Shape Index Caliper

LT-A0046 | Mechanical Vernier measurement | EN 933-4

Length-to-thickness comparison • Manual measurement • Lightweight



200 mm

MEASURING RANGE

0.05 mm

SCALE GRADUATIONS

Coarse aggregate • Concrete and asphalt laboratories • Shape analysis

LT-A0046

Photograph and Measuring Components

Measuring jaws, moving slide and length scale

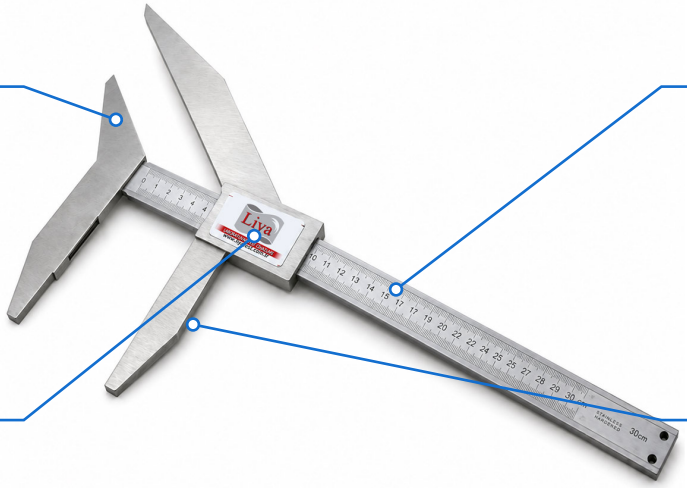
LT-A0046 mechanically measures aggregate particle length and thickness. It provides a 200 mm measuring range and 0.05 mm graduations. The dimensional ratio supports EN 933-4 shape index classification.

MEASURING JAWS

Contact opposing particle surfaces to determine the relevant dimension.

MOVING SLIDE

Adjust the distance between jaws to match particle size.



LENGTH SCALE

Read the measurement using the main scale and Vernier arrangement.

JAW SURFACE

Orient the particle appropriately for length and thickness measurements.



Length scale detail

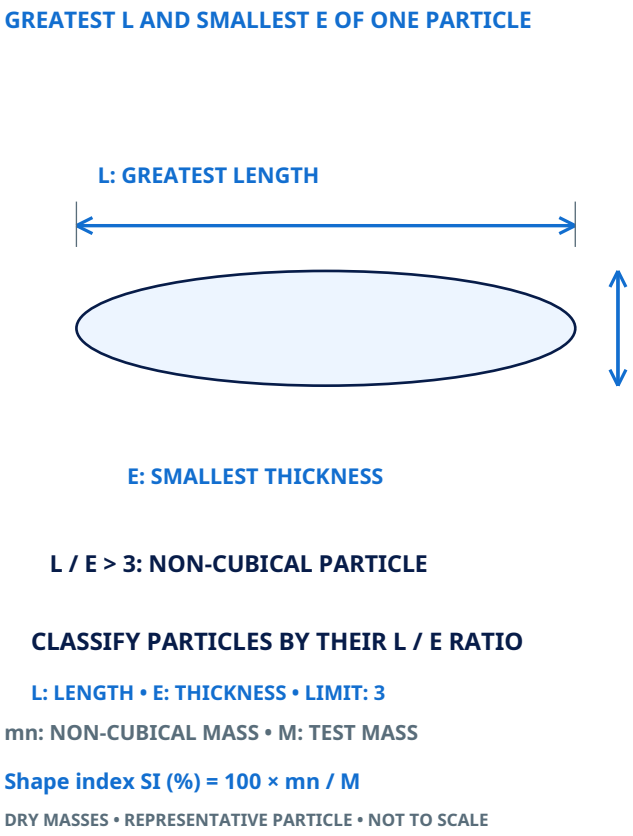


Measuring jaw detail

LT-A0046

Length / Thickness Ratio and Shape Index

Greatest length • Smallest thickness • Classification • Mass ratio



Prepare the Specimen

Separate dry material into method-specified size fractions. Establish test mass.

Measure L and E

Measure each particle's greatest length and smallest thickness. Evaluate the L/E ratio.

Classify, Weigh and Calculate

Separate and weigh particles with L/E > 3. Calculate shape index from their mass ratio.

Under EN 933-4, particles whose greatest length divided by smallest thickness exceeds 3 are classified as non-cubical. Shape index is their dry mass expressed as a percentage of the total dry test mass.

Measuring Range and Test Fractions

The caliper provides a 200 mm measuring range and 0.05 mm graduations. These values describe the instrument's measuring features.

EN 933-4 applies to fractions with lower particle size at least 4 mm and upper particle size no greater than 63 mm. Select fractions under the test method.

Measurement and Recording

Keep jaw surfaces and scales clean. Orient each particle correctly between the jaws and read dimensions without unnecessary force.

Determine length and thickness on the same particle. Keep classified groups separate; record masses, specimen ID and the resulting shape index.

Technical Specifications and Test Use

LT-A0046 • Measuring range, graduations, dimensions and methods

Specification	Value / Description
Product Code	LT-A0046
Measuring Range	200 mm
Scale Graduations	0.05 mm
Measuring System	Mechanical Vernier caliper
External Dimensions	470 × 170 × 50 mm
Weight	0.5 kg
Operation	Manual • No electrical connection required
Shape Index Method	EN 933-4
Other Methods	DIN 4226 • CNR No.95 • NLT 354
EN 933-4 Size Fractions	Lower size 4 mm • Upper size 63 mm

Measure Greatest Length and Smallest Thickness on One Particle

Separate particles with L/E > 3. Shape index is calculated from the dry mass proportion of the classified particles, rather than their number.

From Aggregate Particle to Shape Index Result

01
Prepare
Separate dry material into suitable fractions.

02
Measure
Measure greatest L and smallest E on one particle.

03
Weigh
Separate and weigh L/E > 3 particles.

04
Calculate
Calculate SI percentage from the mass ratio.

Product Page | liyatest.com.tr/en/urun/shape-index-caliper/