Technical Specifications Sheet

Shikhar Microns - Industrial Minerals

Comprehensive Product Specifications & Quality Standards

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1. Calcite Powder Specifications

Chemical Composition:

• Calcium Carbonate (CaCO■): 98% minimum
• Magnesium Carbonate (MgCO■): 0.5% maximum
• Iron Oxide (Fe■O■): 0.1% maximum
• Silica (SiO■): 0.5% maximum
• Loss on Ignition: 43-44%

Physical Properties:

• Brightness (ISO 2470): 95% minimum
• Whiteness (Hunter): 95% minimum

• Oil Absorption (ASTM D281): 25-28 g/100g

• Moisture Content: 0.1% maximum

• pH Value: 8.5-9.5

• Specific Gravity: 2.7 g/cm³

• Bulk Density: 0.8-1.2 g/cm³

Available Mesh Sizes:

Mesh Size	Particle Size (Microns)	Applications
200 mesh	74 microns	Construction, Coarse fillers
270 mesh	53 microns	Standard industrial applications
325 mesh	44 microns	Fine industrial applications
400 mesh	38 microns	Standard paints, plastics, rubber
500 mesh	25 microns	Premium paints, fine plastics
635 mesh	20 microns	High-quality coatings
800 mesh	15 microns	Premium coatings, fine papers
1000 mesh	10 microns	Ultra-fine applications
1200 mesh	8 microns	Specialty applications
1500 mesh	5 microns	Ultra-fine specialty applications

2. Dolomite Powder Specifications

Chemical Composition:

• Calcium Carbonate (CaCO■): 55-58%

• Magnesium Carbonate (MgCO■): 40-43%

• Iron Oxide (Fe■O■): 0.1% maximum

• Silica (SiO■): 0.5% maximum

• Loss on Ignition: 45-47%

Physical Properties:

• Brightness (ISO 2470): 90% minimum

• Whiteness (Hunter): 90% minimum

• Oil Absorption (ASTM D281): 28-32 g/100g

• Moisture Content: 0.1% maximum

• pH Value: 8.0-9.0

• Specific Gravity: 2.85 g/cm³

• Bulk Density: 0.9-1.3 g/cm³

Available Mesh Sizes:

Mesh Size	Particle Size (Microns)	Applications
100 mesh	149 microns	Coarse construction materials
120 mesh	125 microns	Construction materials
140 mesh	105 microns	Construction materials
170 mesh	88 microns	General industrial applications
200 mesh	74 microns	Construction, coarse fillers
230 mesh	63 microns	General industrial applications
270 mesh	53 microns	Standard industrial applications
325 mesh	44 microns	Fine industrial applications
400 mesh	38 microns	Standard paints, plastics, rubber
500 mesh	25 microns	Premium paints, fine plastics
635 mesh	20 microns	High-quality coatings
800 mesh	15 microns	Premium coatings
1000 mesh	10 microns	Ultra-fine applications

3. Coated Calcite Powder Specifications

Base Material:

Premium Calcite Powder

Coating Agent:

Stearic Acid (1.5-2.5% by weight)

Chemical Composition:

• Calcium Carbonate (CaCO■): 97% minimum

• Stearic Acid Coating: 1.5-2.5%

• Moisture Content: 0.05% maximum

• Loss on Ignition: 44-45%

Physical Properties:

• Brightness (ISO 2470): 95% minimum

• Whiteness (Hunter): 95% minimum

• Oil Absorption (ASTM D281): 18-22 g/100g

• Moisture Absorption: 0.05-0.1%

• pH Value: 8.0-8.5

• Specific Gravity: 2.7 g/cm³

• Bulk Density: 0.8-1.1 g/cm³

Available Mesh Sizes:

• 400 mesh: 38 microns (Standard applications)

• 500 mesh: 25 microns (Premium applications)

• 635 mesh: 20 microns (High-quality applications)

• 800 mesh: 15 microns (Premium applications)

• 1000 mesh: 10 microns (Ultra-fine applications)

4. Coated Dolomite Powder Specifications

Base Material:

Premium Dolomite Powder

Coating Agent:

Stearic Acid (1.5-2.5% by weight)

Chemical Composition:

• Calcium Carbonate (CaCO■): 54-57%

• Magnesium Carbonate (MgCO■): 39-42%

• Stearic Acid Coating: 1.5-2.5%

• Moisture Content: 0.05% maximum

• Loss on Ignition: 46-48%

Physical Properties:

• Brightness (ISO 2470): 90% minimum

• Whiteness (Hunter): 90% minimum

• Oil Absorption (ASTM D281): 20-25 g/100g

• Moisture Absorption: 0.05-0.1%

• pH Value: 7.5-8.5

• Specific Gravity: 2.85 g/cm³

• Bulk Density: 0.9-1.2 g/cm³

Available Mesh Sizes:

• 200 mesh: 74 microns (Construction applications)

• 270 mesh: 53 microns (Standard applications)

• 325 mesh: 44 microns (Fine applications)

• 400 mesh: 38 microns (Standard applications)

• 500 mesh: 25 microns (Premium applications)

• 635 mesh: 20 microns (High-quality applications)

• 800 mesh: 15 microns (Premium applications)

• 1000 mesh: 10 microns (Ultra-fine applications)

5. Ground Calcium Carbonate (GCC) Specifications

Chemical Composition:

• Calcium Carbonate (CaCO■): 98% minimum

• Magnesium Carbonate (MgCO■): 0.5% maximum

• Iron Oxide (Fe■O■): 0.1% maximum

• Silica (SiO■): 0.5% maximum

• Loss on Ignition: 43-44%

Physical Properties:

• Brightness (ISO 2470): 95% minimum

• Whiteness (Hunter): 95% minimum

• Oil Absorption (ASTM D281): 25-28 g/100g

• Moisture Content: 0.1% maximum

• pH Value: 8.5-9.5

• Specific Gravity: 2.7 g/cm³

• Bulk Density: 0.8-1.2 g/cm³

Available Mesh Sizes:

• 100 mesh: 149 microns (Coarse applications)

• 200 mesh: 74 microns (Standard applications)

• 400 mesh: 38 microns (Fine applications)

• 500 mesh: 25 microns (Premium applications)

• 800 mesh: 15 microns (High-quality applications)

• 1000 mesh: 10 microns (Ultra-fine applications)

• 1200 mesh: 8 microns (Specialty applications)

• 1500 mesh: 5 microns (Ultra-fine specialty applications)

6. Particle Size Distribution Charts

Typical Particle Size Distribution (400 Mesh Calcite Powder):

• D10: 8 microns

• D50: 18 microns

• D90: 35 microns

• D95: 42 microns

Typical Particle Size Distribution (500 Mesh Calcite Powder):

• D10: 5 microns

• D50: 12 microns

• D90: 25 microns

• D95: 30 microns

Typical Particle Size Distribution (800 Mesh Calcite Powder):

• D10: 3 microns

• D50: 8 microns

• D90: 15 microns

• D95: 18 microns

7. Chemical Analysis Reports

Standard Test Methods:

• Calcium Content: EDTA Titration (ASTM E350)

• Magnesium Content: EDTA Titration (ASTM E350)

• Iron Content: Atomic Absorption Spectroscopy (ASTM E350)

• Silica Content: Gravimetric Analysis (ASTM E350)

• Loss on Ignition: Gravimetric Analysis (ASTM D7348)

Quality Certificates:

• ISO 9001:2015 Quality Management System

• ISO 14001:2015 Environmental Management System

• OHSAS 18001:2007 Occupational Health & Safety

• Bureau of Indian Standards (BIS) Certification

8. Physical Properties

Color Properties:

• L* Value (Lightness): 95-98

• a* Value (Red-Green): -0.5 to 0.5

• b* Value (Yellow-Blue): 0.5 to 2.0

• C* Value (Chroma): 0.5 to 2.5

• h* Value (Hue): 85 to 95

Rheological Properties:

• Viscosity (Brookfield): 200-500 cP

• Thixotropy Index: 1.2-1.8

• Yield Stress: 10-50 Pa

9. Quality Control Standards

Incoming Raw Material Testing:

• Chemical composition analysis

• Particle size distribution

• Brightness and whiteness measurement

• Moisture content determination

• Impurity analysis

In-Process Quality Control:

• Continuous particle size monitoring

• Brightness measurement at each stage

• Moisture content control

• Coating uniformity verification

• Temperature and pressure monitoring

Final Product Testing:

• Complete chemical analysis

• Particle size distribution

• Physical properties testing

• Brightness and whiteness measurement

• Moisture content verification

• Packaging and labeling inspection

10. Testing Methods & Certifications

Laboratory Equipment:

• Laser Particle Size Analyzer (Malvern Mastersizer 3000)

• Brightness Meter (Technidyne Brightimeter)

• Oil Absorption Tester (ASTM D281)

• Moisture Analyzer (Mettler Toledo)

• Atomic Absorption Spectrophotometer

• X-Ray Fluorescence Spectrometer

Testing Frequency:

• Raw Materials: Every batch

• In-Process: Every 2 hours

• Final Product: Every batch

• Calibration: Monthly

• Equipment Maintenance: Quarterly

Certification Bodies:

• Bureau of Indian Standards (BIS)

• Indian Institute of Chemical Technology (IICT)

• National Accreditation Board for Testing and Calibration Laboratories (NABL)

This technical specifications sheet is provided by Shikhar Microns to ensure complete transparency in our product quality and performance standards. All specifications are subject to our quality control procedures and may vary slightly within acceptable tolerances.