OPERATING MANUAL

Four-Station Proportional Caliper
HM-38B

ASTM D4791

INTRODUCTION:

These instructions are a general guide for operation of this device. The complete procedure for determination of relative shape characteristics of coarse aggregates using the Four-Station Caliper is described in ASTM D4791. The user should carefully review the ASTM procedure before testing.

HM-38B

OPERATING INSTRUCTIONS:

Individual particles of aggregate of specific sieve sizes are measured to determine the ratios of width to thickness and length to width. The applied ratios are 1:2, 1:3, 1:4, and 1:5 according to desired specifications.

A. Test for Flatness

B. Test for Elongation

A. For Classification of Flat Particle Testing:

The user should set the larger opening of the Caliper equal to the particle width. If the thickness of the same particle can be placed within the smaller opening without readjusting the Caliper, the particle is classified as ***Flat.***

B. For Classification of Elongated Particle Testing:

The user should set the larger opening of the Caliper equal to the particle length. If the width of the same particle can be placed within the smaller opening without readjusting the Caliper, the particle is classified as ***Elongated.***

If the particle does not meet either classification of Flat or Elongated, it is classified as ***Neither Flat nor Elongated.***

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DEFINITIONS:

Flat Particles — The particles having a ratio of width to thickness greater than a specified value.

Elongated Particles — The particles having a ratio of length to width greater than a specific value.

MAINTENANCE:

Very little maintenance is required for the Four-Station Caliper. Clean the Caliper before each test to avoid foreign particles which may effect results. Every six months add a drop of oil into the ratio holes for smooth operation. Periodically, inspect parts for wear to ensure compliance with ASTM D4791.