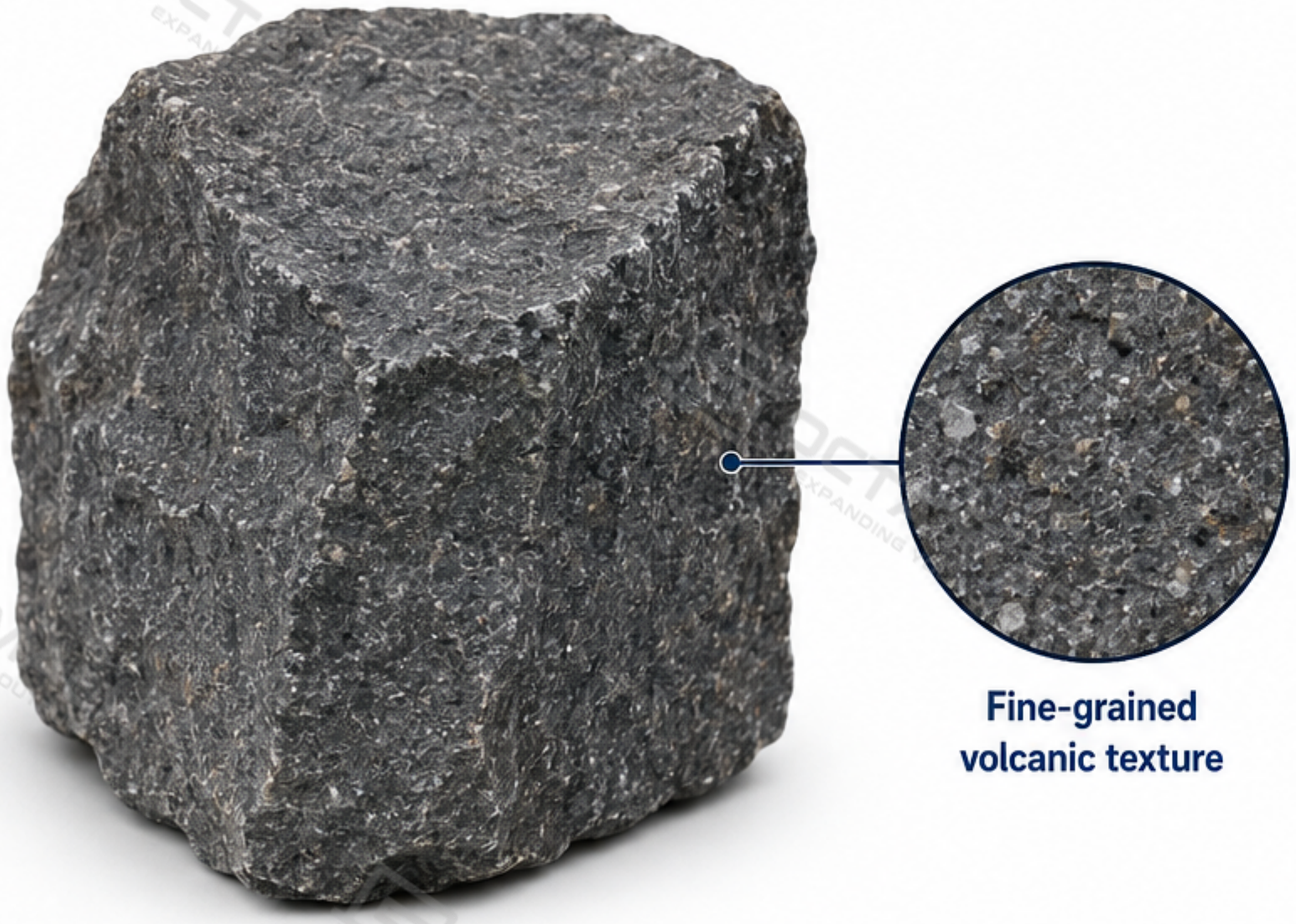
Andesite Feed Characteristics and Crushing Selection Guide

Engineering Reference for Andesite Aggregate Production



Natural Andesite Rock

1

Fresh Andesite

- Dense volcanic structure
- Strong mineral bonding

2

Fractured Andesite

- Natural fracture development
- Preferred breakage zones

3

Weathered Andesite

- Altered mineral zones
- Reduced structural integrity

Feed condition directly influences crushing behavior and aggregate performance.

Fresh, Fractured and Weathered Andesite Behavior

Andesite Feed Condition Classification

1 Fresh Andesite

Structure

Dense crystalline volcanic matrix

Characteristics

- Dense mineral bonding
- Limited internal defects
- High rock integrity

Crushing Influence

- Requires stable crushing force
- Produces durable aggregate particles

2 Fractured Andesite

Structure

Natural cracks and discontinuities

Characteristics

- Internal fracture planes
- Variable rock strength

Crushing Influence

- Breakage may follow fracture zones
- Particle shape may vary

3 Weathered Andesite

Structure

Altered mineral zones near rock surface

Characteristics

- Weaker bonding areas
- Higher internal defects

Crushing Influence

- Increased fines generation
- Requires better material control

The same andesite deposit may contain different feed conditions, requiring equipment selection based on actual rock behavior rather than rock name alone.

Andesite Aggregate Performance Control Factors

Feed Condition → Crushing & Screening → Aggregate Performance

1. ANDESITE FEED

Fresh Andesite

Dense structure

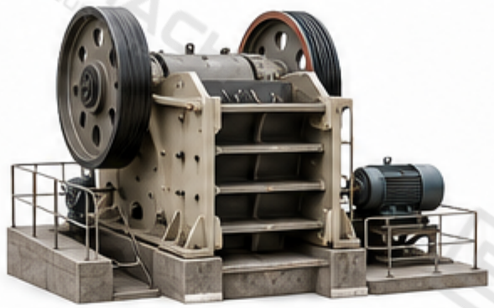
Fractured Andesite

Natural weakness

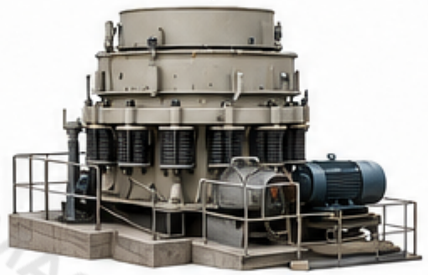
Weathered Andesite

Altered zones

2. CRUSHING & SCREENING



Jaw Crusher



Cone Crusher

Vibrating Screen

- **Size Reduction**
- **Particle Separation**

3. QUALITY CONTROL TARGETS

A Particle Shape

Angular particle → Cubical particle

Influences packing and concrete performance

B Size Distribution

Controls grading stability and product consistency

C Material Integrity

Intact particle → Fractured / weak particle

Affects durability and resistance to breakdown

Aggregate performance is determined by both original rock condition and crushing control.

Andesite Crusher Selection Decision Logic

Engineering decision workflow for andesite aggregate processing

Andesite Feed

Evaluate feed condition before selecting crushing equipment

Step 1: Check Feed Condition

Fresh & Dense

- High crushing resistance

Jaw Crusher + Cone Crusher

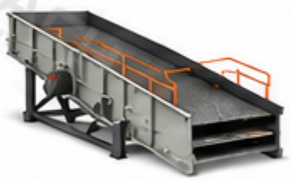
Fractured Material

- Variable breakage behavior

Adjust crushing settings

Weathered Material

- Higher fines generation



Improve screening control

Step 2: Define Final Product Requirement

Concrete Aggregate

- Controlled grading
- Suitable particle shape

Road Material

- Strength
- Durability

Manufactured Sand

- Shape improvement
- Fines control

Selection Factors

Feed size

Rock condition

Required output

Product specification