

## CONCRETE FALSEWORK AND FORMWORK

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## OPEN WEB JOISTS AND TRUSSES

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R20.17-1

Concrete Falsework and Formwork - Specifications and Plans

### BACKGROUND

#### 1. Explanatory Notes

Section 20.17 sets out the requirements for specifications and plans for concrete falsework and formwork.

#### 2. The OHSR

Section 20.17:

- (1) The employer must ensure that worksite specific plans are prepared for the following types of formwork and any associated falsework or reshoring:
  - (a) flyforms;
  - (b) ganged forms;
  - (c) jump forms;
  - (d) vertical slip forms;
  - (e) formwork over 4 m (13 ft.) in height;
  - (f) suspended forms for beams, slabs, stairs and landings;
  - (g) single sided, battered or inclined forms over 2 m (6.5 ft.) in height;
  - (h) cantilever forms;
  - (i) bridge deck forms;
  - (j) shaft lining forms;
  - (k) tunnel lining forms;
  - (l) formwork onto which concrete will be pumped through an injection port below the upper concrete surface;
  - (m) formwork over 3 m (10 ft.) in height into which self-consolidating concrete will be placed;
  - (n) formwork designated by the designer of the structure.
- (2) The employer must ensure that a professional engineer certifies the following in accordance with section 20.18:
  - (a) worksite specific plans;
  - (b) any changes to worksite specific plans.
- (3) The employer must ensure that certified worksite specific plans are available at the worksite during erection, use and dismantling of the formwork, falsework and reshoring.
- (4) The employer must ensure that any changes to the certified worksite specific plans are available at the worksite
  - (a) as soon as practicable, and
  - (b) before the inspection required for placement of concrete or other intended loading of the formwork, falsework and reshoring.
- (5) The employer must ensure that the formwork, falsework and reshoring are erected, used and, if applicable, dismantled in accordance with up-to-date certified worksite specific plans.

### POLICY

Occasionally a portion of concrete falsework and formwork may be designed as part of a sales or rental subcontract by a scaffold and shoring supplier, or designed as part of the permanent structure by the design engineer for the structure.

Generally, the "partial designs" supplied in such cases are certified by a professional engineer, but do not contain all the information and instructions required by section 20.20(1) of the *OHSR*. Typically, documents are deficient in the area of section views, packing, blocking, and form details. Reshoring, where required, is either not specified or not referenced. There may also be a statement in such documents indicating or implying the documents do not satisfy the requirements of the *OHSR* without further detailing.

These documents are not acceptable unless additional detailing and documentation, certified by a professional engineer, are available at the site for the portions of the design not covered by the "partial designs" referred to above.

Worksite specific plans must be complete and comply with the *OHSR*. Under section 20.20(2), if any information required by subsection (1) cannot be provided, the worksite specific plans must include special notation of the information that is incomplete and that will require field design.

An "inspection certificate" issued by an engineer prior to pour, based on incomplete worksite specific plans, is not valid.

Officers will order concrete placing stopped if the inspection certificate is not available at the site or is not valid.

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EFFECTIVE DATE:	April 1, 2001
AUTHORITY:	Section 20.17 of the <i>OHSR</i> .
CROSS REFERENCES:	Sections 20.18 to 20.26 of the <i>OHSR</i> .
HISTORY:	April 6, 2020 - Housekeeping changes. June 3, 2019 - Housekeeping changes to reflect the June 3, 2019 changes to the <i>OHSR</i> . September 15, 2010 - Housekeeping changes to delete practice reference and make formatting changes. March 1, 2005 - Housekeeping changes to reflect the October 29, 2003 changes to the <i>OHSR</i> . This Item originally replaced Policy No. 34.28(6) of the former Prevention Division <i>Policy and Procedure Manual</i> . October 29, 2003 - The reproduction of section 20.17(1) of the <i>OHSR</i> in this Item was revised to reflect its amendment. This Item results from the 2000/2001 "editorial" consolidation of all prevention policies into the <i>Prevention Manual</i> . The POLICY in this Item merely continues the substantive requirements of Policy No. 34.28(6), as they existed prior to the Effective Date, with any wording changes necessary to reflect legislative and regulatory changes since Policy No. 34.28(6) was issued.
APPLICATION:	This policy applies to certified plans and specifications for concrete falsework and formwork on and after April 1, 2001.

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**R20.72-1**  
**Open Web Joists and Trusses - Erection Instructions (All-Wood Plate-Connected Open Web Trusses)**

**BACKGROUND**

1. Explanatory Notes

Section 20.72 requires that written instructions from a professional engineer or the manufacturer be available at the worksite before work is undertaken on the erection of premanufactured open web joists and trusses.

2. The OHSR

Section 20.72:

- (1) Work must not be undertaken on the erection of premanufactured open web joists and trusses until clear and appropriate written instructions from a professional engineer or the manufacturer of the joists or trusses, detailing safe erection procedures, are available at the worksite.
- (2) Erection and temporary bracing of open web joists and trusses must be done in accordance with the written instructions required by subsection (1).

**POLICY**

This policy applies to all-wood plate-connected open web flat and pitched trusses. It does not apply to multi-member chord types or pin-connected, wood chord-metal tube web-type trusses (Trus Joists).

The employer responsible for the handling and installation of the trusses must have clear and appropriate written instructions from the truss manufacturer or a professional engineer, stipulating safe erection procedures. The truss manufacturer will normally provide some *General Recommended Erection and Bracing Instructions* with delivery of the trusses.

Officers will stop truss erection when:

- erection and bracing instructions are not available at the site or are obviously incomplete;
- work is not being done in accordance with the erection and bracing instructions;
- the side walls or skeletal structural building frame are inadequately braced (Typically, the recommended maximum spacing braces on walls is 30 feet or 10 metres.);

- damaged trusses (including twisted webs, bent connector plates, cracked chords) are being or have been installed; or
- heavy loads are being applied to trusses before all bracing, bridging and decking has been installed.

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EFFECTIVE DATE:	April 1, 2001
AUTHORITY:	Section 20.72 of the <i>OHSR</i> .
CROSS REFERENCES:	Sections 90, 91, and 92 of the <i>Act</i> .
HISTORY:	April 6, 2020 - Housekeeping changes consequential to implementing the <i>Workers Compensation Act</i> , R.S.B.C. 2019, c. 1. September 15, 2010 - Housekeeping changes to delete practice reference and make formatting changes. Replaces Policy No. 34.42-1 of the Prevention Division <i>Policy and Procedure Manual</i> .
APPLICATION:	This Item results from the 2000/2001 "editorial" consolidation of all prevention policies into the <i>Prevention Manual</i> . The POLICY in this Item merely continues the substantive requirements of Policy No. 34.42-1, as they existed prior to the Effective Date, with any wording changes necessary to reflect legislative and regulatory changes since Policy No. 34.42-1 was issued.

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