



# Ceramics BOM Clay Composition Checklist

## Clay Source Identification

Verify the origin and supplier of the clay used in the ceramic product.

**Supplier Name**

Write something...

**Mine/Quarry Location (if known)**

Write something...

**Clay Type (e.g., Kaolinite, Ball Clay, Bentonite)**

- ☐ Kaolinite
- ☐ Ball Clay
- ☐ Bentonite
- ☐ Other

**Lot/Batch Number**

Enter a number...

### Date of Receipt

### Supplier Certificate of Analysis (COA)

[📁 Upload File](#)

## Mineralogical Analysis

Review the composition of key minerals (e.g., kaolinite, illite, smectite) within the clay.

### Kaolinite (%)

### Illite (%)

### Smectite (%)

### Quartz (%)

### Feldspar (%)

Enter a number...

### Identification Method

- ☐ X-Ray Diffraction (XRD)
- ☐ Optical Microscopy
- ☐ Chemical Analysis

### Notes/Observations

Write something...

## Particle Size Distribution

Assess the range and distribution of particle sizes within the clay mixture.

### D10 Value (10th Percentile)

Enter a number...


### D50 Value (Median)

Enter a number...

### D90 Value (90th Percentile)

Enter a number...

## Particle Size Distribution Graph

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### Mean Particle Size

Enter a number...

### Standard Deviation of Particle Size

Enter a number...

### Measurement Method

- ☐ Laser Diffraction
- ☐ Sieve Analysis
- ☐ Microscopy

## Organic Content

Measure and document the amount of organic matter present in the clay.

### Total Organic Carbon (TOC) (%)

Enter a number...

### Humic Substances (%)

Enter a number...

### Fulvic Acid Content (%)

Enter a number...

### Lignin Content (%)

Enter a number...

### Organic Matter Source

- ☐ Peat
- ☐ Wood
- ☐ Plant Debris
- ☐ Unknown

### Notes on Organic Matter Characteristics

Write something...

## Impurities Analysis

Identify and quantify any impurities (e.g., iron oxides, quartz) within the clay.

### Iron Oxide Content (%)

Enter a number...

### Quartz Content (%)

Enter a number...

### Titanium Dioxide Content (%)

Enter a number...

### Type of Feldspar Present

- ☐ Albite
- ☐ Orthoclase
- ☐ Sanidine
- ☐ Microcline

### Description of Visible Impurities

Write something...

### Microscopy Image of Impurities

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### Calcium Carbonate Content (%)

Enter a number...

## Water Content

Record the moisture content of the raw clay material.

### Initial Water Content (%)

Enter a number...

### Water Content After Drying (24 hours) (%)

### Target Water Content (%)

### Drying Method Used

### Temperature During Drying (°C)

### Date of Water Content Measurement

### Time of Water Content Measurement

## pH Level

Determine the pH level of the clay slurry or raw material.

### Measured pH Value

Enter a number...

### Measurement Method

- ☐ pH Meter
- ☐ Indicator Paper

### Calibration Solution Used (if applicable)

Write something...

### Date of Measurement

Enter date...

### Time of Measurement

## Plasticity and Workability

Evaluate the clay's plasticity and workability for processing.

### Plasticity Index (PI)

Enter a number...

### Wet Leg Strength (psi)

Enter a number...



### Dry Leg Strength (psi)

Enter a number...

### Visual Assessment of Workability

☐ Excellent

☐ Good

☐ Fair

☐ Poor

### Qualitative Observations on Workability

Write something...

## Consistency with Specification

Confirm that the clay composition meets established quality specifications.

### Kaolinite Percentage

Enter a number...

### Quartz Content (ppm)

Enter a number...

### Iron Oxide Content (%)

Enter a number...

### Clay Grade

- ☐ Commercial
- ☐ Industrial
- ☐ Refractory

### Specification Version

- ☐ Version 1.0
- ☐ Version 1.1
- ☐ Version 2.0

### Meets Specification?

- ☐ [object Object]

## Documentation & Traceability

Ensure complete documentation and traceability of clay composition data.

### Clay Composition Analysis Date

Enter date...

### Analysis Methodology Description

Write something...

### Laboratory Performing Analysis

- ☐ Lab A
- ☐ Lab B
- ☐ Lab C

### Analysis Report Number

Enter a number...

### Attach Analysis Report

 Upload File

### Deviations from Standard Procedure (if any)

Write something...

### Verified By

- ☐ QA Manager
- ☐ Production Supervisor
- ☐ Ceramics Engineer

### Verification Date

Enter date...