Field Test for Air Sealing on Chimney Balloon Damper*

Test Date: August 19, 2008
Conducted by: Mark Furst, Energy Rater and owner of Grading Spaces LLC

The Test Location:
1100 sq.ft. ranch style home,
1975 stick-built w/ attached garage,
accessible attic, full cement basement

Mark Furst

Location Data: R50 attic insulation (cellulose blow in), R19 batted insulated walls, Eight R2 rated windows, Three steel exterior doors with storm doors.

Fireplace Data: Majestic L36B Zero Clearance fireplace with 9" metal flue, Sears bifold tempered glass doors, A flapper style downward opening metal damper


Glass Doors

Fireplace Damper

Chimney Balloon Installed

Testing Results: The house was depressurized to -50 pascals (with respect to the outside) at each condition using a Minneapolis Blower Door and the flow reading noted.

Fireplace Condition	Results in cfm
Damper open / No Damper	1720
Glass Doors closed only	1323
Damper closed only	1470
Damper closed & Glass doors closed	1280
Chimney Balloon installed only	1250

Blower Door Test Results

1250

1470

1323

1720

Open Damper	Glass Doors Closed	Damper Closed	Chimney Balloon
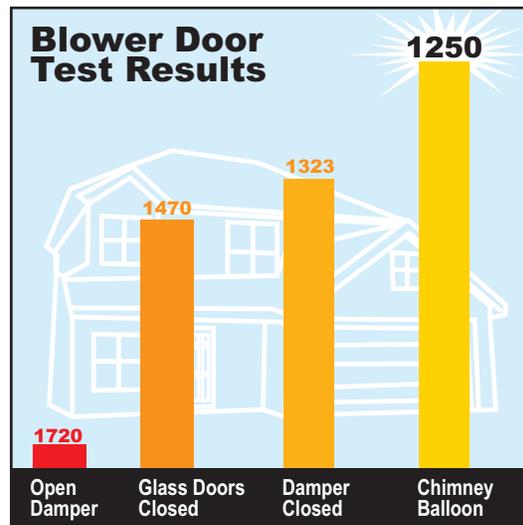
Testing Notes: These results show that the Chimney Balloon achieved an overall improvement of 27% from the worst case "all open" condition. The damper and doors on this fireplace were in good condition and worked relatively well, however, many chimneys and their components I inspect are not in as good condition as these, so the contribution of the damper and/or doors to air sealing will often be much less.

Conclusion: After conducting this test I feel that the Chimney Balloon is an easy and effective way to reduce a home's air infiltration rate. While this is not the only factor that affects how well a house performs, any reduction in it will translate into some improvements in comfort and efficiency. Where appropriate, I will certainly be recommending the use of a Chimney Balloon as part of my comprehensive energy evaluations.

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