



Form Tubes
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Mount Laurel, New Jersey 08054
Vince DiTanna 609-744-8718
www.formtubes.com

Seamless EcoForm Concrete Column Form System

Our Patented reusable column form system allows you to build custom concrete column forms for your projects.





Ecoform vs Symons Forms

101 Avenue D, NY, NY, the top form is an Ecoform finish and the bottom form is a Symons Form



When forming against an existing building, the Ecoform is a perfect fit.
Note the exceptional finish on each and every column.



Method #1: Columns are lifted to position and dropped over the Rebar cage from the floor above. West 21st Street, NY, NY

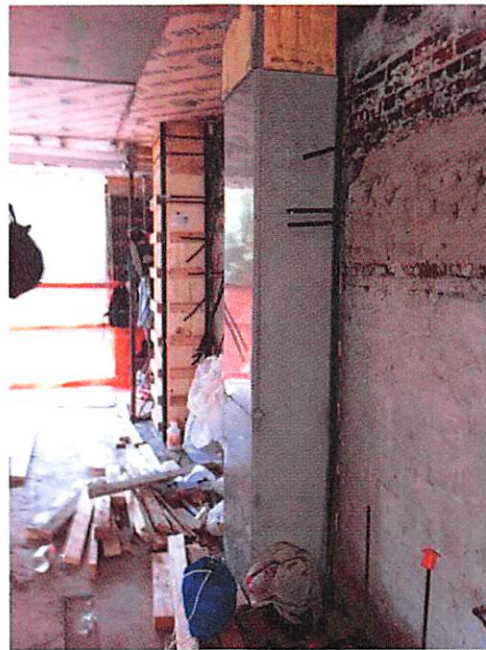


Method #2: Rebar can be dropped in from the floor above and the tie can be viewed from an inspection window cut into the column.



Rutgers University

14" x 26" x 17' column using 2"x 4" strongbacks for vertical alignment and added strength at the seam



When forming against an existing building, the Ecoform is a perfect fit.
Note the exceptional finish on each and every column.



All of our tubes are
Structurally engineered up to 40' long



Seamless tubes up to 60" diameter and 40' long .





Project address
125 Greenwich street NY, NY

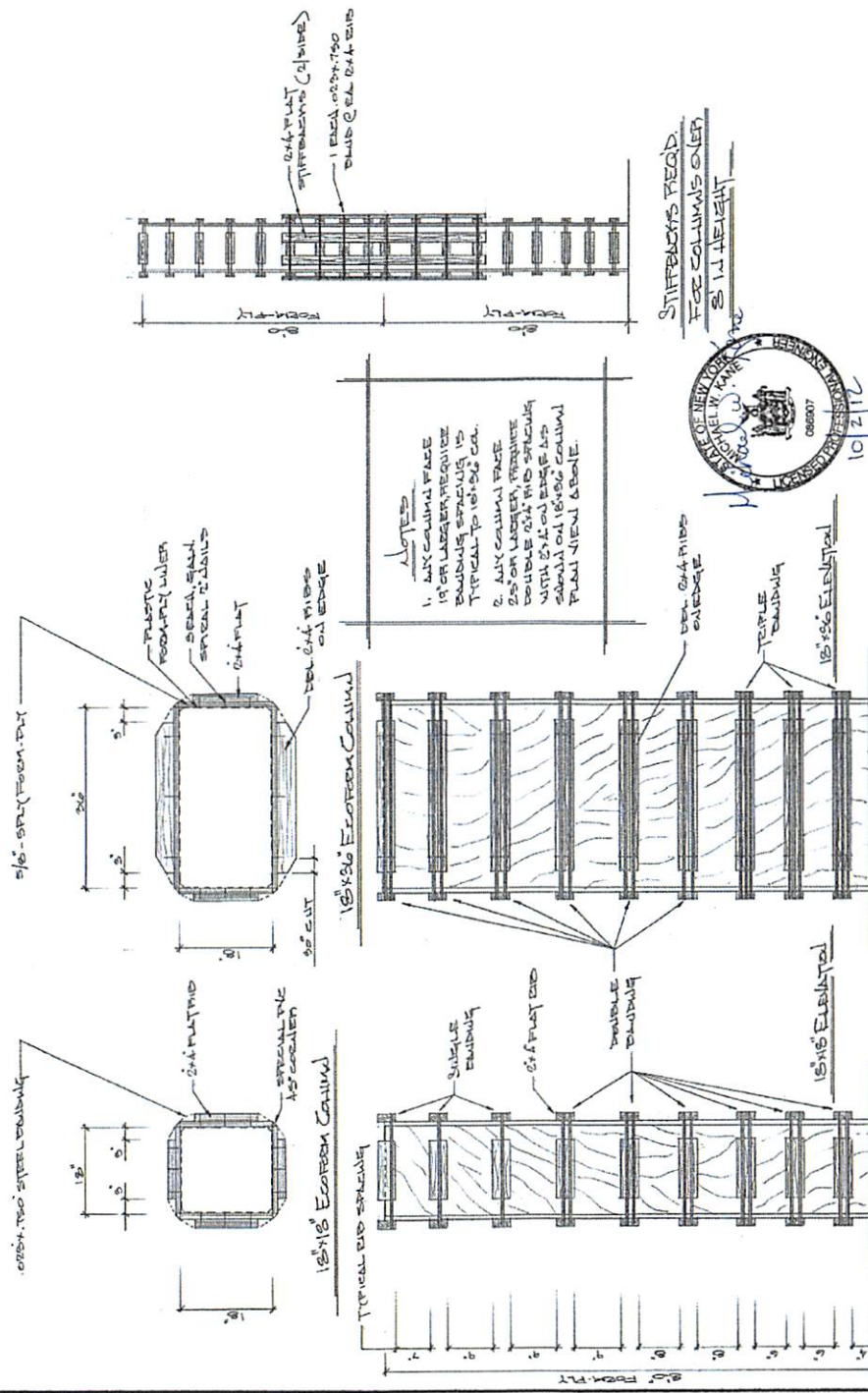








Ecoform Project
East 22nd Street, NY, NY



NO.	DATE	REVISION
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OFFICE ADDRESS: 100 WALL STREET, 12TH FLOOR, NEW YORK, N.Y. 10038
 REGISTERED PROFESSIONAL ENGINEER
 LICENSE NO. 102463
 EXPIRES 12/31/2018
 STATE OF NEW YORK
 PROFESSIONAL ENGINEER
 CIVIL ENGINEER
 MEMBER A.S.C.E.
 MEMBER N.Y.S.E.
 MEMBER N.Y.S.E. - WATER PASSIVE



DETAIL BY DESIGN
 THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CONSTRUCTION OF THE WORK SHOWN ON THIS DRAWING.
 THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL EXISTING UTILITIES AND STRUCTURES.
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The
United
States
of
America



The Director of the United States
Patent and Trademark Office

Has received an application for a patent for a new, original, and ornamental design for an article of manufacture. The title and description of the design are enclosed. The requirements of law have been complied with, and it has been determined that a patent on the design shall be granted under the law.

Therefore, this

United States Patent

Grants to the person(s) having title to this patent the right to exclude others from making, using, offering for sale, or selling the design throughout the United States of America or importing the design into the United States of America for the term of fourteen years from the date of grant of this patent, subject to any disclaimer under 35 U.S.C. 253.

David J. Kyffos

Director of the United States Patent and Trademark Office

* Patent # D648,866 *

Groupe conseil



Mr. André Fournier
Abzac Canada inc.
2945. Lemire boulevard
Drummondville, Qc. J2B 6Y8

May 23, 2011

Project : Ecoform Abzac rectangular formwork
Compliance analysis of prefabricated wooden panels
File 105.01

Dear sir,

The manufacturer of prefabricated formwork Abzac Canada, has mandated *PGEI Consulting* to analyse the strength [resistance] and rigidity of the walls and assemblies of wooden prefabricated formwork for rectangular columns distributed under the patented Ecoform system.

The analysis of the thrust [pressure] of fresh concrete was performed according to the requirements of *CAN/CSA-S269.3-FM92 (C2008)-formwork* standards. The strengths [resistances] of the various formwork components: panels, stiffeners and belts, were analyzed using two methods:

1. Strengths [resistances] established by - *Design rules for wooden structures-CSA 086-09*
2. Bending tests conducted in 2009 at CRIQ on walls of stiffened formwork.

The formwork system considered for the study consists of plywood panels *S.P.F. 5/8"*, with stiffeners 2"x4" laid flat and up to a height of 9 feet. The panels have a width of 12", 18" and 24".

The following implementation assumptions were used to establish the thrust [pressure] of concrete on the formwork :

- Type of cement : GU or HU (10 or 30)
- Maximum Slump : $\leq 4"$
- Speed of implementation : $\leq 10'/h$
- Concrete temperature: $\geq 70^{\circ}F$
- Unit weight (density): = 150 lb/ft³
- Drop height of concrete: 5 ft



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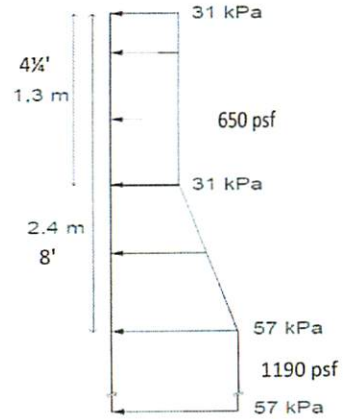
PGEI CONSULTING

228, CH. DE LA PLAGE SAINT-LAURENT, QUÉBEC, QC. G1Y 1W7
TEL. : (418) 658-3091 - TÉLÉC. : (418) 658-9798 PIERRE@PGEI.CA

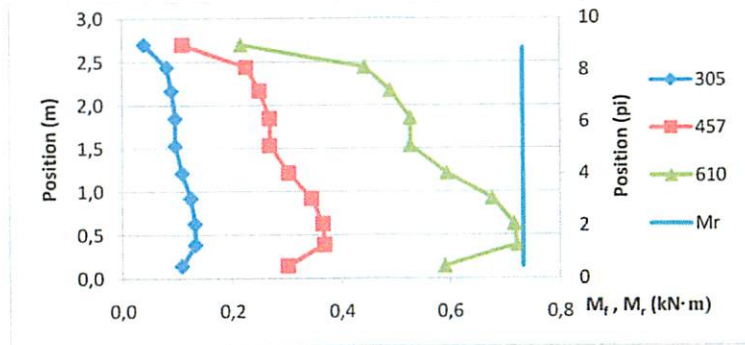
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These assumptions applied to the calculation rules prescribed by the Canadian standard *CAN/CSA-S269.3-Fm92 (R2008)-Formwork* have established the thrust (pressure) of fresh concrete during implementation to 650 psf on the first 4,25' with a linear increase up to 8' high to reach a maximum pressure of 1190 psf for a depth of over 8'. The pressure varying linearly between these two positions, as presented in the adjoining figure.

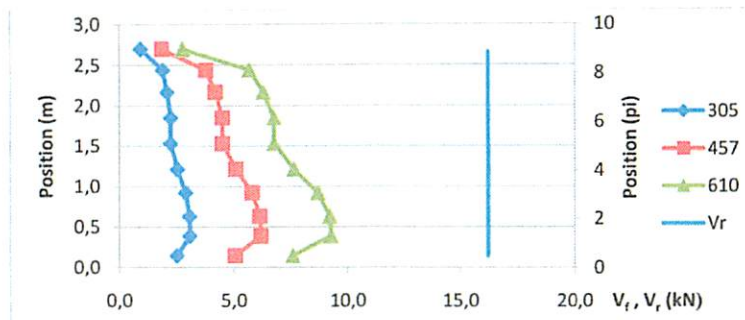
Thrust of fresh concrete on the walls of the formwork



The results are presented in the following figures:

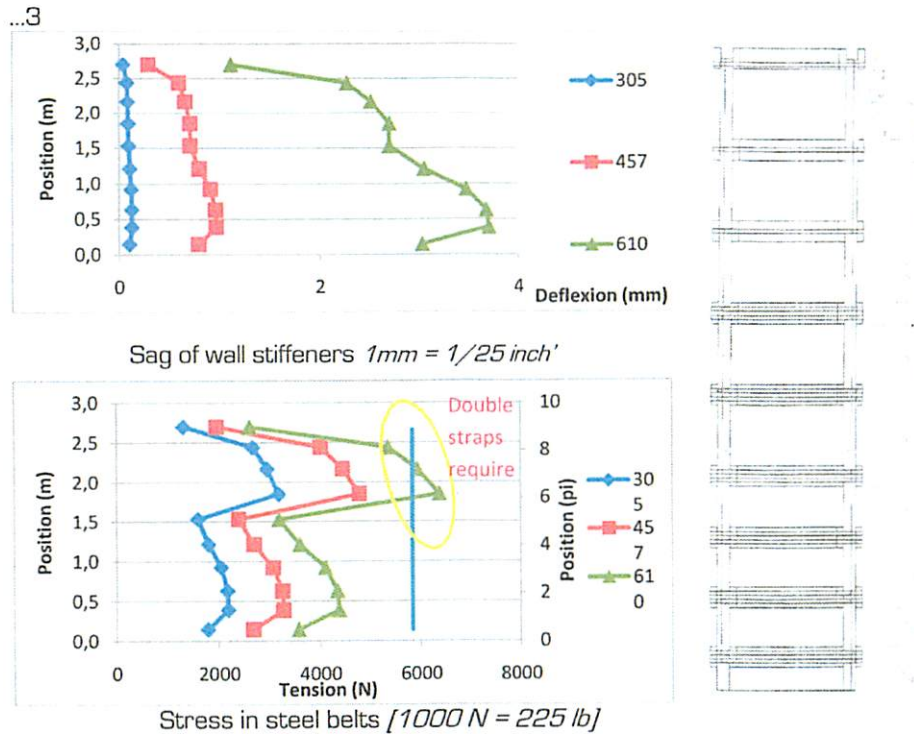


Applied bending stress and bending strength of the stiffener (2"x4")



Applied shear stress and resistance of the stiffener (2"x4")

Conversion: 1 kN/m = 737 lb-ft 1 kN = 225 lbs



Our analyses showed that the 5/8 inch (16mm) prefabricated plywood reinforced with 2"x4" stiffeners laid flat of the *ECOFORM* rectangular formwork under 10 feet do not require tie-beams or intervening reinforcements when the faces of the columns do not exceed 24", this by considering the conditions of implementation outlined above.

For rectangular forms with sides greater than 20 inches double straps should be placed above the three upper stiffeners.

We hope that you find the recommendations presented in this study sufficiently clear and that they meet your expectations. We remain as your disposal for any additional information that you might feel useful.



Philippe Provencher, ing. jr, M.Sc.



Pierre Gauvreau, p eng.

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