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EPA Qualified Fireplaces Reduce Fine Particulate Emissions in Wood Smoke

The United States Environmental Protection Agency estimates that existing wood-burning fireplaces emit on average 12 grams of fine particulate per kilogram of fuel burned. Phase 2 Qualified fireplaces under the EPA's Voluntary Fireplace Program emit 5.1 g/kg or less, an emission reduction of more than 70%. To date, seven manufacturers have qualified fourteen fireplaces with emission levels varying from 0.68 to 4.8 g/kg. Qualified fireplaces include those of all types of construction, including manufactured metal fireplaces, modular masonry and a site-built, brick and cinder block, masonry fireplace.

According to EPA, wood smoke emissions pose significant health risks. The construction and use of EPA Qualified fireplaces can reduce the health risks of wood smoke emissions.

Established in 2009, EPA's Wood-Burning Fireplace Partnership Program promotes the manufacture and sale of cleaner wood-burning fireplaces over other wood-burning fireplace models. The program was undertaken to encourage the development and sale of a new generation of lower-emitting fireplaces that burn cord wood.

Voluntarily, manufacturers desiring to participate in the program sign a partnership agreement with EPA indicating the manufacturers' interest in developing a cleaner burning fireplace. When a new cleaner burning fireplace model is developed, emission test reports, compiled with data gathered from independent testing facilities is submitted to EPA for review. The submitted information is reviewed and, if accepted, the fireplace is added to the Phase 2 Qualified Fireplace List.

Emissions are tested under ASTM E-2558, the industry standard for particulate emission testing of wood burning fireplaces.

The intent of the Voluntary Fireplace Program is to reduce wood smoke emissions from fireplaces more quickly than what could be achieved through federal regulation.

In 2010, and in the opening months of this year, it was expected that federal regulation would be used to reduce wood smoke emissions through the inclusion of wood-burning fireplaces in the Federal New Source Performance Standard (NSPS) revision. However, with input from industry representatives and the Hearth Patio and Barbeque Association, EPA ultimately decided in the spring of 2011 to exclude wood-burning fireplaces from the NSPS. Had they been included, the construction and installation of new fireplaces nationwide would have been limited to those meeting established emission standards.

Though now not included in the standard, wood-burning fireplaces may still contribute to nonattainment of air quality goals in certain regions of the country. These regions, once predominantly or exclusively in western states, are now found throughout the country, including, but not limited to, areas of the Midwest and New England states. Construction of EPA Phase 2

Qualified Fireplaces over the construction of conventional fireplaces can help reduce the health risks of wood smoke emissions from new fireplaces.

Air quality districts across the country are tasked with achieving air quality goals. The methods used to achieve those goals are left to the discretion of the district. With regard to wood-burning fireplaces, some districts have developed their own emission standards and in some instances banned the construction or installation of new fireplaces completely.

The establishment of the EPA Qualified Wood-Burning Fireplace Program creates a framework that may be adopted by air quality districts faced with nonattainment of air quality goals. Districts may introduce more stringent regulations, but with the EPA program in place it is hoped that those areas faced with the necessity of reducing wood smoke emissions will first look to the existing voluntary program.

Why should this be of importance to masonry contractors – especially considering that wood-burning fireplaces are not being restricted under the revised Federal NSPS?

Areas in many regions of the country are facing added pressure to improve air quality. Wood smoke is a contributor to degraded air quality and its elimination or reduction is being considered as one tool to meet this added pressure. Outright bans of the construction or installation of new wood-burning fireplaces is one method that could be used to reduce wood smoke emissions.

Masonry contractors who build fireplaces, masonry dealers who sell block, brick and other fireplace components and manufacturers who produce the same items suffer when regulation prevents the construction of new masonry fireplaces.

The adoption by air quality districts of the EPA program will restrict, but not eliminate the construction of new fireplaces. Included in the Phase 2 Qualified fireplace list is a site built, cinder block and brick masonry fireplace. Its inclusion means that masonry contractors, dealers and manufacturers may continue to participate in new fireplace construction even as emission standards expand to new areas across the country.

The Whitacre Greer MFR-100 Series fireplace is a site built EPA Phase 2 Qualified fireplace with tested emissions of 4.3 g/kg. It uses Clear Skies Unlimited catalytic technology to exceed the emission standard. The technology is completely passive. It requires no external power and is invisible to the homeowner. MFR-100 Series fireplaces are constructed with components; cinder blocks, firebrick, refractory mortar and clay flue liner; purchased at local masonry dealers.

A list of EPA Phase 2 Qualified fireplaces and links to air quality agencies throughout the United States can be found on the EPA Burn Wise website at www.epa.gov/burnwise/

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