

Moisture in Limestone (CAC03)

Application Briefs - Minerals

Quarried limestone is crushed, screened and washed in order to remove impurities prior to the calcination process in the production of quicklime, or to meet the requirements of the customer; the construction industry, cement, iron and steel, glass making, paper, sugar refining or one of the many other industries using limestone as a raw material.

MCT 300 moisture measurements enable the rejection of the finer wet impurities, such as clay, sand and iron-bearing minerals, from the crushed limestone. In addition, the MCT 300 is used to determine the moisture content of the finely crushed limestone exiting the secondary crusher, and dryer - if one is employed. Moisture needs to be monitored to ensure corrective measures can be taken to prevent blockages from occurring within the Screeners, as well as to ensure the levels satisfy the customer's specification.

Limestone Production

Limestone is quarried or mined rock. The processed material is crushed and transported across sizing screens whereupon it is saturated with water to remove unwanted material before storage and transportation, or further processing.

Measurement Location

Several measurement locations are feasible:

1. Over a conveyor before the final crusher (0-5% moisture) to enable elimination of impurities.
2. Above a conveyor exiting the final crusher or dryer (0-1% moisture).

Gauge Installation

The gauge should be positioned 6-15" from the product. Product flow should be continuous and of sufficient depth that the transporting medium is not seen by the gauge. If flow is discontinuous, a gating option can be used to enable measurement only when product is viewed.

Measurement Performance

Measurement	Location	Target %	Typical Accuracy %
Limestone (50-100mm)	Post First Crusher	0-5%	0.2%
Finer Crushed Limestone	Post Final Crusher	0-2%	0.15%

