## OPERATING MANUAL

## Proportional Caliper Model 9101-B



## INTRODUCTION

The Proportional Caliper device is used to determine flat, elongated, or flat and elongated particles in coarse aggregates. Please refer to ASTM D4791 for the full test procedure.

## FEATURES

- Constructed of 7-gauge steel with a yellow zinc coating for durability
- Four position options for 1:2, 1:3, 1:4, and 1:5 ratios.
- All four ratios are set with one adjustment
- $6 \times 16$ inch base with four rubber feet for added stability.


## DEFINITIONS

- Flat Particles have a ratio of width to thickness greater than a specified value.
- Elongated Particles have a ratio of length to width greater than a specified value.
- Flat and Elongated Particles have a ratio of length to thickness greater than a specified value.


## PROCEDURE

- Flat Particles: set the larger opening equal to the maximum particle width. The particle is flat if the maximum thickness can be placed through the smaller opening.
- Elongated Particles: set the larger opening equal to the maximum particle length. The particle is elongated if the maximum width can be placed through the smaller opening.
- Flat and Elongated Particles: set the larger opening equal to the maximum particle length. The particle is considered flat and elongated if the maximum thickness can be placed through the smaller opening.


## MAINTENANCE

Very little maintenance is required for the Proportional Caliper. Clean the caliper before each test to remove foreign particles that may affect results. Every six months, add a drop of oil into the ratio hole for smooth operation. Periodically inspect parts for wear to ensure compliance with ASTM D4791.

