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**Part 1            GENERAL**

**1.1            Related Work**

- .1    Refer to other Specification Sections for related information.
- .2    Refer to Section 01 33 00 for Shop Drawing/Submissions requirements.
- .3    Section 03 20 00 – Concrete Reinforcing.
- .4    Section 03 30 00 – Cast-in-Place Concrete.
- .5    Section 03 41 00 – Precast Structural Concrete.

**1.2            Reference Standards**

- .1    Do concrete formwork and falsework in accordance with CSA standard A23.1-19, Concrete Materials and Methods of Concrete Construction, except where more stringent standards specify otherwise.
- .2    CSA S269.1-16 (R2021), Falsework, and formwork.

**1.3            Submissions**

- .1    Shop Drawings:
  - .1    Upon request, submit to *Departmental Representative* for review four (4) sets of formwork and falsework shop drawings, in accordance with Section 01 33 00, at least four (4) weeks prior to erection. All such drawings to be stamped and signed by a Professional Engineer registered in the Province of Nova Scotia.
  - .2    Clearly indicate method and schedule of construction, materials, arrangement of joints, ties, shores, liners, and locations of temporary embedded parts. Comply with CSA S269.16(R2021) for falsework drawings.
- .2    Product Data/Samples:
  - .1    Provide product data and samples for form ties.
- .3    Provide submissions in accordance with Section 01 33 00.

**Part 2           PRODUCTS**

**2.1            Materials**

- .1    Formwork lumber: plywood and wood formwork materials to CSA A23.1.
  - .2    Falsework materials: to CSA S269.16(R2021).
  - .3    Form stripping agent: colourless mineral oil, free of kerosene, with viscosity between 70s and 110s Saybolt Universal, 15 to 14 mm<sup>2</sup>/s at 40 degrees Celsius, flash-point minimum 150 degrees Celsius, open cup.
  - .4    Form ties: removable or snap-off metal ties, fixed or adjustable length, free of devices leaving holes larger than 25 mm diameter in concrete surface. When forms are removed, no metal shall be embedded less than 75 mm from the surface of the concrete.
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**Part 3            EXECUTION**

**3.1                Erection**

- .1     Verify lines and levels before proceeding with formwork and ensure dimensions agree with drawings.
- .2     Construct forms to produce finished concrete conforming to shape, dimensions, locations and levels indicated within tolerances required by CSA A23.1
- .3     Line forms with material only as approved by *Departmental Representative*.
- .4     Construct falsework in accordance with CSA S269.16(R2021).
- .5     Align form joints and make watertight. Keep form joints to minimum.
- .6     Use 25 mm chamfer strips on external corners.
- .7     Clean formwork in accordance with CSA A23.1, before placing concrete.
- .8     Leave formwork in place for at least seven (7) days, exclusive for days when temperature falls below 5 degrees Celsius, unless otherwise directed by *Departmental Representative*.
- .9     Re-use of formwork and falsework subject to requirements of CSA A23.1.
- .10    All holes from form ties and rods to be plugged with mortar to requirements of CSA A23.1. When forms are removed, no metal will be less than 25 mm from the surface of the concrete.

**3.2                Falsework**

- .1     Contractor to design and construct formwork and falsework to resist severe exposed wave conditions.
- .2     Submit formwork and falsework design to *Departmental Representative* for review prior to construction.
- .3     Formwork and falsework design to be approved by an Engineer registered in the Province of Nova Scotia.

**END OF SECTION**

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