

## TECHNICAL ADVISORY

# Manufactured Stone Fireplace & Fireplace Insert Considerations

## Minimize Cracking Risk & Discoloration

During the planning and layout stages of a fireplace installation there are a few steps that can help minimize risk of stone cracking or stone discoloration due to excessive heat. This bulletin attempts to explain the areas at risk and some steps to avoid the risk.

### BUILDING CODES & MANUFACTURER INSTRUCTIONS

Fireplace or fireplace insert must be installed in compliance with all applicable building codes. Precisely follow the appliance/fireplace unit manufacturer's installation instructions.

### METAL COMPONENTS

Heat expansion of metal components of the fireplace, frames, and face trim, may impact performance of manufactured stone. Do not attempt to adhere stone to these surfaces. If a face trim must be covered with stone it is recommended that lath be attached first and then scratch coat applied. If using cement board as a replacement for lath and scratch coat, extend the cement board over face trim where needed. Use of adhesive to bond stone units is not recommended. **Metal lath or cement board over these metal components reduces the chances for cracking but cannot eliminate the risk. Metal expanding can lead to cracking forces behind the stone.**

### PIGMENT COLOR CHANGE

Excessive heat exposure can lead to pigment color change. In addition to considering distance to combustible materials, it is also recommended that temperature exposure be considered. For example: returning stone corners into a firebox or very close to the top of a fireplace insert opening increases the temperature to which the stone will be exposed. Some pigments used in manufactured stone can experience some color change when the pigment exceeds 300°F to 400°F. Point and shoot infrared thermometers can be useful in evaluating likely temperature exposure. Using experience, feedback from the fireplace insert manufacturer, and field temperature measurements, determine where stone should be terminated around the fireplace. Trimming the fireplace perimeter with more neutral base (base color of concrete used to make stones prior to accent color application) colored stones or trim pieces may also be less noticeable. In some cases, new gas burning fireplace hardware will release soot and smoke during the first few hours of operation. If possible, operate the fireplace for several hours prior to installing stone veneer. The use of a heat deflector shield may help reduce exposure to heat and discoloration in the stone.



The area highlighted in red is a typical zone of risk related to excessive heat driven color change. Dimensions may vary slightly by manufacturer. Check with fireplace manufacturer to verify temperatures will not exceed 350° F.