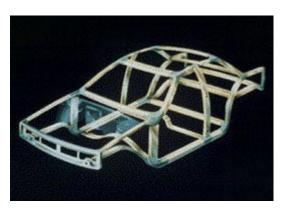
Automotive Research

SATS

Consortium of 30 steel companies invested \$20M to "prove steel's preeminence" ULSAB



Steel \$989/451lbs = \$2.20/lb



Aluminum





Lean Design & Manufacturing



Made entirely from carbon fiber composites, General Motors' Utralite body structure weighs only 420 pounds. The carbon fiber material is half the weight of aluminum -- yet has two times the stiffness. It also has one-quarter the density of steel with slightly better stiffness. However, the material cost alone for the Utralite structure was approximately \$13,000 -- several times the cost of aluminum, steel or fiberglass.



Material / Labor cost 235 lb (ALCOA?)