

The Sustainable Attributes of Exterior Cladding Materials

A True Look at “Green” Claims



Clay Brick – The Most Sustainable Green Building Material Made

PRECAST CONCRETE VS. BRICK

Prior to making decisions on cladding materials and their impact on the environment, it's important for builders to consider the true facts regarding siding products' green positions. Many materials claim green or sustainable attributes, but a comparison between precast concrete and brick shows the true story. A quick review of the facts will show that precast concrete is not as green as you think.

IN THE MANUFACTURING PROCESS

RECYCLED CONTENT

PRECAST CONCRETE

- Can contain both pre- and post-consumer recycled content, depending on the manufacturer.

BRICK

- Can contain both pre- and post-consumer recycled content, depending on the manufacturer.

MANUFACTURING AND DISTRIBUTION

PRECAST CONCRETE

- Manufacturing process places burdens on fossil fuels, natural raw materials, land, energy, and process emissions.
- Production releases pollutants such as nitrogen oxides and sulfur compounds into the air.
- A single plant can require a quarry of 1,000 acres
- 100-900 liters of water per metric ton of clinker (used to make cement) are used that cannot be recovered.

BRICK

- Waste products such as methane gas from landfills and sawdust used in production, depending on the manufacturer.
- At least two plants located within 500 miles of all but one of 50 largest MSAs.

THIRD PARTY CERTIFICATION

PRECAST CONCRETE

- Industry makes no claims about certification.

BRICK

- Manufacturers can achieve third-party certification for extent of recycled content, use of alternative energy, and amount of resources reduced.

ON THE JOB SITE

WASTE MANAGEMENT

PRECAST CONCRETE

- Emissions from concrete industry amount to 5% of all CO² emissions.
- Cement plants act as incinerators emitting hazardous air pollutants by burning used tires as well as medical, municipal, and toxic waste.
- 25% of cement kiln dust is sent to a landfill.

BRICK

- Reusable scrap materials, minimal packaging.
- Very little on-site waste produced due to modular units.

ENERGY EFFICIENCY

PRECAST CONCRETE

- High thermal mass properties allows heat to be stored and released later.

BRICK

- High thermal mass properties allows heat to be stored and released later.

LIFE CYCLE & DURABILITY

PRECAST CONCRETE

- 100 year life span.

BRICK

- 100 year life span.
- Low maintenance requirements.

SAFETY & SECURITY

PRECAST CONCRETE

- Provides 1-hour fire resistance rating.
- Offers superior resistance to wind-blown debris.
- Material can pose serious safety hazard when a fire damages panel connections and causes panels to fail.

BRICK

- Provides 1-hour fire resistance rating.
- Offers superior resistance to wind-blown debris.

RECYCLABILITY

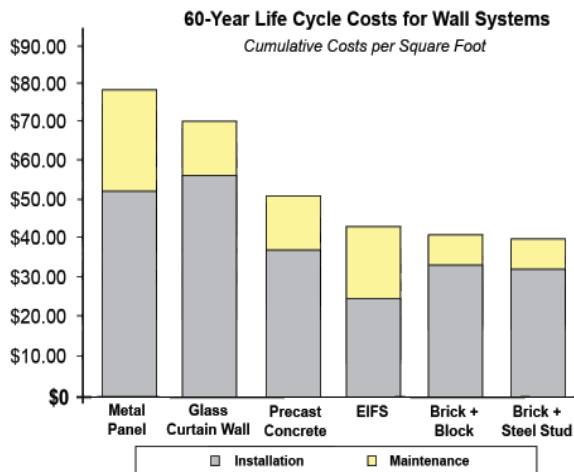
PRECAST CONCRETE

- Concrete can be recycled as aggregate in new concrete paving, backfill, or roadbase, but this is not done by all states.
- Only 11 states recycle concrete to new portland cement concrete.

BRICK

- Unfired or scrap brick is recycled back into the production stream.
- Brick from demolition can be crushed and recycled into new brick or used as brick chips.
- Brick can also be used as a subbase material for pavements.

According to experts, the future of green building and sustainable design resides in the life cycle of the building, energy efficiency, and the impact building materials have at the end of their useful life.



BRICK IS A NATURALLY SUSTAINABLE MATERIAL

- ▶ Use of abundant natural resources, clay and shale.
- ▶ Use of alternative fuel resources such as landfill gas and wood waste materials.
- ▶ Strategically located plants to help reduce transport emissions.
- ▶ Contributes to energy efficient buildings with high thermal mass.
- ▶ Recyclable and biodegradable thereby reducing its embodied energy.
- ▶ A built-in and in-demand market for recycled re-use of old brick.

BRICK IS NOT ONLY A SUSTAINABLE CLADDING MATERIAL, BUT IT ALSO ADDS SIGNIFICANT VALUE TO A BUILDING AND OFFERS NUMEROUS OTHER BENEFITS

- ▶ Consumers prefer brick over other cladding/siding materials.*
- ▶ Brick's natural beauty is timeless and design possibilities are endless.
- ▶ Brick's longevity and local availability make it one of the greenest building products made today.
- ▶ Brick conveys a message of quality, image, and prestige about the building owner and community.
- ▶ Brick has the longest history of product performance and durability.
- ▶ Brick is virtually maintenance-free.
- ▶ Brick is a perfect fit within any architectural style.

* Source: Ducker Worldwide 2008 research study

BRICK: THE GREEN POINTS ADD UP

LEED™ 2009 for New Construction and Major Renovations - Version 3.0 (USGBC)

Brick can assist in contributing up to **27 points** out of a possible 110 points

Green Globes™ New Construction (GBI)

Brick can assist in contributing up to **156 points** out of a possible 1,000 points

FOR MORE INFORMATION ON THE SUSTAINABLE ATTRIBUTES OF CLAY BRICK, CONTACT THE BRICK INDUSTRY ASSOCIATION.



BRICK INDUSTRY ASSOCIATION

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