ILLINOIS' mining... Industrial (Silica) Sand

After the overlying soil is removed, the silica sand is initially fragmented by blasting or directly removed with a loader. Often the fragmented sand is hydraulically moved to the processing plant where it is washed, dried and sized. The sized product is then blended for the given customer's product specifications.

Quarried in LaSalle and Ogle Counties, silica sand production in Illinois leads the nation. The sand is quarried by surface mining operations excavating deposits to depths of 120 feet.

Hydraulic Mining

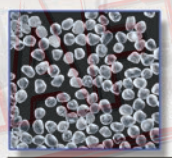
Industrial or Silica Sand is mined from a sedimentary rock known as the St. Peter Sandstone formation. This formation, composed of exceptionally pure quartz sand, was laid down as a beach deposit an estimated 470 million years ago in northern Illinois and consists of fine- to medium-sized, well sorted, well rounded, frosted grains of weakly cemented sand.

Using Hydraulic Cannon

Foundry Work

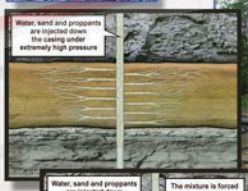
The round grain and high melting point makes this sand perfect for foundry work. The product is mixed with resins to make molds that are used to cast various metal parts for use in the automotive and heavy equipment as well as other industries.

Foundry Molds

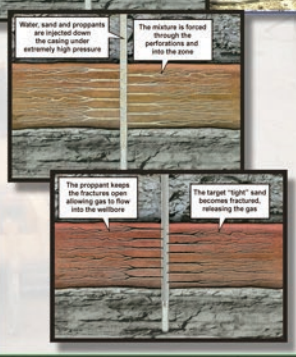


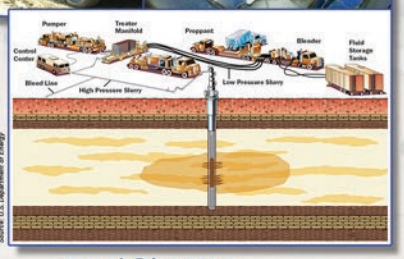
Oil and Gas Extraction

Called "frac" sand, the silica sand is injected at extremely high pressure into oil and gas yielding rock formations. The sand acts as a proppant, holding open the created fractures thereby allowing the hydrocarbons to freely flow to the extraction well.



Injecting Sand into an Oil Well





Glass Products from Silica Sand

Glass Manufacturing

Referred to as melting sand, the silica sand is used here to make flat glass, containers, fiberglass, specialty glass, lenses, etc. The product is also converted to "water glass," a base for soap products.

Specialty Sands

The silica sand is used as a filler and extender for paints and drywall compounds, ASTM testing sands, dental cleaning, golf courses,field turf and for manufactured countertops.

Sand Blasting

Silica sand is used as the abrasive agent in the sand blasting industry for the cleaning of metals prior to painting.

Building Products

The silica sand is used for white cement, pool filtration and cement exterior siding.

Other Common Products from Silica Sand

Illinois Department of Natural Resources

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