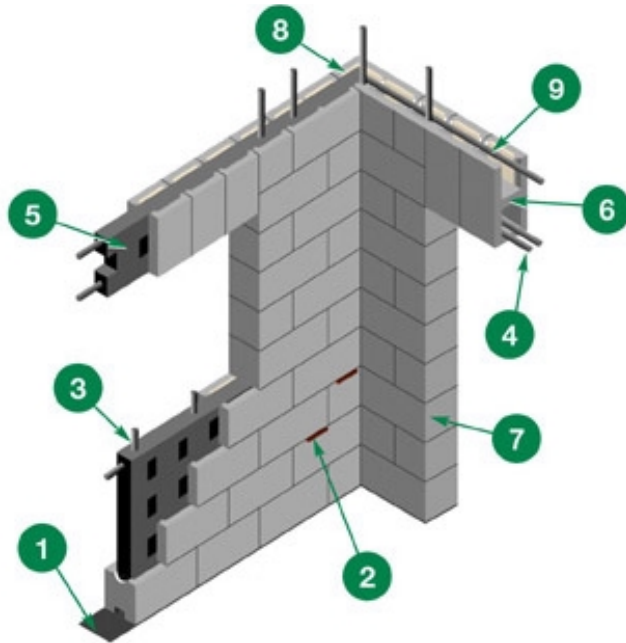


Durisol

CONCRETE WALL FORMING SYSTEM



The System

1. Optional Mortar Bed
2. Levelling Shims
3. Wall Reinforcing
4. Lintel Reinforcing
5. Concrete Fill
6. Lintel Form (Cut on-site)
7. Square End Form
8. Corner Form
9. Insulation Inserts

The Advantage

- Lightweight
- Integral Insulation
- Cut or modified with carpentry tools
- Allows winter construction
- Free-draining material allows use of high slump concrete
- Faster construction with zero voids
- Attach screws to any part of wall surface
- Insulation positioned towards the exterior for maximum thermal mass gains
- Minimal bracing required
- Proven (Over 55 years, 14 manufacturing locations, and 25-floor buildings)

Wall Features

- Fireproof- Over four hour fire rating
 - Zero Flame Spread (won't burn or melt)
 - Zero Fuel Contributed
 - 11 Smoke Developed
- Moisture Resistant
- Rot and Termite proof
- No VOC's or offgassing
- Soundproof (STC 54-72, NRC 0.75 – 0.95)
- Breathable
- Inhibits mold and fungal growth

Finishes

- Gypsum drywall can be attached directly to Durisol at any surface location
- Ideal substrate for plaster or stucco
- Compatible with every type of exterior finish

Wall Designation	Nominal R-value*	Wall Thickness (inches)	Concrete Thickness (inches)	Application
WF-15	8	6	3 ½	Above Grade Only
WF-20	8	8	5	Above Grade Only
WF-25	8	10	6 ½	Above Grade and Basements
WF-25 (R-14)	14	10	5	Above Grade Only
WF-30	8	12	8 ½	Above Grade and Basements
WF-30 (R-14)	14	12	7	Above Grade and Basements
WF-30 (R-20)	20	12	5	Above Grade Only

*R-values quoted are steady-state, two dimensional R-values. When comparing in-service performance, the R-14 Durisol wall systems have been demonstrated to perform better than an R-30 conventionally framed 2 x 6 wall. Actual performance of any wall system will depend on various project specific items including window area and type, building orientation, climatic date, etc.

Durisol ICF vs Polystyrene ICF

ENVIRONMENTAL CONSIDERATIONS

- Durisol Wall Forms contain no polystyrene, foams or plastics. Unlike other ICF systems, there are no VOCs or offgassing with Durisol.
- There are no CFC or HCFC released during the Durisol manufacturing process. Most blowing agents that are used in the polystyrene manufacturing and processing operation contain CFC or HCFC, both of which contribute to the destruction of the Ozone layer. Durisol is comprised of simple ingredients; cement and wood aggregate. Nothing in the Durisol process is remotely hazardous or detrimental to the environment.
- 100% recycled wood content. We only use recycled waste wood (100% clean, natural softwood lumber) that is taken from sources such as truss manufacturing operations, and otherwise being sent to landfill sites.

PERFORMANCE CONSIDERATIONS

- Durisol does not burn or melt. This is not the case with styrofoam and other ICF products. The smallest Durisol wall has a 4 hour fire rating, zero flame spread, smoke spread of 11 and no black toxic fumes created in the event of a fire.
- More energy efficient. The thermal mass/dynamic effects are better with Durisol than other ICF systems because with Durisol, the insulation is placed primarily on the exterior of the concrete mass. Polystyrene ICF systems put 50% of the total insulation on the interior, which actually prevents the transfer of heat/energy between the concrete mass and the interior conditioned space. With Durisol, all insulation inserts are positioned towards the exterior, where it should be, to maximize any thermal mass gains.
- Improved indoor Air Quality. The Durisol material is a hygroscopic material - which means that it has a very large capacity to store and release moisture as required, depending on the environmental conditions. This storage capacity refers to storing moisture in the form of water vapour and increased material moisture content – not liquid water. Also, the Durisol material and wall system is extremely vapour permeable. It does not act as a vapour barrier, but acts as a vapour regulator. Consequently, the Durisol acts as a moderator for vapour and RH (Relative Humidity) levels. We have conducted full scale wall tests and found that not only did the walls not create any condensation problems without a vapour barrier, but RH levels above RH 65-70 were not possible.
- Promotes healthy indoor environment and inhibits mold growth. Firstly, because the material is hygroscopic and vapour permeable, RH levels are kept low enough such that it is not possible to reach the level of RH where mold can start to grow (typically 70% RH). Combined with the high pH (alkaline) environment resulting from the cement content, this means that the wall system actually helps to inhibit mold growth. Something that doesn't happen with the other systems.
- More impact resistant. Both Stucco and Drywall, when attached to Durisol result in a solid, durable, impact resistant finish. Polystyrene ICF substrates result in stucco and drywall finishes that can easily be damaged through regular use.

CONSTRUCTION CONSIDERATIONS

- Durisol Wall Forms are much stronger, and can withstand higher concrete pressures. We have zero blow-outs in the field when poured in accordance with our recommendations.
- The blocks require less bracing than the foam ICFs and Durisol walls don't bow and bend as easily as the foam blocks. Also, since the blocks are uniform, it is possible to drywall or attach screws to any point on the finished surface, not just at the discrete plastic web locations
- Because the Durisol is a free draining material, it is possible to use a high-slump concrete (7" – 9" slump) without adversely affecting your concrete strength. When pouring a very wet concrete mix, the Durisol material immediately starts to drain the moisture so that it does not result in weaker concrete, while ensuring that there are no voids and making the pouring process easy.