CCMC CANADIAN CODE COMPLIANCE EVALUATION

CCMC EVALUATION

CCMC 13309-R

CCMC Canadian code compliance evaluation

CCMC number:	13309-R
Status:	Active
Issue date:	2008-04-07
Modified date:	2023-11-15
Evaluation holder:	**Cliffcorp Inc.** 5290 Route 102 Upper Kingsclear NB E3E 2P7 Canada Website: www.foottube.com Telephone: 888-929-2011; 506-363-3959 Email: concrete@foottube.com
Product name:	The Footing Tube
Compliance:	NBC 2015, OBC
Criteria:	CCMC-TG-031113.04-15, "CCMC Technical Guide for Footing Tube"

In most jurisdictions this document is sufficient evidence for approval by Canadian authorities.
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Compliance opinion

It is the opinion of the Canadian Construction Materials Centre that the evaluated product, when used as a concrete pier in accordance with the conditions and limitations stated in this evaluation, complies with the following code:

National Building Code of Canada 2015

Code provision	Solution type
9.15.3. Footings	Alternative

Ontario Building Code

Ruling No. 22-02-371 (13309-R) authorizing the use of this product in Ontario, subject to the terms and conditions contained in the Ruling, was made by the Minister of Municipal Affairs and Housing on 2022-10-05 pursuant to s.29 of the Building Code Act, 1992 (see Ruling for terms and conditions). This Ruling is subject to periodic revisions and updates.

The above opinion(s) is/are based on the evaluation by the CCMC of technical evidence provided by the evaluation holder, and is bound by the stated conditions and limitations. For the benefit of the user, a summary of the technical information that forms the basis of this evaluation has been included.

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Product information

Product name

The Footing Tube

Product description

The product is a concrete pier form that is made of plastic and manufactured from recycled, linear low-density polyethylene with an ultravio- let stabilizer. The tube is tapered to provide stackability during shipping and storage, and has a resistance to frost penetration and water. The concrete pier form is available in three sizes: 152 mm (6 in.), 203 mm (8 in.) and 254 mm to 305 mm (10 in. to 12 in.). A base pier measuring 546 mm (21 in.) (FTB30) is also available, which can be used under the 203-mm (8 in.) or 254-mm to 305-mm (10 in. to 12 in.) tube to accommodate additional loadbearing areas.

The product is identified with height scribe lines to indicate the level of concrete required to fill the tube and determine backfill height. The tube can also be cut to the desired height using the scribe lines as a guide.

The safety top on the tube keeps out water, dirt from backfilling, and other debris that can be present on-site during construction.

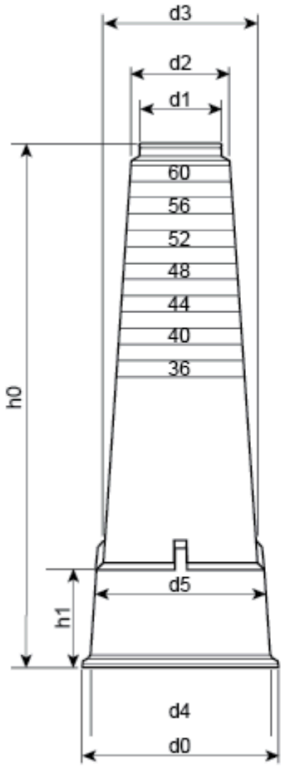

Figure 1. The Footing Tube details

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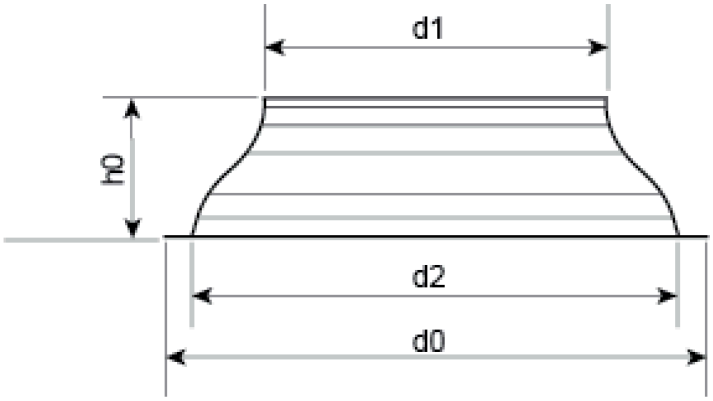

Figure 2. FTB30 base pier details

The table below provides specific dimensions for the 152-mm, 203-mm and 254-mm to 305-mm tubes and the 546-mm FTB30 base pier. The FT-B30 base pier is not mechanically connected to the tubes, which makes it easier to adjust before leveling.

Table 1. Dimensions of The Footing Tube and the FTB30 base pier

Tube/footing diameter (d_1)	Dimensions (mm)							
	d_0	d_1	d_2	d_3	d_4	d_5	h_0	h_1
152 mm (6 in.)	355	152	152	297	304	297	1 372	152
203 mm (8 in.)	609	203	203	356	558	499	1 591	216
254 mm to 305 mm (10 in. to 12.)	609	254	305	477	559	521	1 626	304
546 mm (21 in.) (FTB30)	856	546	762	n/a (1)	n/a	n/a	229	n/a

	Note
1	“n/a” means “not applicable.”

Manufacturing plant

This evaluation is valid only for products produced at the following plant:

Product name	Manufacturing plant
	Sheila, NB, CA
The Footing Tube	⊘

⊘ Indicates that the product from this manufacturing facility has been evaluated by the CCMC

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Conditions and limitations

The CCMC's compliance opinion is bound by this product being used in accordance with the conditions and limitations set out below.

Table 2. Test results for allowable bearing pressures and loads

Soil description	Allowable bearing pressure (kPa) (1) (2)	Allowable loads			
		152-mm (6-in.) Footing Tube (3) 0.078 m^2 base area	203-mm (8-in.) Footing Tube (4) 0.239 m^2 base area	254-mm to 305-mm (10-in. to 12-in.) Footing Tube (5) 0.239 m^2 base area	FTB30 0.455 m^2 base area
Dense or compact sand or gravel	150	11.8 kN/tube	35.9 kN/tube	35.9 kN/tube	68.2 kN/ tube
Loose sand or gravel	50	3.9 kN/tube	11.9 kN/tube	11.9 kN/tube	22.7 kN/ tube
Dense or compact silt	100	7.8 kN/tube	23.9 kN/tube	23.9 kN/tube	45.5 kN/ tube
Stiff clay	150	11.8 kN/tube	35.9 kN/tube	35.9 kN/tube	68.2 kN/ tube
Firm clay	75	5.9 kN/tube	17.9 kN/tube	17.9 kN/tube	34.1 kN/ tube
Soft clay	40	3.1 kN/tube	9.5 kN/tube	9.5 kN/tube	18.1 kN/ tube
Till	200	15.7 kN/tube	47.9 kN/tube	47.9 kN/tube	91.0 kN/ tube
Clay shale	300	23.6 kN/tube	71.8 kN/tube	71.8 kN/tube	136.5 kN/ tube
Sound bedrock	500	39.4 kN/tube	119.8 kN/tube	119.8 kN/tube	227.5 kN/ tube

Notes

1 Referenced in Table 9.4.4.1. of Division B of the NBC 2015.

2 Where a foundation bears on gravel, sand or silt, and the water table is within a distance below the bearing surface equal to the width of the foundation, the allowable bearing pressure shall be 50% of that determined in Article 9.4.4.1., Allowable Bearing Pressures, of Division B of the NBC 2015.

3 Not for use where frost depth exceeds 1.3 m.

4 Not for use where frost depth exceeds 1.4 m.

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5	Not for use where frost depth exceeds 1.5 m.

- The product may be used as a casting product for concrete piers for applications such as decks, porches, fence posts, one-storey cottages and additions, lampposts, pole barns and point load beams.
- In cases where the product is used in seismic zones as defined in Sentence 4.1.8.16.(3), Foundation Provisions, of Division B of the NBC 2015, unreinforced products (tubes) will not be adequate. Proper seismic designs must be carried out by a registered professional engineer in accordance with the applicable codes, including the NBC 2015.
- The allowable bearing pressures and loads for the product are specified in the table above. For applications beyond the scope of this Table, consult a registered professional engineer in accordance with the applicable codes, including the NBC 2015.
- The concrete shall be designed, mixed, placed, cured and tested in accordance with CAN/CSA-A438-00, “Concrete Construction for Housing and Small Buildings,” and shall comply with Subsection 9.3.1., Concrete, of Division B of the NBC 2015. The excavation hole must be backfilled according to the suggested depths before pouring the concrete.
- The product must be installed according to the manufacturer’s installation manual, dated February 2008.

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Technical information

This evaluation is based on demonstrated conformance with the following criteria:

Criteria number	Criteria name
CCMC-TG-031113.04-15	CCMC Technical Guide for Footing Tube

The Report Holder has submitted technical documentation for the CCMC's evaluation. Testing was conducted at laboratories recognized by the CCMC. The corresponding technical evidence for this product is summarized below

Performance Requirements

Table 3. Test results for stability

Tube	Requirement	Result (1)
152 mm (6 in.)	Within 10 mm horizontally of original position	Pass
203 mm (8 in.)	Within 10 mm horizontally of original position	Pass
254 mm to 305 mm (10 in. to 12 in.)	Within 10 mm horizontally of original position	Pass
546 mm (21 in.) (FTB30)	Within 10 mm horizontally of original position	Pass

	Note
1	The purpose of this test is to establish that the tubes will remain stable and correctly in place during the placement and curing of concrete after backfilling.

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The National Research Council of Canada (NRC) has evaluated only the characteristics of the specific product described herein. The information and opinions in this evaluation are directed to those who have the appropriate degree of experience to use and apply its contents (such as authorities having jurisdiction, design professionals and specifiers). This evaluation is valid when the product is used as part of permitted construction, respecting all conditions and limitations stated in the evaluation, and in accordance with applicable building codes and by-laws.

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Canadian Home Builders' Association (CHBA)	(Canadian Home Builders' Association (CHBA))
Alberta Building Officials Association (ABOA)	(Alberta Building Officials Associations (ABOA))
Saskatchewan Building Officials Association (SBOA)	(Saskatchewan Building Officials Association (SBOA))
Manitoba Building Officials Association (MBOA)	(Manitoba Building Officials Association (MBOA))
Ontario Building Officials Association (OBOA)	(Ontario Building Officials Association (OBOA))
New Brunswick Building Officials Association (NBBOA)	(New Brunswick Building Officials Association (NBBOA))
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Code compliance as an acceptable solution

Code Compliance via Acceptable Solutions

> If a building design (e.g. material, component, assembly or system) can be shown to meet all provisions of the applicable **acceptable solutions** in Division B (e.g. it complies with the applicable provisions of a referenced standard), it is deemed to have satisfied the objectives and functional statements linked to those provisions and thus to have complied with that part of the Code.
>
> — **National Building Code of Canada, Sentence A-1.2.1.1.(1)(a)**

The CCMC has determined that compliance with this provision of the Code has been demonstrated as an **Acceptable Solution**. The evaluation report provides a summary of the basis of CCMC's compliance opinion.

CCMC's code compliance opinions

All CCMC evaluation reports are opinions of code compliance established in accordance with the National Building Code of Canada, Subsection 1.2.1. "Compliance with this Code," which requires compliance to be achieved by:

- complying with the applicable acceptable solutions in Division B, or
- using an alternative solution that will achieve at least the minimum level of performance required by Division B in the areas defined by the objective and functional statements attributed to the applicable acceptable solutions.

The CCMC assesses compliance with Canadian building, energy and safety codes, and is trusted by over 6,000 regulators across Canada.

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Code compliance as an alternative solution

Code Compliance via Alternative Solutions

> Where a design differs from the acceptable solutions in Division B, then it should be treated as an "**alternative solution**." A proponent of an alternative solution must demonstrate that the alternative solution addresses the same issues as the applicable acceptable solutions in Division B and their attributed objectives and functional statements. However, because the objectives and functional statements are entirely qualitative, demonstrating compliance with them in isolation is not possible. Therefore, Clause 1.2.1.1.(1)(b) identifies the principle that Division B establishes the quantitative performance targets that alternative solutions must meet. In many cases, these targets are not defined very precisely by the acceptable solutions [...] Nevertheless, Clause 1.2.1.1.(1)(b) makes it clear that an effort must be made to demonstrate that an alternative solution will perform as well as a design that would satisfy the applicable acceptable solutions in Division B—not “well enough” but “as well as.”
>
> — **National Building Code of Canada, Sentence A-1.2.1.1.(1)(b)**

The CCMC has determined that compliance with this provision of the Code has been demonstrated as an **Alternative Solution**. The evaluation report provides a summary of the basis of CCMC's compliance opinion.

CCMC's code compliance opinions

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