

## **A study into flame ingress and flame arrestor testing**

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**Abstract:**

Resonate Testing will be presenting findings to address the shortfall in data when assessing flame ingress and fire walls using a calibrated flame, with the setup of circular holes, rectangular slits, straight tubes of various L/D ratios and bent tube to replicate torturous paths.

Flame ingress testing was performed to imitate scenarios where poor design, installation and maintenance errors occur and to understand the hazard minimisation in these scenarios.

Resonate Testing are presenting a comparison of both Carlin and Sonic burner's, assessing flame characteristics for different aperture geometries, and external factors including ambient conditions, and a number of pressure differentials.

Data will be shared on the setup, as well as the observed flame heights for different geometries, including the performance of straight tubes at ratio's including 10L/D.

Additionally, thermocouples located in line with the apertures provide temperature measurements at discrete locations; supporting hazard minimisation assessment, i.e., temperatures above the observed flame height that may need consideration as part of a hazard minimisation assessment.