High Performance Building Envelopes

DURISOL Insulated Concrete Forms

Case Study

Durisol insulated concrete forms are the original ICF system. Since 1945, they have been manufacturing the only reinforced insulated concrete forms that does not use foam or polystyrene. Durisol Insulated Concrete Forms provide a superior concrete green building technology that delivers cost-effective, high-performance structures. Made from 100% recycled, clean, waste wood, Durisol concrete structures are safer, quieter, more comfortable, energy-efficient, structurally secure, and environmentally responsible than any other concrete building system available on the market today. DURISOL has selected ROCKWOOL™ insulation for the past 15 years as the supplier of choice because of the product’s dimensional stability, low VOC emissions ratings, natural material status and R-value stability.

ROCKWOOL properties are perfectly aligned with the DURISOL material because both materials are:

- Fire Resistant
- Sound Attenuating
- Made from recycled materials
- Moisture Resistant
- Will not Rot or Mold
- No VOCs or offgassing
- Vapor Permeable
The Durisol Forms are optimized to eliminate thermal bridging and maximize the thermal mass benefits of the building envelope.

Indoor air quality is another key component of the DURISOL building envelope. Because Durisol does not absorb water, it moderates humidity levels, inhibits mold growth and contributes significantly to a healthy living environment.

ROCKWOOL is complimentary to this purpose and does not off-gas or release VOCs into the air for occupants to breathe in.

The Durisol ICF Building System is the only building envelope product specified by Third Line Homes at the Terracewoods development in Meaford, Ontario. This development, built in partnership with the (Mike) Holmes group, demonstrates how DURISOL and ROCKWOOL are an integral part of building quality, healthy, strong and environmentally conscious homes that will provide homeowners with an unparalleled living experience and uncompromised air quality and comfort.

To ensure the homes are all-inclusive in all aspects, the developers took orientation and lot geometry into consideration when designing the home. Sun-angle simulations were performed accounting for natural shading and architectural features to maximize the usage of available free energy for storage within the Durisol wall system. An ensemble of extended overhangs, balconies and deciduous trees to the South of the property shade the summer sun without interfering with the solar energy beaming into the house during the winter. At the same time, low solar heat gain windows are used on the western exposure to minimize the cooling load.

“When it came to choosing the insulation to incorporate with our product, ROCKWOOL was the natural choice. The properties of ROCKWOOL are almost identical to DURISOL and allow us to maintain our commitment to provide a healthy, environmentally conscious product without compromise.”

- John deGraauw, Vice President

CASE STUDY