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No. 0110-BSc
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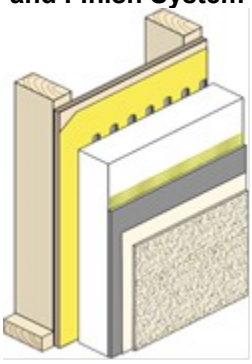
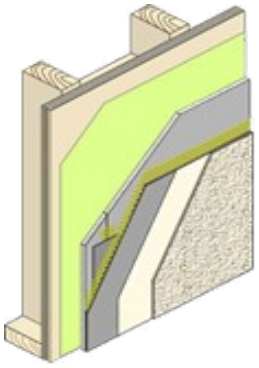
LCI/LCA Study on Sto Claddings-Summary

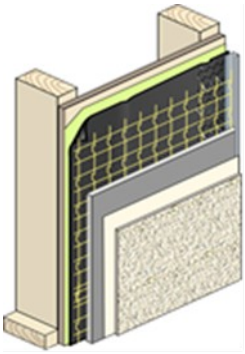
StoTherm® ci Exterior Insulation and Finish System



StoQuik® Silver Cement Board Stucco



StoPowerwall® ci Stucco



Engineered cladding systems manufactured by Sto Corp. were evaluated in a life cycle inventory (LCI) and life cycle analysis (LCA) conducted by Franklin Associates, a division of ERG located in Prairie Village, Kansas. Franklin Associates is a leading national environmental research firm who pioneered the LCI concept more than 20 years ago and is at the forefront of this science. The purpose of the LCI is to Identify and quantify the resource use, energy requirements, releases to air, water, and land for each step in the life cycle of a product or system, from raw material extraction through ultimate disposal. The LCA takes the inventory process one step further, identifying and quantifying potential environmental and health impacts such as tons of CO_2 released, carcinogenic chemicals released, climate change, total energy consumed, and water use[1].

The study commissioned by Sto Corp. focused on total energy consumption, solid waste generation, greenhouse gas emissions, and energy savings derived from the insulating value of the claddings in five climate regions of the United States. Some conclusions that can be drawn from the study are:

- The biggest influence on life cycle energy consumption is heating and cooling energy requirements over the lifespan of a building. The energy used to produce the cladding (mining of raw materials, factory production, transport and installation on a wall) is a much smaller influence when considering the entire life cycle.
- Typical brick and stucco claddings without exterior insulation require on average almost double the building heating and cooling energy over a 50 year lifespan when compared to StoTherm ci (and brick and stucco claddings with exterior insulation). Continuous exterior insulation is the most efficient and practical way to minimize life cycle energy demands.
- Solid waste generated by heavy claddings – typical brick and stucco – is significantly higher than lighter weight claddings such as StoTherm® ci, StoPowerwall® ci, and StoQuik® Silver ci.
- StoTherm® ci has the lowest life cycle greenhouse gas emissions when compared to typical brick and stucco claddings with and without exterior insulation
- StoTherm® ci generates an average annual energy savings in excess of 40% in all climate regions when compared to claddings without continuous exterior insulation

For more detailed information a condensed report is available at www.stocorp.com.

1. Franklin Associates, A Division of ERG, http://www.fal.com