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Insulation Situation

When my family was remodeling our house we used four different types of insulation: spray foam, loose fill, rigid board, and batt insulations. I had been wondering which of the four main types of insulation would keep heat in the best. To test this problem, I built a 9 1/2 in. x 9 1/2 in. wooden box on the outside. The box was 8 3/8 in. x 8 3/8 in. on the inside. To gather data, I stuck the box in the freezer with and without insulation in it. A meat thermometer was sticking into the box from the outside to check the temperature. To start testing, I had to get the box down to the temperature of 10.8°C or 0.1°C difference. After one hour of the box sitting in the freezer, check the temperature, record, and repeat. My first test was the control test, with the box empty. The empty box went down in temperature by 23°C. With the batt insulation, the temperature went down by 15.8°C. Rigid board went down by 10.6°C. The spray foam only went down by 9.1°C. The loose fill insulation went down 11.1°C. My hypothesis was that the batt insulation would keep heat in the most over an hour in the freezer. The hypothesis was not supported. The batt insulation was the worst performing insulation in this test. I learned that spray foam insulation is the best to use when insulating a small or medium size area.