

Why Cellulose Insulation is the best Fire Protection for your Home

The physical characteristics of cellulose insulation are governed by CPSC Standard HH-I-515E, 16 CFR 1209 and 1404, and ASTM C-739-97. There are two very stringent fire tests. One determines the product's resistance to smoldering combustion, and the second determines the product's resistance to the propagation of flame along the surface of the cellulose insulation. All of the physical characteristics of our cellulose insulation, including fire retardancy, are tested on a regular and random basis by a certified, third party testing service, and each one of our bags is labeled with these test results. 16CFR1404 is not a test; it is a labeling requirement. We comply.

In addition to the CPSC Standard HH-I-515E, 16 CFR 1209, and ASTM C-739-97 testing, National Fiber's insulation has also passed the ASTM E-84 test, with a flame spread index of 20 and a smoke developed index of 0. We are thus rated as a Class One Insulation.

Cellulose insulation is one of the safest materials used in home construction. If a fire occurs, the dense structure of cellulose and its fire retardants slow its spread through the building by blocking flames and hot gases and restricting the availability of oxygen in insulated walls and ceilings. Scientists at the National Research Council of Canada report that "cellulose in the wall cavity provided an increase in the fire resistance performance of 22% to 55%." Fire roars right through fiberglass insulation. The NRCC study showed that "the fire resistance of an assembly insulated with fiberglass was slightly lower than that of a non-insulated assembly."

Omega Point Laboratories has tested cellulose-insulated walls with multiple membrane penetrations on opposite sides of the wall. The test showed that the wall achieved a one-hour fire rating, even with ½ inch type X gypsum board and when the membrane penetrations were separated by as little as 3.5 inches. As a result of this test, the 2000 International Building Code permits electrical boxes to be installed in the same cavity on opposite sides of a fire-rated wall if they are separated by cellulose insulation equal to the depth of the wall cavity. With fiberglass, the required separation is 24 inches.

Omega Point has also conducted tests of a loaded wall that prove cellulose insulation adds at least 15 minutes to the fire resistance of an uninsulated wall. The calculated fire resistance table in section 720 of the International Building Code has been revised to reflect this finding.

In several demonstration burns conducted over the past 22 years, cellulose-insulated buildings have retained structural integrity while buildings with fiberglass insulation have burned to the ground. In the best-known demonstration, the ceiling of a fiberglass-insulated building collapsed 22 minutes into the burn, while the ceiling of the cellulose-insulated building remained intact for an hour and 10 minutes.