



By better insulating our buildings, electrical grid stability can be attained, which can lead to the consumer reducing their energy bill.

NuForm Materials has the solution.

Insulating Material	R-value/inch (Market Share)
Cellulose	3.7 (14.3%)
Fiberglass	3.0 (52.1%)
Mineral Wool	3.0 (6.8%)
Expanded Polystyrene	4.0 (10.5%)
Extruded Polystyrene	5.0 (1.2%)
Rigid Polyisocyanurate	6.0 (11.7%)
Polyurethane Foam (Closed Cell)	7.0 (3.4%)



The addition of NuSafe Ceramics to polyurethane foam insulation provides a green and safe flame retardant, with the benefit of increased insulation characteristics.

**Anne Oberlink MS, Brock Marrs PhD,
 Tom Robl PhD, John Wiseman**

NuSafe Ceramics
 -recycled from fly ash-

Flammability of Materials Used in the Interior of Motor Vehicle Occupant Compartments Test (FMVSS 302)	NuSafe Ceramics, 30wt% panels and 45wt% panels, have shown to be self extinguishing
Compressive Properties of Rigid Cellular Plastics - ASTM Standard D 1621 - 00	NuSafe Ceramics have shown to decrease deformation upon compression
Water Absorption of Core Materials: 24-hour Water Immersion - ASTM Standard C 272 - 91	NuSafe Ceramics have shown to decrease the amount of water absorbed

NuSafe Ceramic Benefits

- Is green, safe, and cost effective
- Will not affect building processes
- Will lower energy expenditures

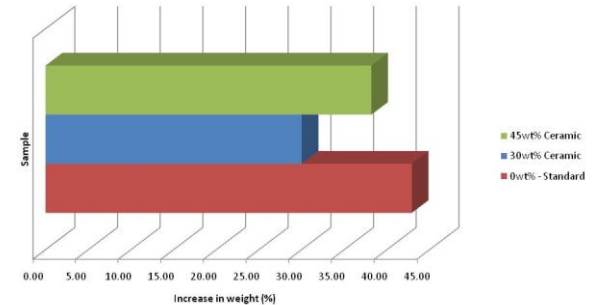
DoE sponsored development (\$5 million)



US Patent 6,533,848 Pat. Pending 20070184291

To make ceramic-added polyurethane panels, specific amounts of coal ash-derived ceramic are added to 3lb polyurethane resin on a weight percent basis.

24- Hour Immersion: Water Absorption



Compression Deformation

