Complete Guide to Mineral Selection

Shikhar Microns - Your Trusted Industrial Minerals Partner

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1. Introduction to Industrial Minerals

Industrial minerals play a crucial role in modern manufacturing, providing essential properties to various products across multiple industries. At Shikhar Microns, we specialize in high-quality calcite powder, dolomite powder, and coated mineral products that enhance performance and efficiency in your manufacturing processes.

2. Calcite Powder vs Dolomite Powder

Calcite Powder (CaCO■)

• Pure calcium carbonate
• Higher brightness (95%+)
• Lower oil absorption (25-28 g/100g)
• Better for paints and coatings
• Superior whiteness and opacity
• Excellent for paper industry
• Higher cost, premium quality

Dolomite Powder (CaMg(CO■)■)

• Calcium magnesium carbonate
• Enhanced strength properties
• Cost-effective solution
• Better for construction materials
• Superior durability and hardness
• Excellent for glass industry
• Good for bulk applications

3. Coated vs Uncoated Minerals

Coated Minerals Benefits:

• Enhanced polymer compatibility
• Improved moisture resistance
• Better processing efficiency
• Superior mechanical properties
• Reduced processing time (20-30% faster)
• Lower energy consumption (15-25% reduction)

When to Choose Coated:

• High-performance polymer applications
• Moisture-sensitive environments
• Premium product requirements
• Processing efficiency is critical

When to Choose Uncoated:

• Cost-sensitive applications
• Basic performance requirements
• Non-critical applications
• Bulk material usage

4. Particle Size Selection Guide

Mesh Size to Micron Conversion:

• 200 mesh = 74 microns (Construction, Coarse fillers)

• 400 mesh = 38 microns (Standard paints, plastics, rubber)

• 500 mesh = 25 microns (Premium paints, fine plastics)

• 800 mesh = 15 microns (Premium coatings, fine papers)

Selection Criteria:

• Smaller particles (higher mesh): Smoother finish, better opacity, higher cost

• Larger particles (lower mesh): Better bulk properties, cost-effective, rougher finish

5. Industry-Specific Applications

Paint Industry:

• Interior Paints: 400-500 mesh (38-25 microns)

• Exterior Paints: 270-400 mesh (53-38 microns)

• Automotive Coatings: 635-800 mesh (20-15 microns)

Plastic Industry:

• Injection Molding: 400-500 mesh (38-25 microns)

• Extrusion: 270-400 mesh (53-38 microns)

• Film & Sheet: 635-800 mesh (20-15 microns)

Construction Materials:

• Concrete: 100-270 mesh (149-53 microns)

• Mortar: 200-325 mesh (74-44 microns)

• Ceramics: 400-500 mesh (38-25 microns)

6. Quality Standards and Testing

Our minerals undergo rigorous quality control:

• Purity Testing: 98%+ calcium carbonate content

• Particle Size Analysis: Consistent distribution

• Brightness Testing: 95%+ for calcite, 90%+ for dolomite

• Moisture Content: <0.1% for processing stability

• Oil Absorption: Optimized for each application

7. Cost-Benefit Analysis

Processing Cost Savings:

• Energy reduction: 15-25% lower processing temperatures

• Time savings: 20-30% faster processing cycles

• Equipment maintenance: Reduced wear and tear

• Quality improvement: Fewer rejects and rework

Product Performance Benefits:

• Higher value products: Premium pricing potential

• Extended product life: Better durability and stability

• Market differentiation: Competitive advantage

• Customer satisfaction: Improved end-user experience

8. Technical Specifications

Calcite Powder Specifications:

• Chemical Formula: CaCO■

• Purity: 98%+ (min)

• Brightness: 95%+ (min)

• Oil Absorption: 25-28 g/100g

• Moisture: <0.1%

• Available Mesh Sizes: 200-1500

Dolomite Powder Specifications:

• Chemical Formula: CaMg(CO■)■

• Purity: 95%+ (min)

• Brightness: 90%+ (min)

• Oil Absorption: 28-32 g/100g

• Moisture: <0.1%

• Available Mesh Sizes: 100-1000

This guide is provided by Shikhar Microns to help you make informed decisions about mineral selection for your specific applications. For personalized recommendations, please contact our technical team.