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DESIGN GUIDELINES FOR COMBUSTION AIR SYSTEMS

Two openings are specified, it is surmised, because of the possibility of the flue(s) being blocked. If this happens, flue gas spillage will occur. With two openings, these gasses can exit through the upper opening while adequate air volumes are still being supplied.

It is a concern that the code show no technical basis for the sizing required and provide little information that would allow a designer flexibility in an installation. This means that the latitude afforded by the codes for "professionally designed" installations is rarely (invoked)allowed.

Because the passive openings showed a large variation in air infiltration rate under the influence of wind and temperature, and because the minimum design flow rate could not be guaranteed (70cfm) with open combustion air openings under all conditions, mechanical combustion air was tested.

It is clear that the fan system provides an assured airflow near the design value and that the variability about the mean is reduced. At present codes do not address this issue.