


These are the mining products used to build a 3,000 lb car.



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| Mineral | Weight | Description | Uses |
| Aluminum | 240 lb. | This strong, lightweight metal is a major component of some car bodies. | Frame and body (on cars with aluminum bodies)Electrical wiringWheelsLampsMetallic flake paintTransmissionAir conditioner condenser and pipesEngine parts (pistons, radiator, cylinder head)Magnets (for speedometers, tachometers, air bags) |
| Chromium | 15 lb. | Valued because it is corrosion-resistant, chromium is an important component of stainless steel. Major ore mineral: chromite | Stainless steel in exhaust systemChrome-plated trim and bumpers |
| Coal | 2,813 lb. | Coal is used as a source of energy in extracting metals from ores and in assembling an automobile; coking coal is used in iron and steel production. | Production of metals from ores (amount required: 2,383 lb.)Energy to assemble automobile (amount required: 430 lb.) |
| Copper | 42 lb. | This metal is used in wiring and is a component of brass. | Electrical wiringBrass in steel-belted tiresBushingsBrass in radiator |
| Iron | 2,124 lb. | Iron is the major component of steel, used to make the bodies and frames of most cars. Major iron ore minerals: hematite, magnetite, goethite | Fuel tankSteel in frame, roof, side panels, hood (on cars with steel bodies)Engine blockDrive sprocketsPumpsAxlesBrakesParking brake, gears and cables |
| Lead | 24 lb. | The major use of lead is in car batteries, but it is also used for tire weights and pendulums in self-tightening seat belts. Major lead ores: galena, anglesite, cerussite. | Seat belt weight pendulumsTire balance weightsBattery |
| Magnesium | 4.5 lb. | This lightweight metal is used in specialty alloys. Major ore minerals: magnesite, dolomite; also derived from seawater/brines | Front seat structuresWheelsTransmission housingValve coversAlloys for engine block |
| Manganese | 17 lb. | This metal is an important ingredient in steel. Major manganese ore minerals: braunite, manganite, pyrolusite, hausmannite | Fuel TankSprings and axlesEngine partsValve coversExhaust manifoldConnecting rodsTransmission |
| Nickel | 9 lb. | Nickel is used in stainless steel and in specialty magnets in gauges and switches. Major nickel ore minerals: pentlandite, ni-pyrrhotite | Magnets (for speedometer, tachometer, air bags, automatic braking system, voltmeter, thermostats)Stainless steel for exhaust system |
| Quartz | 130 lb. | Used to make glass, quartz is also a source of silicon for electronic components. All steel contains some silicon. Major ore mineral: quartz (sand and rock crystal) | Clock and other time-keeping devicesSilicon in computer chipsFiberglass trim and moldingSpark plugsBumpersLamp glassLubricantsAuto glassInstrument panel |
| Zinc | 22 lb. | This metal is a galvanizing agent used to prevent rust. It is also a major component of brass. | Fuel tankSprings and axlesBrass in steel-belted radial tiresTransmissionBrass in radiatorEngine partsValve coversConnecting rodsExhaust manifoldDie castings |

Other Products

Numerous other mineral products are used to build a car. Many are present only in small amounts but are critical for the car’s safe operation.

Plastics: 250lb
Uses: upholstery, dashboard, steering, wheel, bumpers, console, and more

Rubber: 140 lb
Uses: tires, bumpers, hoses, seals, gaskets, wipers, and more

Sulfur: 1-2 lb
Use: rubber in tires

Vanadium: 1-3 lb
Use: component in high-strength steel

Antimony: 1 lb
Use: hardener in lead batteries

Asbestos: 4 lb
Uses: brake and clutch pads

Gold: less than 0.1 troy oz
Uses: electrical contacts for automatic braking system, airbags, and computer circuit boards

Platinum: less than 0.1 troy oz
Uses: catalytic converter, spark plugs

Other Mineral Products (all less than 1 lb)
Barium, Cadmium, Cobalt, Gallium, Graphite, Halite, Silver, Strontium, Tin, Titanium, Tungsten, Wollastonite, Zirconium

Source: http://www.mnh.si.edu/earth/text/3\_3\_2\_1.html#quartz