | | | | |
| Y | f. WELDING TECHNIQUES: | O | O | | |
| | 1) INTERPASS AND FINAL CLEANING. | | | | |
| | 2) EACH PASS WITHIN PROFILE LIMITATIONS. | | | | |
| | 3) EACH PASS MEETS QUALITY REQUIREMENTS. | | | | |
| 3. INSPECTION TASKS AFTER WELDING: | | | | | |
| Y | a. WELDS CLEANED. | O | O | AISC 360 TABLE N5.4-3 | |
| Y | b. SIZE, LENGTH, AND LOCATION OF WELDS. | P | P | | |
| Y | c. WELDS MEET VISUAL ACCEPTANCE CRITERIA: | P | P | | |
| | 1) CRACK PROHIBITION | | | | |
| | 2) WELD/BASE-METAL FUSION | | | | |
| | 3) CRATER CROSS SECTION | | | | |
| | 4) WELD PROFILES | | | | |
| | 5) WELD SIZE | | | | |
| | 6) UNDERCUT | | | | |
| Y | d. ARC STRIKES. | P | P | | |
| Y | e. h-AREA. | P | P | | |
| Y | f. BACKING REMOVED AND WELD TABS REMOVED (IF REQUIRED). | P | P | | |
| Y | g. REPAIR ACTIVITIES. | P | P | | |
| Y | h. DOCUMENT ACCEPTANCE OR REJECTION OF WELDED JOINT OR MEMBER. | P | P | | |
| 4. INSPECTION TASKS PRIOR TO BOLTING: | | | | | |
| Y | a. MANUFACTURER'S CERTIFICATIONS AVAILABLE FOR FASTENER MATERIALS. | O | P | AISC 360 TABLE N5.6-1 | |
| Y | b. FASTENERS MARKED IN ACCORDANCE WITH ASTM REQUIREMENTS. | O | O | | |
| Y | c. PROPER FASTENERS SELECTED FOR THE JOINT DETAIL: | O | O | | |
| | 1) GRADE | | | | |
| | 2) TYPE | | | | |
| | 3) BOLT LENGTH IF THREADS ARE TO BE EXCLUDED FROM SHEAR PLANE | | | | |
| Y | d. CONNECTING ELEMENTS, INCLUDING THE APPROPRIATE FAYING SURFACE CONDITION AND HOLE PREPARATION, IF SPECIFIED, MEET APPLICABLE REQUIREMENTS. | O | O | | |
| Y | e. PRE-INSTALLATION VERIFICATION TESTING BY INSTALLATION PERSONNEL OBSERVED AND DOCUMENTED FOR FASTENER ASSEMBLIES AND METHODS USED. | P | O | | |
| Y | f. PROPER STORAGE PROVIDED FOR BOLTS, NUTS, WASHERS, AND OTHER FASTENER COMPONENTS. | O | O | | |
| 5. INSPECTION TASKS DURING BOLTING: | | | | | |
| Y | a. FASTENER ASSEMBLIES, OF SUITABLE CONDITION, PLACED IN ALL HOLES AND WASHERS (IF REQUIRED) ARE POSITIONED AS REQUIRED. | O | O | AISC 360 TABLE N5.6-2 | |
| Y | b. JOINT BROUGHT TO THE SNUG-TIGHT CONDITION PRIOR TO THE PRETENSIONING OPERATION. | O | O | | |
| Y | c. FASTENER COMPONENT NOT TURNED BY THE WRENCH PREVENTED FROM ROTATING. | O | O | | |
| Y | d. FASTENERS ARE PRETENSIONED IN ACCORDANCE WITH THE RCSC SPECIFICATION, PROGRESSING SYSTEMATICALLY FROM THE MOST RIGID POINT TOWARD THE FREE EDGES. | O | O | | |
| 6. INSPECTION TASKS AFTER BOLTING: | | | | | |
| Y | a. DOCUMENT ACCEPTANCE OR REJECTION OF BOLTED CONNECTIONS. | P | P | AISC 360 TABLE N5.6-3 | |
| 7. INSPECTION OF STEEL ELEMENTS OF COMPOSITE CONSTRUCTION PRIOR TO PLACEMENT: | | | | | |
| Y | a. PLACEMENT AND INSTALLATION OF STEEL DECK. | P | P | AISC 360 TABLE N6.1 | |
| Y | b. PLACEMENT AND INSTALLATION OF STEEL HEADED STUD ANCHORS. | P | P | | |
| Y | c. DOCUMENT ACCEPTANCE OR REJECTION OF STEEL ELEMENTS. | P | P | | |
| 8. INSPECTION OF ANCHOR ROD PLACEMENT AND PLACEMENT OF EMBEDDED ITEMS. | | | | | |
| Y | a. DIAMETER, GRADE, TYPE, AND LENGTH OF ANCHOR ROD OR EMBEDDED ITEM. | P | P | AISC 360 SECTION N5.7 | |
| Y | b. EXTENT OR DEPTH OF EMBEDMENT INTO CONCRETE. | P | P | | |
| Y | 9. INSPECTION OF THE FABRICATED STEEL OR ERECTED STEEL FRAME TO VERIFY COMPLIANCE WITH THE DETAILS SHOWN ON THE CONSTRUCTION DOCUMENTS. | P | P | AISC 360 SECTION N5.7 | |
| O: ITEMS NEED TO BE OBSERVED ON A RANDOM BASIS. OPERATIONS NEED NOT BE DELAYED PENDING THESE INSPECTIONS. | | | | | |
| P: ITEMS NEED TO BE PERFORMED FOR EACH WELD JOINT OR MEMBER. | | | | | |

| SPECIAL INSPECTION AND VERIFICATION OF STEEL SEISMIC FORCE RESISTANCE SYSTEMS | | | | | | | | | |
|--|---|--------------------|----------|-------------------|----------|--------------------------|----------|-------------------------|--|
| NOT REQUIRED FOR SPECIAL DESIGN CATEGORY A, NOR SPECIAL DESIGN CATEGORY B AND C WHEN STEEL SYSTEMS NOT SPECIFICALLY DETAILED FOR SEISMIC RESISTANCE (R=3) ARE USED, EXCLUDING CANTILEVER COLUMN SYSTEMS. | | | | | | | | | |
| SPECIAL INSPECTION REQUIRED Y/N | VERIFICATION AND INSPECTION TASK | TYPE OF INSPECTION | | | | REFERENCED STANDARD | COMMENTS | | |
| | | QUALITY CONTROL | | QUALITY ASSURANCE | | | | | |
| | | TASK | DOCUMENT | TASK | DOCUMENT | | | | |
| 1. VISUAL INSPECTION TASKS PRIOR TO WELDING: | | | | | | | | | |
| Y | a. FIT-UP OF GROOVE WELDS (INCLUDING JOINT GEOMETRY): | P/O | --- | O | --- | AISC 341 TABLE J6-1 | | | |
| | 1) JOINT PREPARATION. | | | | | | | | |
| | 2) DIMENSIONS (ALIGNMENT, ROOT FACE, BEVEL) | | | | | | | | |
| | 3) CLEANLINESS (CONDITION OF STEEL SURFACES) | | | | | | | | |
| | 4) TACKING (TACK WELD QUALITY AND LOCATION) | | | | | | | | |
| 5) BACKING TYPE AND FIT (IF APPLICABLE) | | | | | | | | | |
| Y | b. FIT-UP OF FILLET WELDS: | P/O | --- | O | --- | | | | |
| | 1) DIMENSIONS (ALIGNMENT, GAPS AT ROOT) | | | | | | | | |
| | 2) CLEANLINESS (CONDITION OF STEEL SURFACES) | | | | | | | | |
| Y | 3) TACKING (TACK WELD QUALITY AND LOCATION) | | | | | | | | |
| 2. VISUAL INSPECTION TASKS DURING WELDING: | | | | | | | | | |
| Y | a. WELDING PROCEDURE SPECIFICATIONS (WPS) FOLLOWED: | O | --- | O | --- | AISC 341 TABLE J6-2 | | | |
| | 1) INTERMIX OF FILLER METALS AVOIDED UNLESS APPROVED. | | | | | | | | |
| 3. VISUAL INSPECTION TASKS AFTER WELDING: | | | | | | | | | |
| Y | a. WELDS MEET VISUAL ACCEPTANCE CRITERIA: | P | D | P | D | AISC 341 TABLE J6-3 | | | |
| | 1) CRACK PROHIBITION. | | | | | | | | |
| | 2) WELD/BASE-METAL FUSION | | | | | | | | |
| | 3) CRATER CROSS SECTION. | | | | | | | | |
| | 4) WELD PROFILES AND SIZES. | | | | | | | | |
| | 5) UNDERCUT. | | | | | | | | |
| 6) POROSITY. | | | | | | | | | |
| Y | b. PLACEMENT OF REINFORCING OR CONTOURING FILLET WELDS: | P | D | P | D | | | | |
| Y | c. BACKING REMOVED AND WELD TABS REMOVED AND FINISHED AND FILLET WELDS ADDED (IF REQUIRED) | P | D | P | D | | | | |
| Y | d. REPAIR ACTIVITIES. | P | --- | P | --- | | | | |
| 4. INSPECTION TASKS PRIOR TO BOLTING: | | | | | | | | | |
| Y | a. PROPER BOLTING PROCEDURE SELECTED FOR JOINT DETAIL. | O | --- | O | --- | AISC 341 TABLE J7-1 | | | |
| Y | b. PRE-INSTALLATION VERIFICATION TESTING BY INSTALLATION PERSONNEL OBSERVED FOR FASTENER ASSEMBLIES AND METHODS USED. | P | D | P | D | | | | |
| 5. INSPECTION TASKS AFTER BOLTING: | | | | | | | | | |
| Y | a. DOCUMENT ACCEPTED OR REJECTED CONNECTIONS. | P | D | P | D | AISC 341 TABLE J7-3 | | | |
| 6. OTHER INSPECTION TASKS: | | | | | | | | | |
| Y | a. RBS REQUIREMENTS, IF APPLICABLE: | P | D | P | D | AISC 341 TABLE J8-1 | | | |
| | 1) CONTOUR AND FINISH. | | | | | | | | |
| | 2) DIMENSION TOLERANCES. | | | | | | | | |
| Y | b. PROTECTED ZONE - NO HOLES AND UNAPPROVED ATTACHMENTS MADE BY FABRICATION OR ERECTION, AS APPLICABLE. | P | D | P | D | | | | |
| 7. INSPECTION OF COMPOSITE STRUCTURES PRIOR TO CONCRETE PLACEMENT: | | | | | | | | | |
| Y | a. MATERIAL IDENTIFICATION OF REINFORCING STEEL (TYPE/GRADE) | O | --- | O | --- | | | AISC 341, TABLE J9-1 | |
| Y | b. DETERMINATION OF CARBON EQUIVALENT FOR REINFORCING STEEL OTHER THAN A5706. | O | --- | O | --- | | | | |
| Y | c. REINFORCING STEEL SIZE, SPACING, AND ORIENTATION | O | --- | O | --- | | | | |
| Y | d. REINFORCING STEEL HAS NOT BEEN REBENT IN FIELD. | O | --- | O | --- | | | | |
| Y | e. REINFORCING STEEL HAS BEEN TIED AND SUPPORTED AS REQUIRED. | O | --- | O | --- | | | | |
| Y | f. REQUIRED REINFORCING STEEL CLEARANCES HAVE BEEN PROVIDED. | O | --- | O | --- | | | | |
| Y | g. COMPOSITE MEMBER HAS REQUIRED SIZE. | O | --- | O | --- | | | | |
| 8. INSPECTION OF COMPOSITE STRUCTURES DURING CONCRETE PLACEMENTS: | | | | | | | | | |
| Y | a. CONCRETE: MATERIAL IDENTIFICATION (MZX DESIGN, COMPRESSIVE STRENGTH, MAXIMUM LARGE AGGREGATE SIZE, MAXIMUM SLUMP) | O | D | O | D | AISC 341, TABLE J9-2 | | | |
| Y | b. LIMITS OF WATER ADDED AT TRUCK OR PUMP. | O | D | O | D | | | | |
| Y | c. PROPER PLACEMENT TECHNIQUES TO LIMIT SEGREGATION. | O | --- | O | --- | | | | |
| 9. INSPECTION OF COMPOSITE AFTER CONCRETE PLACEMENT: | | | | | | | | | |
| Y | a. ACHIEVEMENT OF MINIMUM SPECIFIED CONCRETE COMPRESSIVE STRENGTH AT SPECIFIED AGE. | --- | D | --- | D | AISC 341, TABLE J9-3 | | | |
| 10. INSPECTION OF H. PILES: | | | | | | | | | |
| Y | a. PROTECTED ZONE - NO HOLES AND UNAPPROVED ATTACHMENTS MADE BY THE RESPONSIBLE CONTRACTOR, AS APPLICABLE. | P | D | P | D | AISC 341, TABLE J10-1 | | | |
| O: ITEMS NEED TO BE OBSERVED ON A RANDOM DAILY BASIS. OPERATIONS NEED NOT BE DELAYED PENDING THESE INSPECTIONS. | | | | | | | | | |
| P: ITEMS NEED TO BE PERFORMED PRIOR TO THE FINAL ACCEPTANCE OF THE ITEM. | | | | | | | | | |
| D: THE INSPECTOR SHALL PREPARE REPORTS INDICATING THAT THE WORK WAS PERFORMED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS PER AISC 341 J5-3. | | | | | | | | | |
| P/O: THE ITEMS NEED TO BE PERFORMED OR OBSERVED PER AISC 341, TABLE J6-1. | | | | | | | | | |

| SPECIAL INSPECTION AND VERIFICATION OF COLD-FORMED STEEL DECK | | | | | | |
|--|--|----------------------|------------------------|----------------------------------|----------|--|
| SPECIAL INSPECTION REQUIRED Y/N | VERIFICATION AND INSPECTION TASK | TYPE OF INSPECTION | | REFERENCED STANDARD | COMMENTS | |
| | | QUALITY CONTROL TASK | QUALITY ASSURANCE TASK | | | |
| 1. INSPECTION OR EXECUTION TASKS PRIOR TO DECK PLACEMENT: | | | | | | |
| Y | a. VERIFY COMPLIANCE OF MATERIALS (DECK AND ALL DECK ACCESSORIES) WITH CONSTRUCTION DOCUMENTS, INCLUDING PROFILES, MATERIAL PROPERTIES, AND BASE MATERIAL THICKNESS. | P | P | SDI-ANSI-QA-QC-2011 TABLE 1.1 | | |
| Y | b. DOCUMENT ACCEPTANCE OR REJECTION OF DECK AND DECK ACCESSORIES. | P | P | | | |
| 2. INSPECTION OR EXECUTION TASKS AFTER DECK PLACEMENT: | | | | | | |
| Y | a. VERIFY COMPLIANCE OF DECK AND ALL DECK ACCESSORIES INSTALLATION WITH CONSTRUCTION DOCUMENTS. | P | P | SDI-ANSI-QA-QC-2011 TABLE 1.2 | | |
| Y | b. VERIFY DECK MATERIALS ARE REPRESENTED BY MILL CERTIFICATIONS THAT COMPLY WITH THE CONSTRUCTION DOCUMENTS. | --- | P | | | |
| Y | c. DOCUMENT ACCEPTANCE OR REJECTION OF INSTALLATION OF DECK AND DECK ACCESSORIES. | P | P | | | |
| 3. INSPECTION OR EXECUTION TASKS PRIOR TO WELDING: | | | | | | |
| Y | a. WELDING PROCEDURE SPECIFICATIONS (WPS) AVAILABLE. | O | O | SDI-ANSI-QA-QC-2011 TABLE 1.3 | | |
| Y | b. MANUFACTURER CERTIFICATIONS FOR WELDING CONSUMABLES AVAILABLE. | O | O | | | |
| Y | c. MATERIAL IDENTIFICATION (TYPE/GRADE). | O | O | | | |
| Y | d. CHECK WELDING EQUIPMENT. | O | O | | | |
| 4. INSPECTION EXECUTION TASKS DURING WELDING: | | | | | | |
| Y | a. USE OF QUALIFIED WELDERS | O | O | SDI-ANSI-QA-QC-2011 TABLE 1.4 | | |
| Y | b. CONTROL AND HANDLING OF WELDING CONSUMABLES. | O | O | | | |
| Y | c. ENVIRONMENT CONDITIONS (WIND SPEED, MOISTURE, TEMPERATURE) | O | O | | | |
| Y | d. WPS FOLLOWED | O | O | | | |
| 5. INSPECTION OR EXECUTION TASKS AFTER WELDING: | | | | | | |
| Y | a. VERIFY SIZE AND LOCATION OF WELDS, INCLUDING SUPPORT, SIDELAP, AND PERIMETER WELDS. | P | P | SDI-ANSI-QA-QC-2011 TABLE 1.5 | | |
| Y | b. WELDS MEET VISUAL ACCEPTANCE CRITERIA. | P | P | | | |
| Y | a. VERIFY REPAIR ACTIVITIES. | P | P | | | |
| Y | a. DOCUMENT ACCEPTANCE OR REJECTION OF WELDS. | P | P | | | |
| 6. INSPECTION OR EXECUTION TASKS PRIOR TO MECHANICAL FASTENING: | | | | | | |
| Y | a. MANUFACTURER INSTALLATION INSTRUCTIONS AVAILABLE FOR MECHANICAL FASTENERS. | O | O | SDI-ANSI-QA-QC-2011 TABLE 1.6 | | |
| Y | b. PROPER TOOLS AVAILABLE FOR FASTENER INSTALLATION. | O | O | | | |
| Y | c. PROPER STORAGE FOR MECHANICAL FASTENERS. | O | O | | | |
| 7. INSPECTION OR EXECUTION TASKS DURING TO MECHANICAL FASTENING: | | | | | | |
| Y | a. FASTENERS ARE POSITIONED AS REQUIRED. | O | O | SDI-ANSI-QA-QC-2011 TABLE 1.7 | | |
| Y | b. FASTENERS ARE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS. | O | O | | | |
| 8. INSPECTION OR EXECUTION TASKS AFTER MECHANICAL FASTENING: | | | | | | |
| Y | a. CHECK SPACING, TYPE, AND INSTALLATION OF SUPPORT FASTENERS. | P | P | SDI-ANSI-QA-QC-2011 TABLE 1.8 | | |
| Y | b. CHECK SPACING, TYPE AND INSTALLATION OR SIDELAP FASTENERS. | P | P | | | |
| Y | c. CHECK SPACING, TYPE AND INSTALLATION OF PERIMETER FASTENERS. | P | P | | | |
| Y | d. VERIFY REPAIR ACTIVITIES. | P | P | | | |
| Y | e. DOCUMENT ACCEPTANCE OR REJECTION OF MECHANICAL FASTENERS. | P | P | | | |

O: ITEMS NEED TO BE OBSERVED ON AN INTERMITTENT BASIS. OPERATIONS NEED NOT BE DELAYED PENDING THESE INSPECTIONS. FREQUENCY OF OBSERVATIONS SHALL BE ADEQUATE TO CONFIRM THAT WORK WAS PERFORMED IN ACCORDANCE WITH THE APPLICABLE DOCUMENTS.

P: ITEMS NEED TO BE PERFORMED PRIOR TO FINAL ACCEPTANCE FOR EACH ITEM OR ELEMENT.

WITHIN THE LISTED TASKS, "DOCUMENT" SHALL MEAN THE INSPECTOR SHALL PREPARE, REPORTS OR OTHER APPROPRIATE WRITTEN DOCUMENTATION INDICATING THAT WORK HAS OR HAS NOT BEEN PERFORMED IN ACCORDANCE WITH THE CONSTRUCTION DOCUMENTS.