
Part 1 General

1.1 RELATED REQUIREMENTS

- .1 The list of work sections in this division is indicative and non-exhaustive. It does not exclude the works described in the other specification sections, shown in the drawings or necessary for the execution of the works in keeping with overall intent of the plans.
- .2 Section 01 33 00 – Submittal Procedures.
- .3 Section 01 61 00 – Common Product Requirements.
- .4 Section 01 74 11 – Cleaning.
- .5 Section 01 74 21 – Construction/Demolition Waste Management and Disposal.

1.2 SCOPE OF WORK

- .1 Provide the labour, equipment and material required to design, fabricate and install on site the steel joist indicated on drawings.
- .2 All holes in the metal decking larger than 250 mm in diameter must be reinforced. Unless otherwise indicated in the plans, use a 75 x 75 x 6 angle placed all around the opening for reinforcing.
- .3 Provide and install permanent bracing for all joists in compliance with CSA-S16-09 standard.
- .4 Shop paint all joists and field touch up as required.
- .5 Unless otherwise indicated in the plans, the lower chord of all joists positioned along column grid line must be extended and connected to the column.
- .6 Provide and install and angle iron around complete column perimeter, as required to support metal decking.

1.3 REFERENCE CODES AND STANDARDS

- .1 Unless otherwise indicated, the most recent editions of all reference standards must be used.
- .2 Unless otherwise specified, perform work in compliance with S16.09 standard.
- .3 Unless otherwise indicated, perform welding work in compliance with W59 standard.
- .4 Employ qualified welders, in accordance with W47.1 standard.

1.4 CONTRACTOR QUALIFICATIONS

- .1 The Contractor must qualify based on the provisions of the W47.1 standard “Certification of companies for fusion welding of steel”. The Contractor, as well as all his staff assigned to the execution of welding work, must be certified with regard to divisions 1 or 2 of the Canadian Welding Bureau.

1.5 STEEL JOIST DESIGN

- .1 Steel joist must be design as to support loads shown on drawings in compliance with S16-09 and S136 standards.
- .2 The maximum vertical deflexion under service live load must not exceed the following values (unless otherwise indicated on plans) :
 1. Roof : 1/300 of span.
 2. Floor : 1/360 of span.

1.6 ACTION AND INFORMATIONAL SUBMITTALS

- .1 Provide shop drawing submittals in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Each submitted drawing must be signed and stamped by a Professional Engineer, member of « l'Ordre des Ingénieurs du Québec ».
- .3 Shop drawings must clearly show all of the details pertaining to fabrication and erection, including cuts, notches, connections, perforations, threaded anchors and welds. Use symbols from the AWS to show welds.
 - .1 Shop drawings must also show cambers and loads, joist depth and spacing, anchors and support details, accessories, bays and frames and list of material.
- .4 Upon request and for comments, provide Departmental representative with a description of work methods, erection sequencing and materials Contractor plans on using. At all times, the Contractor remains solely responsible for the construction methods, equipment and work execution mode.
- .5 The shop drawings review process merely aims to allow the Departmental Representative to familiarize himself with the general conformity of the structure versus the contractual provisions. The comments and/or corrections made to the drawings do not relieve the Contractor from his obligation to comply with all of the contractual requirements, nor do they constitute a commitment or approval should there be a deviation from the requirements.
- .6 Along with shop drawings, provide Departmental Representative with all load calculations and design of members and connections.

Part 2 Products

2.1 MATERIALS

- .1 Steel : to G40.21 and S136 standards.
- .2 Welding material : to CSA W59 standard.
- .3 Paint: Shop-applied paint primer, with touch-up paint on site : Compliant with the ICCA/AFPC (CISC/CPMA) 1-73a standard. Same color as structural steel.

2.2 FABRICATION

- .1 Steel joist and fabricated pieces and accessories: in compliance with S16-09 and S136 standards.
- .2 Welding to be done in compliance with W59 standard.
- .3 For all joist on column grid line, extend top and/or bottom chords and connect them to column, unless otherwise indicated on plans.
- .4 Unless shown on shop drawings and previously approved by Departmental Representative, splices in tension members are not accepted.

2.3 SHOP APPLIED PAINT

- .1 Clean, prepare and shop prime surfaces of steel joists to CSA S16-09 standard.
- .2 West wing: All spray-on fireproofed steel surfaces must be left bare metal, unpainted (refer to architectural documents for details and location).

Part 3 Exécution

3.1 INSTALLATION

- .1 Install steel joists and bridging as indicated, in accordance with S16-09 and shop drawings.
- .2 Written authorisation must be obtained from Departmental Representative prior to cutting or modifying any joist or bridging on site.
- .3 When installation is completed, touch up bolts, welds and shop primed surfaces that are burned or scratched.
- .4 At any given beam cross section, no more than one hole must be made on top flange for joist seat connection.

3.2 FIELD AND SHOP QUALITY CONTROL

- .1 If requested by Departmental Representative, inspection and testing of materials and workmanship will be carried out by testing laboratory.
- .2 The Departmental Representative will pay for control tests except in case of a second inspection required due to deficient initial work, which will be at the Contractor's expense.
- .3 Tests will be non-destructive and conducted using one or the other of the following methods: Magnetic particule, ultrasounds or X-ray. The method will be determined by the Departmental Representative. The Contractor must collaborate free of charge to the execution of these tests by providing the laboratory with all of the necessary assistance.

3.3 CLEANING

- .1 Leave all steel clean and in condition allowing work by other trades to be completed.

- .2 Once work is completed, remove from site all surplus material, tools, equipment and debris in order for work site to be left clean, all at Departmental Representative's satisfaction.

3.4 SUPPORTS AROUND ROOF DRAINS

- .1 Supports installed around roof drains must be perfectly level with joists top chord in order to maintain a perfectly continuous slope in metal decking.

3.5 BRIDGING

- .1 Provide rows of bridging in compliance with requirements of S16-09 standard based on characteristics of joist used, and at least equal to number of rows shown on plans.

END OF SECTION