

# METROBRICK®

## ARCHITECTURAL THIN BRICK

*Ironrock Since 1866*

### **METROBRICK® Environmental Saving Statement** **To be used to assist LEED AP when submitting for USGBC LEED Points.**

Below are reasons why Thin Brick can and should be utilized in application for LEED points when comparing its use in concrete embedded solutions to traditional full bed brick installations. This does not explain all the additional benefits since we are not qualified to detail or quantify the savings or additional sustainability/benefits acquired by the use of thin brick. Some examples would be decreased footer and pier design, reduction in site disturbance, reduction in site environmental clean-up, lower potential for water penetration into the building envelope through lower absorption in thin brick, and a host of others.

Full bed bricks meeting applicable ASTM standards weigh approximately 1750 grams once fired. 5/8" thin brick weigh 350 grams fired. The unfired weight (i.e. the clay or shale mined to manufacture the product) is proportional since the materials are basically the same anywhere in the country. This is an 80% savings on raw material, an 80% savings on mining expense of the raw material, and an 80% savings on the delivery cost of the raw material to the plant site.

Bricks and thin bricks are fired in Kilns reaching between 1100 °C and 1200 °C. The type of material and additive will determine the exact firing temperature for each specific product. Assuming similar products, again, there is an 80% savings in the fuel (normally natural gas) to fire thin bricks. Kilns are designed to meet certain capabilities with certain throughput, normally MMBTU/Lb of product. Our product for example requires .0071 MMBTU per square foot to process. A product five times this mass would require five times the natural gas to vitrify the product. This would also generate five times the kiln exhaust as. With respect to the rest of the process (grinding, mixing, extruding etc.), there are virtually no differences between brick and thin brick. Thin brick operations look very similar to a small brick plant and in many cases are actually brick plants making both products.

Shipping thin bricks is much more environmentally friendly than shipping full bed bricks. Full bed bricks are normally sent on special trucks designed to unload their bricks upon arrival at the jobsite. They have a built-in crane that grabs each cube of brick and sets it next to the truck or a forklift that is attached to the back of the truck. This limits the weight a brick hauler can carry to between 10,000 and 12,000 bricks per load. This covers a maximum of 1470 sq. ft. of wall surface coverage per truckload. This truck is specialized and must "dead head" back to the brick plant for its next load and can only to deliver partial loads due to the need of the crane or forklift.

Delivery of thin brick is much more economical and simple. Normal box trailers or flatbed trailers can deliver thin brick to a job location. Normal shipments of thin brick are over 8,000 sq. ft. of wall surface coverage per load. No special fixtures are needed to unload the thin bricks and the truck does not have to return to any specific location after unloading. It is normally a "brokered" load and the truck will proceed to its next pick-up. The savings on delivery are substantial. Over 5 times the material can be delivered per truckload and no trucks have to return empty meaning only 10 percent of the fuel is used in the delivery of thin brick compared to full bed brick on special trucks.

NOTE: All figures and calculations are based on "modular" sized bricks with facial dimensions of 2-1/4" x 7-5/8". Other sizes show similar savings and can be calculated upon request.