

## Foundation

For under slab drainage, crushed glass works extremely well when mixed with gravel. This helps to create a market for the piles of green glass which have been collected in Blue Box programs.

### **Cementitious Wood**

- Low cost
- 60-90% by volume is recycled wood and paper fiber [1]

### List of Manufacturers

C-MAX Technologies Inc.

### **Precast Concrete Panels**

- Outside of panel is smooth and inside of panel is waffled

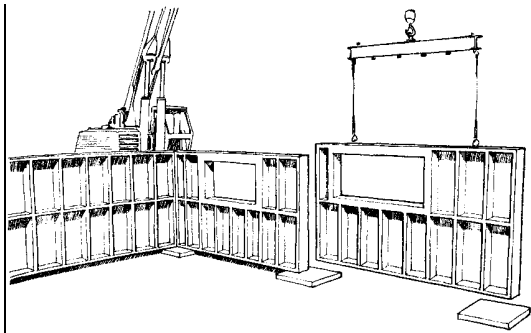


Illustration of concrete panels and placement [2]

- The interior cavities can be filled with insulation, increasing the R value past conventional poured foundations
- Uses 50% less concrete than conventional poured in place foundations [3]
- Contains rebar and recycled waste aggregate
- Manufactured in a factory using reusable metal shells, eliminating the waste of wood form boards
- Panels are bolted together
- Does not require continuous footings, just pads under each panel end
- Stronger than poured in place concrete, achieving 35 MPa [4]
- Can be ordered and delivered for the next day

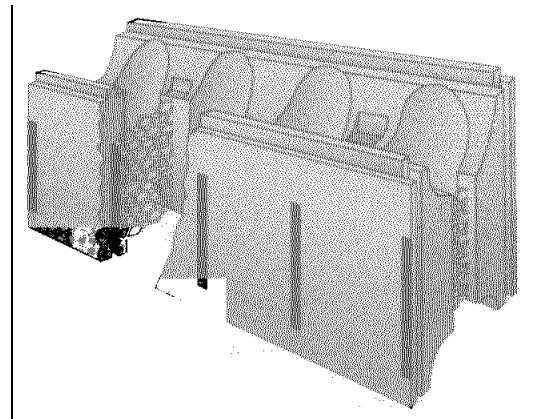
- Requires fewer workers to erect but the use of a heavy crane is required
- Takes about four to five hours to erect a residential house foundation
- Panels are moisture resistant, eliminating the need for a tart coating on the exterior

### List of Manufacturers

Lake Huron Precast  
 Box 238  
 Zurich, ON  
 N0M 2T0  
 Canada  
 (519) 236-7670

### **Insulating Concrete Formwork**

- Basic unit is expanded polystyrene (EPS) forms that are filled with concrete and steel reinforcement



Insulated concrete formwork block [5]

- EPS's closed-cell, air-filled cellular structure possesses a high resistance to heat flow
- EPS in combination with concrete has high thermal and acoustical insulation
- No CFCs or HCFCs are used or generated in the manufacturing of EPS
- Does not require conventional formwork
- Cell structure of EPS is moisture resistant
- Typical R values of 20 to 26 [6]
- Damp-proofing and waterproofing are needed when used below grade
- Provides a Sound Transmission Class (STC) rating of 48, compared to 32 for a 2x6 wood frame wall
- Lightweight

in Residential Construction. McGraw-Hill, Toronto, ON, 1999. pg. 2-8.

### Moisture Barrier

- The Waterloo Region Green Home uses the Platon Damp-proofing Membrane, developed in Norway. The interior face has dimples, keeping the barrier a distance from the foundation walls. This allows for interior moisture to weep out, avoiding condensation in the foundation. It also allows for trapped gas (methane, radon) to escape.

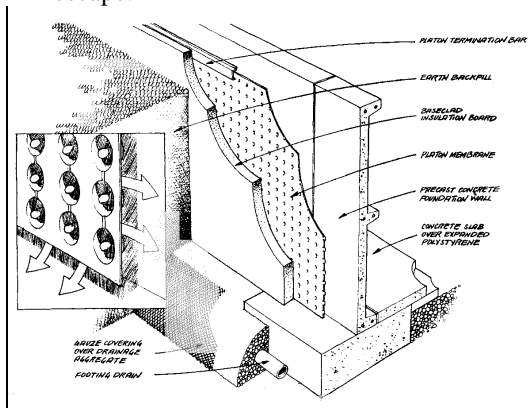


Illustration of the Platon system [7]

### References

1. Grady, Wayne. Green Home: Planning and Building the Environmentally Advanced House. Camden House, Camden East, Ontario, 1993. pg. 82.
2. Grady, Wayne. Green Home: Planning and Building the Environmentally Advanced House. Camden House, Camden East, Ontario, 1993. pg. 83.
3. Grady, Wayne. Green Home: Planning and Building the Environmentally Advanced House. Camden House, Camden East, Ontario, 1993. pg. 83.
4. Grady, Wayne. Green Home: Planning and Building the Environmentally Advanced House. Camden House, Camden East, Ontario, 1993. pg. 84.
5. Bynum, Richard T. Jr. and Daniel L Rubino. Handbook of Alternative Building Materials in Residential Construction. McGraw-Hill, Toronto, ON, 1999. pg. 2-7.
6. Bynum, Richard T. Jr. and Daniel L Rubino. Handbook of Alternative Building Materials

7. Grady, Wayne. Green Home: Planning and Building the Environmentally Advanced House. pg. 88