# Surface Cracks Explained

All masonry stone hearth ovens are susceptible to forming surface cracks in the roof or side wall. The surface cracks are a result of thermal expansion and contraction of the cast refractory lining however do not affect the structural integrity or longevity of the oven due to the steel reinforcement fixed within the structure of the oven.

It is not uncommon for surface cracks to appear during the initial warm-up or Commissioning period if the correct procedure as outlined in the Phoenix Installation and Operation Manual is not followed.  We clearly instruct that all ovens should be heated slowly over 3 days.  This procedure is necessary to draw out any moisture from the refractory and helps to minimize the risk of surface cracks forming. However, surface cracks may still form during the normal daily operation due to the above-mentioned thermal expansion and contraction process. The oven structure is in no way compromised by the appearance of cracks. Performance and longevity are not affected in any way.

The Phoenix method of manufacture ensures the cast roof and wall structure is fixed securely to the external steel oven shell and will not dislodge. The refractory lining is not a load bearing part of the oven structure and thus any surface cracks that may appear will not affect the structural integrity or performance of the oven.  The insulating properties of these ovens is ensured by the layer of industrial quality ceramic wool insulation applied to the external oven surface and this is not affected by an internal changes to the refractory.

If a crack appears do not be concerned and do not try to repair, fill or patch the area as any material used will not adhere to the cast refractory.  Over time it is common to expect some surface cracks may appear and often they are considered as part of the ovens character.

Should you have any further questions or concerns regarding your Phoenix oven please contact your local representative or email us directly sales@phoenixfocus.com.au



Common to see crack form near flame



Oven Roof Top, Heavy Duty Cast Refractory fixed into Steel Shell