

By crushing aggregate extracted from the stony mountain, the aggregates are broken into for diverse use and stored so that they could be sold

Definition of Aggregate

Aggregate Extraction Method	Rock (limited to crushed stone) in rivers, forests, sea (shared surface) other ground, underground. It is used as the basic material for construction such as pebbles or sand
Concrete Standard Specifications and Construction Standard Specifications	Fine aggregate, which is mixture of cement and water to make concrete or mortar, smashed sand, pebbles, smashed thick aggregate, sea sand, shaft furnace slag fine aggregate, shaft furnace slag thick aggregate and other similar materials
Korea Industrial Standard (KSF 2523)	As a construction use mining material that can form a lump by integrating with concrete, mortar, lime mix, bituminous mixture, it is chemically stable. Yet mixed materials do not apply.

Classification of Aggregates

Aggregate due to grain diameter

- Fine Aggregate

It passes the standard size of 10mm and almost passes 4.76mm. It is an aggregate that leaves only 0.074mm. I has grain diameter of 5mm or less. Meanwhile, the Ministry of Land, Transport and Maritime Affairs construction specification define it as aggregate that passes 85% or more of weight ratio from 5mm having passed all of 10mm. This is because on site, fine aggregates are sometimes formed of those of 5mm or more, thus 15% extra has been set.

- Thick Aggregate

A thick aggregate refers to one with grain diameter of 5mm or more and in term of weight ratio, it means having 85% or more left from the 5mm.

Classification according to area of production

Natural Aggregate

As an aggregate made of natural reactions regardless of the site, there is river sand, river pebble, sea pebble, sea, pebble, land sand, mountain sand and mountain pebble

- Artificial Aggregate (crushed stone or sand)

Made by crushing rock

- Artificial Light Aggregate

With shale, clay and coal as its main component, it is made artificially. As there is a lot of air gap inside the aggregate, the absolutely dry ratio is less than 2.0 for fine aggregates and less than 1.6 for light aggregates

Classification according to weight (Aggregate standard weight: 2.60)

- Normal Aggregate

2.50~2.65: Normal aggregate used for general constructions

- Light Aggregate (2.50 or less, Jeju Island pebbles)

It is classified into natural and artificial aggregate. The insides of the aggregate have lots of air and the surface is of glass film. The fine aggregate has an absolute dry density of less than 0.0018g/m³ and the thick aggregate less than 0.0015g/m³

- Heavy Aggregate 2.70 or more

An aggregate that weighs more than barite, limonite and magnetite

Process Flow



1st Crush Use (jaw crusher/vibration feeder)

- This equipment is used for crushing equipment in 1st stage of the overall plant
- The original stone has soils and small stones removed by vibration gears



2nd Crush Use (impact crush)

- It selects products crushed in the first equipment and crushes again
- It is designed for product manufacturing that is minute in the 2nd and 3rd crushing process



Selection and Transfer (screen/conveyor)

- Selects the crushed product and transfers to next stage
- Controls width and speed freely and operation is quiet and transfer is precisely designed
- Structure is simple



Storage Use (in between)

- Equipment that saves products selected and transferred
- Precisely designed so that there is no bridge problem in the storage tank and so that products can flow out smoothly
- Diverse emission assistance device can be used



Removing Dust Scattering (Bag Filter)

- Maintains clearly the site by absorbing dust that is scattered while crushing, selecting and transferring the original stone
- On the storage tank, vent filter type is used
- The piled up dust is sold as fine powder