

1. STATEMENT OF SPECIAL INSPECTIONS NOTES:

- A. THIS STATEMENT OF SPECIAL INSPECTIONS IS INCLUDED AS REQUIRED BY CHAPTER 17 OF 2015 INTERNATIONAL BUILDING CODE AND AISC 360.
- B. SPECIAL INSPECTIONS SHALL CONFORM TO CHAPTER 17 OF THIS SHEET. SPECIFICATIONS, AISC 360, AND 2015 INTERNATIONAL BUILDING CODE. GENERAL REQUIREMENTS ARE LISTED BELOW AND IN THE ATTACHED INSPECTION TABLES.
- C. REFER TO PROJECT SPECIFICATIONS FOR ADDITIONAL SPECIAL INSPECTION REQUIREMENTS. IF CONFLICTING REQUIREMENTS ARE FOUND BETWEEN STATEMENTS OF SPECIAL INSPECTIONS AND THE PROJECT SPECIFICATIONS, THE MORE STRINGENT PROVISION SHALL CONTROL UNLESS DIRECTED OTHERWISE IN WRITING BY THE STRUCTURAL ENGINEER OF RECORD.
- D. THE G.C. SHALL EMPLOY ONE OR MORE SPECIAL INSPECTORS FOR THIS PROJECT. THE SPECIAL INSPECTOR SHALL BE A QUALIFIED PERSON WHO SHALL DEMONSTRATE COMPETENCE, TO THE SATISFACTION OF THE BUILDING OFFICIAL, FOR THE INSPECTION OF THE PARTICULAR TYPE OF CONSTRUCTION OR OPERATION REQUIRING SPECIAL INSPECTION.
- E. THE SPECIAL INSPECTOR SHALL PROVIDE WRITTEN DOCUMENTATION TO THE BUILDING OFFICIAL DEMONSTRATING HIS OR HER COMPETENCE AND RELEVANT EXPERIENCE OR TRAINING. EXPERIENCE OR TRAINING SHALL BE CONSIDERED RELEVANT WHEN THE DOCUMENTED EXPERIENCE OR TRAINING IS RELATED IN COMPLEXITY TO THE SAME TYPE OF SPECIAL INSPECTION ACTIVITIES FOR PROJECTS OF SIMILAR COMPLEXITY AND MATERIAL QUALITIES.
- F. THE SPECIAL INSPECTOR SHALL PROVIDE CONTINUOUS OR PERIODIC INSPECTIONS AS SHOWN IN THE ATTACHED INSPECTION TABLES
- 1) CONTINUOUS INSPECTION: THE SPECIAL INSPECTOR SHALL BE PRESENT AT ALL PROCEDURAL EVENTS.
- 2) PERIODIC INSPECTION: THE SPECIAL INSPECTOR SHALL BE PRESENT AT THE START OF THE WORK AND PERIODIC INSPECTION IS MADE TO VERIFY PROGRESS OF WORK IS IN COMPLIANCE.
- G. INSPECTION OF FABRICATORS: WHERE FABRICATIOIN OF STRUCTURAL LOABEARING MEMBERS AND ASSEMBLIES IS BEING PERFORMED ON THE PREMISES OF A FABRICATOR'S SHOP. SPECIAL INSPECTION OF THE FABRICATED ITEMS SHALL BE REQUIRED BY SECTION 1704.2 OF THE 2009 INTERNATIONAL BUILDING CODE AND SECTION 1704.2.5 OF THE 2015 INTERNATIONAL BUILDING CODE AND AS REQUIRED ELSEWHERE IN THE CODE.
- H. FABRICATOR APPROVAL: SPECIAL INSPECTIONS REQUIRED BY SECTION 1704 ARE NOT REQUIRED WHERE THE WORK IS DONE ON THE PREMISES OF A FABRICATOR REGISTERED AND APPROVED TO PERFORM SUCH WORK WITHOUT SPECIAL INSPECTION. APPROVAL SHALL BE BASED UPON REVIEW OF THE FABRICATOR'S WRITTEN PROCEDURAL AND QUALITY CONTROL MANUALS AND PERIODIC AUDITING OF FABRICATION PRACTICES BY AN APPROVED SPECIAL INSPECTION AGENCY. AT COMPLETION OF FABRICATION, THE APPROVED FABRICATOR SHALL SUBMIT A CERTIFICATE OF COMPLIANCE TO THE BUILDING OFFICIAL STATING THAT THE WORK WAS PERFORMED IN ACCORDANCE WITH THE APPROVED CONSTRUCTION DOCUMENTS.
- I. REPORT REQUIREMENTS: SPECIAL INSPECTORS SHALL KEEP RECORDS OF INSPECTIONS. THE SPECIAL INSPECTOR SHALL FURNISH INSPECTION REPORTS TO THE BUILDING OFFICIAL, AND TO THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE. REPORTS SHALL INDICATE THAT WORK INSPECTED WAS OR WAS NOT COMPLETED IN CONFORMANCE TO APPROVED CONSTRUCTION DOCUMENTS. DISCREPANCIES SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE CONTRACTOR FOR CORRECTION. IF THEY ARE NOT CORRECTED, THE DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE BUILDING OFFICIAL AND TO THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE PRIOR TO THE COMPLETION OF THAT PHASE OF THE WORK. A FINAL REPORT DOCUMENTING REQUIRED SPECIAL INSPECTIONS AND CORRECTION OF ANY DISCREPANCIES NOTED IN THE INSPECTIONS SHALL BE SUBMITTED AT A POINT IN TIME AGREED UPON PRIOR TO THE START OF WORK BY THE APPLICANT AND THE BUILDING OFFICIAL.
- J. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING REASONABLE NOTICE TO THE SPECIAL INSPECTOR(S) REGARDING WHEN ELEMENTS OF THE PROJECT WILL BE READY FOR EFFICIENT IMPLEMENTATION OF SPECIAL INSPECTIONS.
- K. THE CONTRACTOR SHALL PROVIDE ACCESS TO THE LATEST VERSION OF ALL APPROVED PLANS AND SHOP DRAWINGS FOR THE SPECIAL INSPECTOR'S USE IN PERFORMING SPECIAL INSPECTIONS.
- L. CONTRACTOR SHALL GRANT ACCESS TO OWNER'S SPECIAL INSPECTOR AS IS REASONABLY NECESSARY FOR THE PROPER PERFORMANCE OF SPECIAL INSPECTIONS.
- M. SPECIAL INSPECTIONS DO NOT RELIEVE THE CONTRACTOR OF RESPONSIBILITY TO COMPLY WITH ALL REQUIREMENTS OF THE CONTRACT DOCUMENTS. CONSTRUCTION MEANS AND METHODS AND JOBSITE SAFETY ARE SOLELY THE RESPONSIBILITY OF THE CONTRACTOR.
- N. STEEL QUALITY INSPECTOR QUALIFICATIONS.

| TABLE 1705.3 REQUIRED SPECIAL INSPECTIONS AND TESTS OF CONCRETE CONSTRUCTION | | | | |
|--|-------------------------------|-----------------------------|---|--------------------------------|
| TYPE | CONTINUOUS SPECIAL INSPECTION | PERIODIC SPECIAL INSPECTION | REFERENCED STANDARD | IBC REFERENCE |
| | | | | |
| 2) Reinforcing bar welding: | | | | |
| a) Verify weldability of reinforcing bars other than ASTM A706; | - | X | AWS D1.4 ACI 318: 26.5.4 | - |
| b) Inspect single-pass fillet welds, maximum 5/16"; and | - | X | | |
| c) Inspect all other welds. | X | - | | |
| 3) Inspect anchors cast in concrete. | - | X | ACI 318:17.8.2 | - |
| 4) Inspect size, embedment, and installation of post-installed anchors. | X | - | Manuf. Requirements | |
| 5) Verify use of required design mix. | - | X | ACI 318: Ch. 19, 26.4.3, 26.4.4 | 1904.1, 1904.2, 1908.2, 1908.3 |
| 6) Prior to concrete placement, fabricate specimens for strength tests, perform slump and air content tests, and determine the temperature of the concrete. | X | - | ASTM C 172 ASTM C 31 ACI 318: 26.4, 26.12 | 1908.10 |
| 7) Inspect concrete and shotcrete placement for proper application techniques. | X | - | ACI 318: 26.5 | 1908.6, 1908.7, 1908.8 |
| 8) Verify maintenance of specified curing temperature and techniques. | - | X | ACI 318: 26.5.3-26.5.5 | 1908.9 |
| 9) Inspect prestressed concrete for: | | | | |
| a) Application of prestressing forces; and | X | - | ACI 318: 26.10 | - |
| b) Grouting of bonded prestressing tendons. | X | - | | |
| 10) Inspect erection of precast concrete members. | - | X | ACI 318: Ch. 26.8 | - |
| 11) Verify in-situ concrete strength, prior to stressing of tendons in post-tensioned concrete and prior to removal of shores and forms from beams and structural slabs. | - | X | ACI 318: 26.11.2 | - |
| 12) Inspect formwork for shape, location and dimensions of the concrete member being formed. | - | X | ACI 318: 26.11.1.2(b) | - |

TABLE 3.1.2 – LEVEL B QUALITY ASSURANCE
REQUIRED INSPECTIONS AND TESTS OF MASONRY CONSTRUCTION

| MINIMUM TESTS | | | | |
|---|------------------|------------------|---|--|
| Verification of Slump flow and Visual Stability Index (VSI) as delivered to the project site in accordance with Specification Article 1.5B.1.b.3 for self-consolidation grout | | | | |
| Verification of f_{ps} and f_{ACI} in accordance with Specification Article 1.4 B prior to construction, except where specifically exempted | | | | |
| MINIMUM SPECIAL INSPECTIONS | | | | |
| INSPECTION TASK | FREQUENCY | | REFERENCE FOR CRITERIA | |
| | CONTINUOUS | PERIODIC | TMS 402/ACI 530/ASCE 5 | TMS 602/ACI 530.1/ASCE 6 |
| 1. Verify compliance with the approved submittals. | - | X | - | Art. 1.5 |
| 2. As masonry construction begins, verify that the following are in compliance: | | | | |
| a. Proportions of site-prepare mortar | - | X | - | - |
| b. Construction of mortar joints | - | X | - | Art. 2.1, 2.6 A |
| c. Grade and size of prestressing tendons and anchorages | - | X | - | Art. 2.4 B, 2.4 H |
| d. Location of reinforcement, connectors, and prestressing tendons and anchorages | - | X | - | Art. 3.4, 3.6 A |
| e. Prestressing technique | - | X | - | Art. 3.6 B |
| f. Properties of thin-bed mortar for AAC masonry | X ^(a) | X ^(b) | - | Art. 2.1 C |
| 3. Prior to grouting, verify that the following are in compliance: | | | | |
| a. Grout space | - | X | - | Art. 3.2 D, 3.2 F |
| b. Grade, type, and size of reinforcement and anchor bolts and prestressing tendons and anchorages | - | X | Sec. 6.1 | Art. 2.4, 3.4 |
| c. Placement of reinforcement, connectors, and prestressing tendons and anchorages | - | X | Sec. 6.1, 6.2.1, 6.2.6, 6.2.7 | Art. 3.2 E, 3.4, 3.6A |
| d. Proportions of site-prepared grout and prestressing grout for bonded tendons | - | X | - | Art. 2.6 B, 2.4 G.1.b |
| e. Construction of mortar joints | - | X | - | Art. 3.3. B |
| 4. Verify during construction: | | | | |
| a. Size and location of structural elements. | - | X | - | Art. 3.3 F |
| b. Type, size and location of anchors, including other details of anchorage of masonry to structural members, frames or other construction. | - | X | Sec. 1.2.1 (e), 6.1.4.3, 6.2.1 | - |
| c. Welding of reinforcing bars. | X | - | Sec. 8.1.6.7.2, 9.3.3.4(c), 11.3.3.4(b) | - |
| d. Preparation, construction and protection of masonry during cold weather (temperature below 40°F) or hot weather (temperature above 90°F). | - | X | - | Art. 1.8 C, 1.8 D |
| e. Application and measurement of prestressing force | X | - | - | Art. 3.6 B |
| f. Placement of grout and prestressing grout for bonded tendons in compliance | X | - | - | Art. 3.5, 3.6 C |
| g. Placement of AAC masonry units and construction of thin-bed mortar joints | X ^(a) | X ^(b) | - | Art. 3.3 B.9, 3.3 F.1.b |
| 5. Observe preparation of grout specimens, mortar specimens, and/or prisms | - | X | - | Art. 1.4 B.2.a.3, 1.4 B.2.b.3, 1.4 B.2.c.3, 1.4 B.3, 1.4 B.4 |

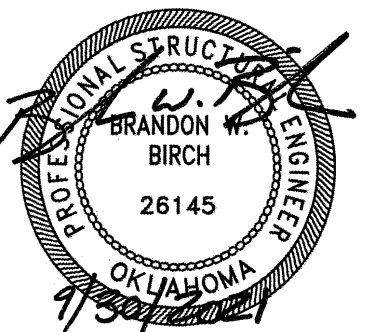
a. Required for the first 5000 square feet of AAC masonry.
b. Required after the first 5000 square feet of AAC masonry.

| REQUIRED VERIFICATION AND INSPECTION OF STEEL CONSTRUCTION | | | |
|--|--|---|---|
| VERIFICATION AND INSPECTION | FREQUENCY OF INSPECTION | | REFERENCED STANDARD |
| | CONTINUOUS (inspect each joint/member) | PERIODIC (inspect random joint/members) | |
| 1. Material verification of high-strength bolts, nuts and washers: | | | |
| a. Identification markings to conform to ASTM standards specified in the approved construction documents. | - | QC and QA | AISC 360, Section A3.3 and applicable ASTM material standards |
| b. Manufacturer's certifications available for fastener materials. | QA | QC | |
| c. Fasteners marked in accordance with ASTM requirements. | - | QC and QA | |
| d. Proper fasteners selected for the joint detail (grade, type, bolt length if threads are to be excluded from shear plane). | - | QC and QA | |
| e. Proper bolting procedure selected for joint detail. | - | QC and QA | AISC 360, Table N5.6-1 |
| f. Connecting elements, including the appropriate faying surface condition and hole preparation, if specified, meet applicable requirements. | - | QC and QA | |
| g. Pre-installation verification testing by installation personnel observed and documented for fastener assemblies and methods used. | QC | QA | |
| h. Proper storage provided for bolts, nuts, washers and other fastener components. | - | QC and QA | |
| 2. Inspection of high-strength bolting: | | | |
| For bolts requiring pretensioning, the special inspector shall observe the preinstallation testing and calibration procedures; determine that all piles of connected materials have been drawn together and properly snugged prior to pretensioning and monitor the installation of bolts to verify that fasteners are pretensioned in accordance with the RCSC Specification, progressing systematically from the most rigid point to the free edges. | | | |
| For joints required to be tightened only to the snug-tight condition, the special inspector need only verify that the connected materials have been drawn together and properly snugged. | | | |
| a. Snug-tight joints. | - | QC and QA | |
| b. Pretensioned and slip-critical joints using turn-of-nut with matchmarking, twist-off bolt or direct tension indicator methods of installation. | - | QC and QA | AISC 360, Section M2.5 |
| c. Pretensioned and slip-critical joints using turn-of-nut without matchmarking of calibrated wrench methods of installation. | QC and QA | - | |
| d. Fastener assemblies, of suitable condition, placed in all holes and washers (if required) are positioned as required. | - | QC and QA | AISC 360, Table N5.6-2 |
| e. Fastener component not turned by the wrench prevented from rotating. | - | QC and QA | |
| f. Document acceptance or rejection of bolted connections. | QC and QA | - | AISC 360, Table N5.6-3 |
| 3. Material verification of structural steel and cold-formed steel deck U.N.O.: | | | |
| a. For structural steel, identification markings to conform to AISC 360. | - | QC and QA | AISC 360, Section M1 |
| b. For other steel, identification markings to conform to ASTM standards specified in the approved construction documents. | - | QC and QA | Applicable ASTM material standards |
| 4. Inspection prior to welding: | | | |
| a. Verify identification markings of weld filler materials conform to AWS specification in the approved construction documents. | - | QC and QA | AISC 360, Section A3.5 and applicable AWS AS documents |
| b. Welding procedure specifications are available. | QC and QA | - | |
| c. Manufacturer certifications for welding consumables available. | QC and QA | - | |
| d. Material identification (type/grade) and welded identification system. | - | QC and QA | AISC 360, Table N5.4-1 |
| e. Fit-up of welds including but not limited to joint preparation, dimensions, cleanliness, tacking, and backing type/fit as applicable. | - | QC and QA | |
| f. Configuration and finish of access holes | - | QC and QA | |
| g. Check welding equipment. | - | QC | |

| TABLE 1705.6 REQUIRED SPECIAL INSPECTIONS AND TESTS OF SOILS | | |
|--|-------------------------------|-----------------------------|
| TYPE | CONTINUOUS SPECIAL INSPECTION | PERIODIC SPECIAL INSPECTION |
| 1. Verify materials below shallow foundations are adequate to achieve the design bearing capacity. | - | X |
| 2. Verify excavations are extended to proper depth and have reached proper material. | - | X |
| 3. Perform classification and testing of compacted fill materials. | - | X |
| 4. Verify use of proper materials, densities and lift thicknesses during placement and compaction of compacted fill. | X | - |
| 5. Prior to placement of compacted fill, inspect subgrade and verify that site has been prepared properly. | - | X |

| REQUIRED VERIFICATION AND INSPECTION OF STEEL CONSTRUCTION | | | |
|--|--|---|---------------------------------------|
| VERIFICATION AND INSPECTION | FREQUENCY OF INSPECTION | | REFERENCED STANDARD |
| | CONTINUOUS (inspect each joint/member) | PERIODIC (inspect random joint/members) | |
| 5. Inspection of welding: | | | |
| a. AISC 360 requirements for welding structural steel | | | |
| 1) Use of qualified welders | - | QC and QA | |
| 2) Packaging and exposure control and handling of welding consumables. | - | QC and QA | |
| 3) Welding over cracked tack welds | - | QC and QA | |
| 4) Environmental conditions including but not limited to precipitation, temperature and wind. | - | QC and QA | AISC 360, Table N5.4-2 During Welding |
| 5) Verify settings on equipment, travel speeds, electrode materials, shielding gas type/flow rate, preheating interpass temperatures and proper position meets WPS standards. | - | QC and QA | |
| 6) Verify welding techniques for interpass, final cleaning, profile limitations, and quality requirements. | - | QC and QA | |
| 7) Welds are cleaned and painted where required. | - | QC and QA | |
| 8) Verify size, length and locations of welds. | QC and QA | - | |
| 9) Visually verify welds for crack prohibition, weld/basis-metal fusion, crater cross section, weld profiles, weld size, undercutting, and porosity. | QC and QA | - | AISC 360, Table N5.4-2 After Welding |
| 10) Arc strikes, k-area cracks within 3" of weld, removal of backing, and repair activities as applicable. | QC and QA | - | |
| 11) Documentation of acceptance or rejection of welded joint or member. | QC and QA | - | |
| b. American Welding Society requirements for structural steel and cold-formed steel deck: | | | |
| 1) Complete and partial joint penetration groove welds. | X | - | |
| 2) Multipass fillet welds. | X | - | |
| 3) Single-pass fillet welds > 5/ 16" | X | - | AWS D1.1 |
| 4) Plug and slot welds. | X | - | |
| 5) Single-pass fillet welds ≤ 5/ 16" | - | X | |
| 6) Floor and roof deck welds. | - | X | AWS D1.3 |
| 7) Welded studs & deformed bar anchors (DBA's). | - | X | AWS D1.1 |
| 8) Welded sheet steel for cold-formed steel members | - | X | AWS D1.3 |
| 9) Welding of stairs & railing systems | - | X | AWS D1.1 |
| c. Reinforcing steel: | | | |
| 1) Verification of weldability of reinforcing steel other than ASTM A 706. | - | X | |
| 2) Reinforcing steel resisting flexural and axial forces in intermediate and special moment frames, and boundary elements of special structural walls of concrete and shear reinforcement. | X | - | AWS D1.4, ACI 318: Section 3.5.2 |
| 3) Shear reinforcement. | X | - | |
| 4) Other reinforcing steel. | - | X | |
| 6. Inspection of steel elements of composite construction prior to concrete placement: | | | |
| a. Placement and installation of steel deck. | QC and QA | - | AISC 360, Table N6.1 |
| b. Placement and installation of steel HSA. | QC and QA | - | AISC 360, Table N6.1 |
| c. Documentation of acceptance or rejection of steel elements. | QC and QA | - | AISC 360, Table N6.1 |

| TABLE 1705.2.3 REQUIRED SPECIAL INSPECTIONS OF OPEN-WEB STEEL JOISTS AND JOIST GIRDERS | | | |
|---|-------------------------------|-----------------------------|---|
| TYPE | CONTINUOUS SPECIAL INSPECTION | PERIODIC SPECIAL INSPECTION | REFERENCED STANDARD |
| 1. Installation of open-web steel joists and joist girders. | | | |
| a. End connections – welding or bolted. | - | X | S/JI specification listed in Section 2207.1 |
| b. Bridging – horizontal or diagonal. | | | |
| 1. Standard bridging. | - | X | S/JI specification listed in Section 2207.1 |
| 2. Bridging that differs from S/JI specifications listed in Section 2207.1 | - | X | |



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revisions



sheet no:

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