Container Housing for Chicago

10.13.08
From a shipping container....

Quick construction at a low cost....

To a Chicago house
Objectives

Affordable

Easy/quick to construct

Finding available site

Collaboration with masonry institute

2016 Olympics
Final floor plan

Typical Second Floor Plan

Typical Ground Floor Plan
4317 – 21 s. well st.
Appearance of final building
Exterior Envelope

Match Chicago Vernacular

Easy to Assemble

Affordable

Energy Efficient

Durable
Exterior Envelope

- Brick face
- Efficient Insulation
- Tandemloc connections
- Energy Efficient
- Utilization of existing structural properties
Pier foundations cut down on cost, time, and impact to the site.
TandemLoc Connections

Exterior Envelope

Metal Studs
16” O.C.
Rigid Insulation

TandemLoc
AE10000A
1GA

Ipro 339
Utilizing Both Rigid and Sprayed Insulation, we are able to create a strong barrier to thermal leaks.
Objectives

- Create an energy model of standard double container units, approximately 16’ x 40’
  - Through use of energy modeling software
- Determine the energy usage of a single living container
- Research alternative energy resources
- Model an HVAC system
Energy Model

- Determine R-value of wall, roof, and floor assemblies
- Implement enclosure systems into energy model
- Determine natural gas and electrical usage for a single living container
  - Isolate HVAC to determine gas usage
    • Make a separate energy model with internal loads to determine effect
  - Compare electricity usage to average consumption
INSULATION

ISO CYANURATE

• BioBased soy based insulation
  – R-19 at 3.5” thickness
  – Two parts: part A polymeric isocyanurate component with a part B resin based component

• Isocyanurate: Cyanuric acid, a component in bleaches, herbicides, and disinfectants
Objectives

• Talking and collaborating with the RV Association in order to get shipping containers outfitted with plumbing, electrical and other permanent fixtures.
• Researching connection pieces that will allow shipping containers to be attached to each other as well as to a foundation.
• Finding ways to collect rainwater for utilization in the unit.
Research in the past weeks:

Has provided us with information on outfitting the shipping container with

• Radiant Flooring

• Grey water Storage
Cont.

• Shipping Container connections
Chicago container housing