

February 8, 2010

## **VAPOR CURING OF CONCRETE CAST STONE FOR OLDE WORLD CAST STONE**

Kraft Energy™ is proud to work with some of the leading cast stone manufacturers in the United States, one of which is Olde World Cast Stone of Lilburn, GA. Olde World Cast Stone was established in 1991 to provide high quality stonework product to architects, builders and homeowners.

Olde World Cast Stone has been a customer of Kraft Energy Systems since 2002. Olde World Cast Stone's dedication to a quality product and process, led them to search for a curing method other than the industry standard of enclosing an area and utilizing a misting system. Through research, testing and industry conferences, Olde World Cast Stone realized their need of an accelerated concrete curing system such as those manufactured by Kraft Energy Systems, Inc.

Kraft Energy™ is dedicated to serving the needs of the manufactured concrete products industry. Kraft Energy's focus is to listen to the needs of the marketplace and customers such as Olde World Cast Stone and to respond with innovative curing products and services.

Kraft Energy's goal is to design accelerated concrete curing systems that provide cost savings to the customer and enhance the concrete product's aesthetic, structural and durability. The keystone to Kraft Energy's accelerated concrete curing system is the direct-fired vapor generator which is capable of producing the optimum environment for the curing of concrete cast stone and architectural units. By combining heat, moisture and carbon-dioxide in a vaporized form, the vapor curing environment can be designed to achieve high curing temperatures (+110°F) in conjunction with high relative humidity (+99%) as well as efflorescence reducing levels of dissolved CO<sub>2</sub>.

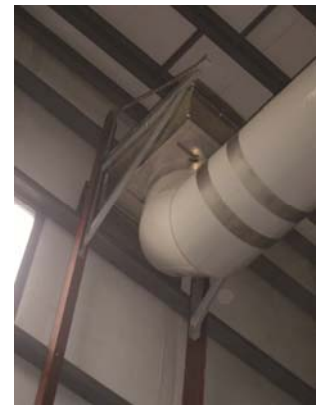
Kraft Energy engineered accelerated concrete curing systems:

- Increase the efficiency of producing concrete products by reducing the amount of cement and other additives required in the mix.
- Decrease energy costs by efficiently using the heat created by the cement during curing.
- Reduce turnaround time for hardened products, which frees up rack space and makes better use of production personnel.
- Dramatically lessen the number of rejects and customer complaints.
- Improve the consistency of concrete properties such as color, strength and durability
- Increase the strength of the edges and corners of products
- Reduce occurrences of primary and secondary efflorescence

In late 2001, Olde World Cast Stone asked Kraft Energy to design and engineer a curing system specifically for them and their high level of product quality standards.

### OLDE WORLD CAST STONE CURING SYSTEM

- VaporMini™ Direct-Fired Vapor Generator
  - Output: 500,000 Btu/h
  - 98% Efficiency
  - 4.0 HP Motor
  - Stainless Steel Combustion Chamber with Lifetime Warranty
- AutoCure™ Curing Control System
  - Siemens S7-200 PLC Controller
  - Curing Atmosphere Temperature Sensors
  - Automatic Vapor Valve Control
- Insulated Curing Chambers
  - Metal-clad insulated panels
  - High quality steel structure
- Curing Atmosphere Exhaust System
  - High-efficiency ventilator
  - Insulated duct system



### BENEFITS OF OLDE WORLD CAST STONE'S CURING SYSTEM

- Vapor gives the dry mix external moisture for better cement hydration
- Reduced amount of cement required through improved cement hydration
- Harder edges and corners through better hydration
- Increased early strength by approximately 50% allowing for easier handling and less breakage
- The carbon-dioxide content in the vapor substantially reduces efflorescence.
- Increased ex-chamber strength of up to 15% due to system exhaust

Precast concrete producers have a two-step manufacturing process where the second step is sometimes seen as optional. The first step, the casting, is a given while the second step, the curing, is sometimes neglected.

Olde World Cast Stone differs from many manufacturers because they realize that the second step, the curing process should be invested in just like that of the first step. Olde World knows that the proper accelerated curing system provides them with a better quality product, which satisfies customers and reduces waste.