

**AGGREGATE USE IN**

**EVERYDAY**

**LIFE**

**SILICA**

**LIME**

**CLAY**

**CONCRETE**

**MORTAR**



**Michigan  
Aggregates  
Association**



For many people when they hear the word aggregate, they think construction. Aggregates are commonly used for roads, bridges, buildings, and railway ballast. They are also used in concrete to reduce shrinkage, minimize cracks and to provide strength. In addition, aggregates are also used in water filtration and sewage treatment processes.



Examples of aggregates used in construction are as follows:

- Provide drainage
- Fill voids
- Protect pipes
- Provide hard surfaces (i.e. Non-paved roads)
- Water filtration
- Sewage treatment processes
- Railway ballast
- Foundations of buildings

## OTHER AGGREGATE APPLICATIONS OUTSIDE OF CONSTRUCTION

### SILICA

There are hundreds of applications of silica in our daily life. Silica products have become so prevalent that we don't even know they are being utilized. Silica is used in the following products:

- Computer chips
- Glass
- Refractory materials
- Ceramics
- Abrasives
- Filler in cosmetics, pharmaceutical, paper, insecticides, paints, plastics, rubber
- Anti-caking agent in foods
- Flatting agent in paints
- Thermal insulator
- Photovoltaic cells
- Agriculture
- Fiberglass insulation
- Reinforcing glass fibers
- Test tubes and other scientific tools
- Incandescent and fluorescent lamps
- Television and computer CRT monitors
- Silicon-based chemicals used for food processing to soap and dye production
- Used to manufacture fiber optics
- Remove impurities from cooking oil and brewed beverages
- Flooring compounds
- Mortars
- Specialty cements
- Stucco
- Roofing shingles
- Skid resistant surfaces and asphalt mixtures to provide packing density and flexural strength
- Add durability, anti-corrosion and weathering properties in epoxy based compounds, sealants and caulks
- Filtration of drinking water
- Processing of wastewater
- Production of water from wells
- Golf course bunkers and greens
- Construction of natural or synthetic athletic fields



# LIME

Lime and limestone are essential to civil engineers and contractors as they build the world around us. It is also used for a variety of other applications, including ...

## Filler In...

- Paper
- Adhesives
- Paint
- Plastics
- PVC
- Toothpaste
- Medical tablets
- Cleaning products

- Vitamin and mineral supplements
- Flour
- Animal feed
- Fertilizers for agriculture
- Flux in the extraction of iron from iron ore
- Used by coal fired power stations for 'flue-gas desulfurization, a chemical process that converts the limestone and sulfur into gypsum



# CLAY

The major use of clay, after brick manufacture, is in the manufacture of cement, but is also used in everyday uses as listed below.



- Kitty litter
- Paint
- Paper coating and filling
- Fiberglass
- Rubber
- Sanitation processing
- Drilling mud
- Light weight aggregate
- Foundry sand bond
- Iron pelletizing, brick
- Iron ore pelletizing
- Floor and wall tiles

# CONCRETE

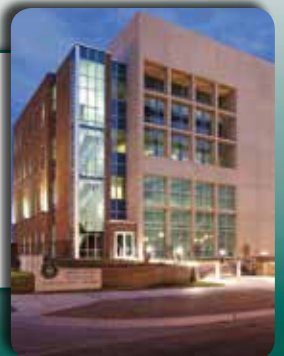
Concrete is specific to different applications like rebuilding, mending and construction and used for a variety of everyday products including, but not limited to, the following uses...

- Blocks
- Tiles
- Pipes
- Foundations
- Walls
- Floors
- Roofs
- Pillars
- Doorsills
- Bridges
- Dams
- Pavements
- Airport runways
- School playgrounds
- footpaths or bike paths
- parking lots



# MORTAR

A mixture of sand and cement, is a workable paste used to bind building blocks such as stones, bricks, and concrete masonry units together, fill and seal irregular gaps, and sometimes add decorative colors or patterns in masonry walls. Many of today's buildings, including schools, hospitals, office buildings would not stay together without the use of mortar.



It is worth noting that the various examples provided in this document are only a sampling of the numerous applications that currently utilize aggregates in our daily lives. Now that you are informed of some of its many uses, keep an eye out for how aggregate positively impacts your daily life.

The **Michigan Aggregates Association** is a statewide association that represents companies engaged in the production of aggregates. This document has been created to help inform the public on the many daily uses of aggregates in our everyday life.

*As you go about your daily activities, please think about the many positive impacts that aggregates have on your quality of life.*

# AGGREGATE USE IN EVERYDAY LIFE

SILICA LIME CLAY CONCRETE MORTAR



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