

Riley Schaefer

*Which Insulation Will Keep Your House the Warmest for the Longest Period of Time?*

This project was designed to test which type of insulation either no insulation, blown-in, batt, a combination of both Polyurethane foam and blown-in insulation, and a combination of both Polyurethane foam and batt insulation are the best for holding a temperature for the longest period of time. Studies have shown that the polyurethane foam insulation with the blown-in will be the dominant one because it seals out the air and is more dense inside the cavity to reduce heat loss.

For me to start experimentation, I will need to gather all my materials to build four 16" x 16" cubes. Next, gather all my materials to fabricate one box with blown-in fiberglass, one box with batt fiberglass insulation, one box with both Polyurethane foam and blown-in fiberglass, and one box with both Polyurethane foam and batt fiberglass insulation. Plug in heater and fill each cube with a set temperature, and attach a thermometer to each cube. Count the time in minutes it takes each cube with different insulation to hold the set temperature. Record data onto piece of paper.

When I gathered my data, I found that the box with both Polyurethane Foam and blown-in fiberglass insulation held the heat inside for the longest period of time.

I proved my hypothesis to be true. The box insulated with the combination of both Polyurethane foam and blown-in insulation showed that it held the highest temperature of heat in 30 minutes the longest, compared to no insulation, blown-in insulation alone, batt insulation alone, or the combination of both batt and foam insulation.