

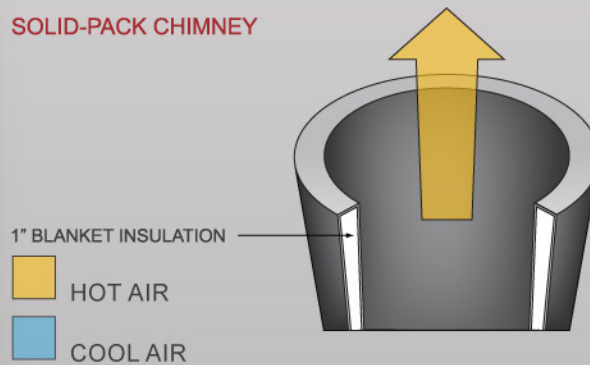
# SYNERGY TECHNOLOGIES CHIMNEY TESTING

Synergy Technologies LLC has begun groundbreaking and detailed research into how chimneys can start fires. One of the areas of research is determining how hot common combustibles get when they are in contact with the exterior chimney surface.

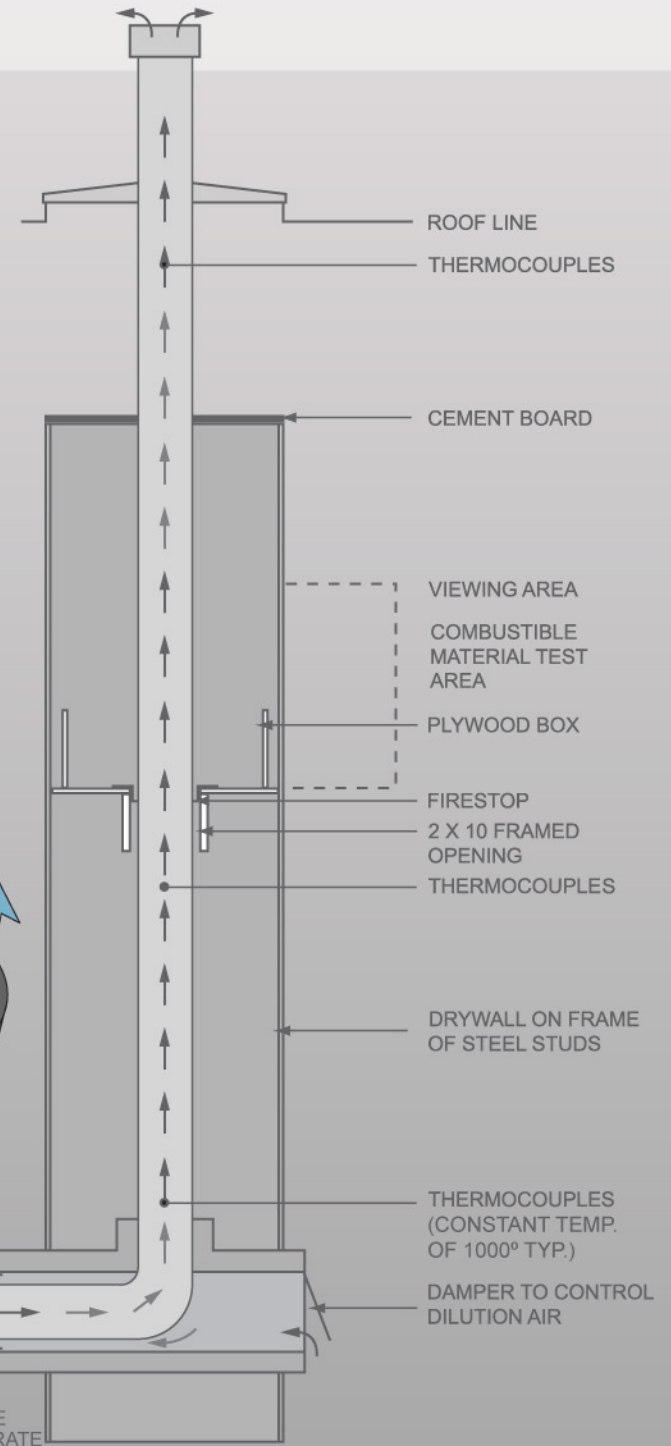
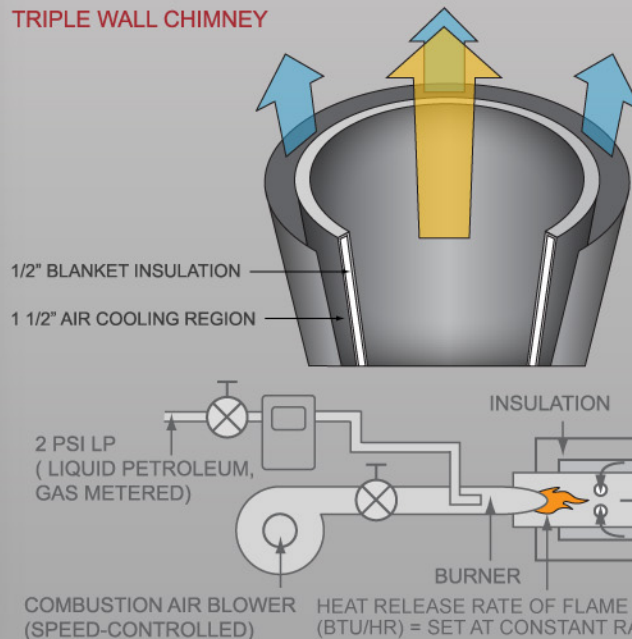
We've built our own testing setup as similar to an average home construction and to mimic the UL 103 and 127 Standards. We use an industrial gas burner to achieve a constant temperature and Btu/hr input rate which simulates normal fireplace or wood stove operating conditions.

Two wood stove chimneys we tested:

## SOLID-PACK CHIMNEY



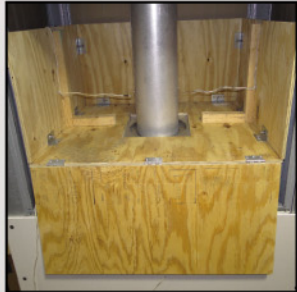
## TRIPLE WALL CHIMNEY



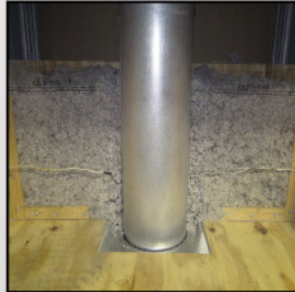
OUR IN-HOUSE TEST SETUP

# SYNERGY TECHNOLOGIES CHIMNEY TESTING

We chose a wide variety of combustible materials often found in home construction to use in our testing. Each material was tested on a solid-pack chimney pipe as well as a triple wall chimney pipe.



FLUE CLEAR OF INSULATION



13.5" DEEP OF CELLULOSE INSULATION



VARIED DEPTH OF CELLULOSE INSULATION



FIBERGLASS INSULATION



2X10 FRAME

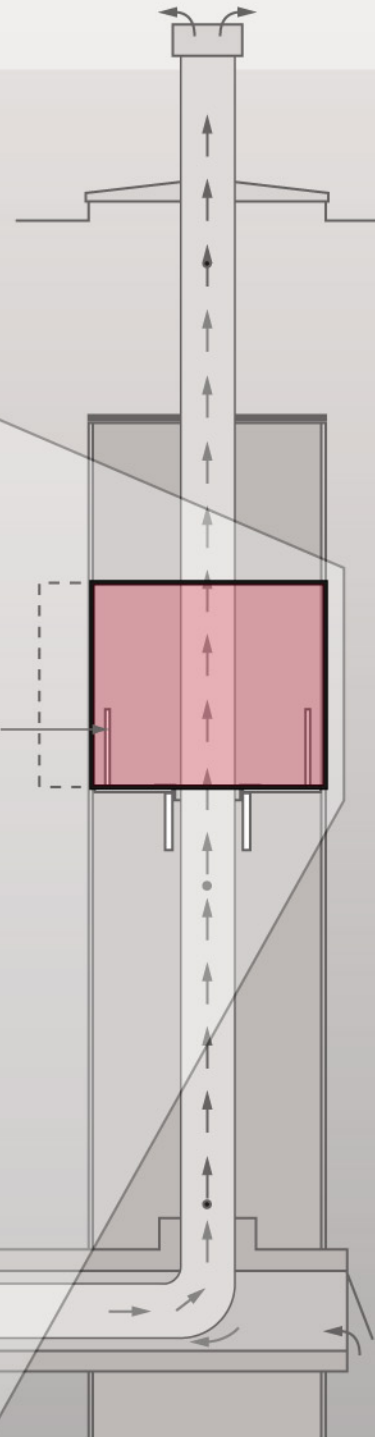


PLYWOOD FRAME



CELLULOSE INSULATION AT 45° ANGLE

COMBUSTIBLE MATERIAL TEST AREA  
PLYWOOD BOX



Some critical results of degradation...



Thermal Imaging was utilized among other data collecting devices.

