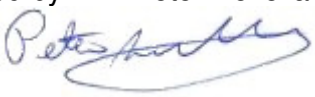
Summary of SGS Report ENV 16170 on Corrosion Testing of SmartBurn

Customer: SmartBurn International

Your references: Investigation into the compatible use of SmartBurn with materials that are commonly used in the construction of slow combustion heaters.

This work has been carried out in accordance with your instructions. The results and associated information are contained in the following pages of the report. If you have any queries regarding this report please contact the undersigned.

Reported by: Dr Peter Novella



Date: 25/10/2012

Report authorised by: Dr Paul Pui

Date: 25/10/2012

Summary

SGS performed an investigation into the possible corrosive effects of the SmartBurn combustion catalyst device for wood heaters. The ingredients, which were revealed under confidentiality agreement to Dr Peter Novella, can be considered as not normally contributing to corrosion of materials used in the fabrication of the wood heaters.

Test Method

The testing was carried out in two calibrated furnaces with and without a SmartBurn device. A furnace temperature of 450^0C was selected to simulate the conditions commonly found in a fireplace when burning wood or coal. (Reference: J Burn Care Rehabil. 1999 Jan-Feb: 20 (1 Pt 1) :86-9; discussion 85). Each of the test metal pieces (listed below) was placed inside the furnace at 450^0C for a period of 21 days and the test piece was periodically examined throughout the investigation process.

Materials Used

Aluminium	(Aluminium 6090 commonly used commercial alloy contains 99% Al)
Copper	(99.99% copper sheet)
Stainless Steel	(AISI316 stainless steel)
Carbon Steel	(250 grade mild steel)
Brass	(80/20 brass)
Cast Iron	(common grey cast iron)

Corrosion Measurement

Any corrosion of the metal test pieces can be determined by accurately measuring the weight and thickness of each metal test piece at the start and finish (Day 21) of the investigation.

Final Conclusion

Our experimental results indicate that SmartBurn has no significant corrosive effect on the materials tested. These are materials commonly used in the construction of slow combustion heaters.