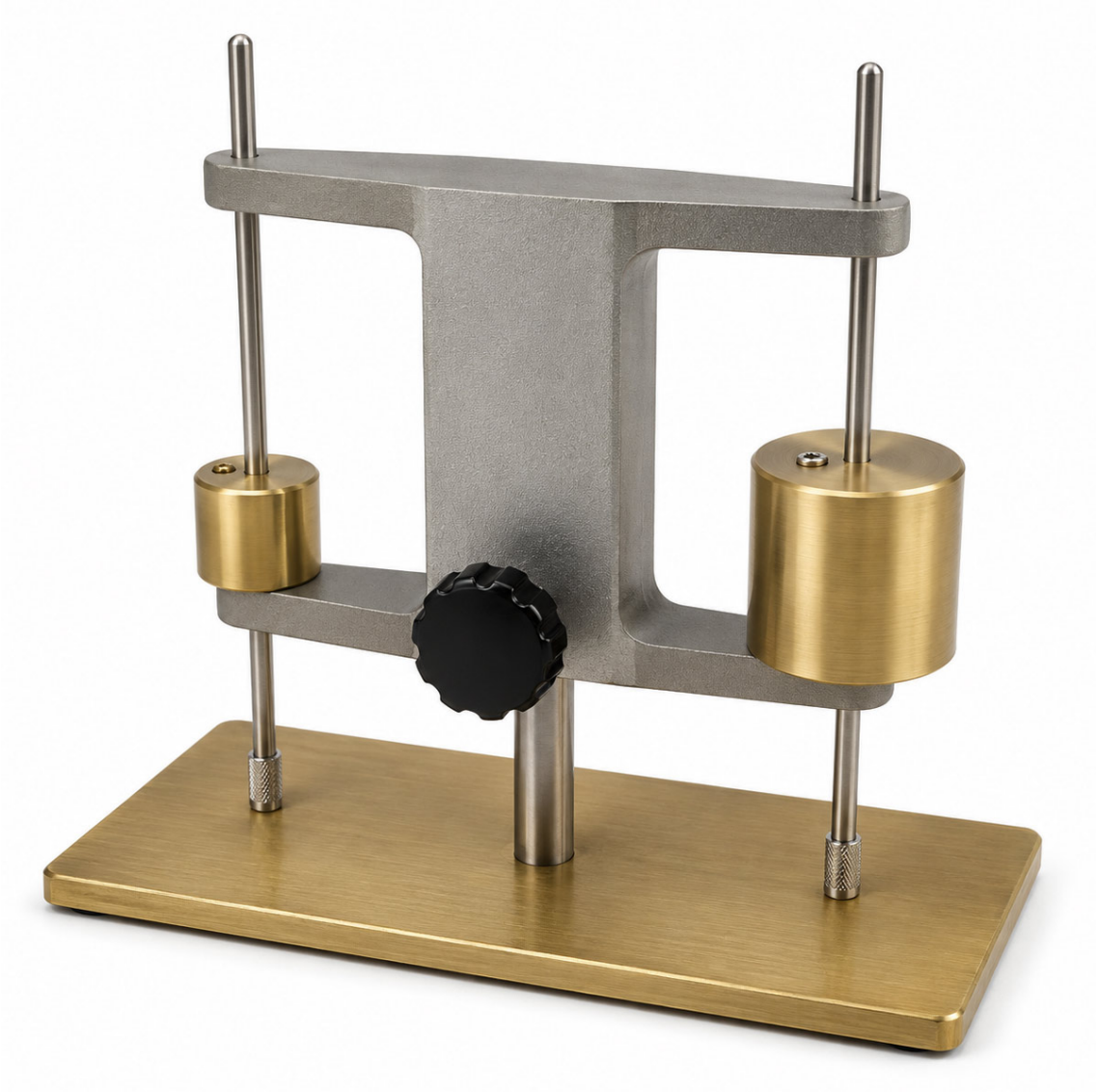
Gillmore Apparatus

LT-A0043 | Initial and final setting checks with Gillmore needles

Dual-needle mechanical arrangement • Two glass plates • Vertical contact



113.4 g

INITIAL NEEDLE • TOTAL MOVING MASS

453.6 g

FINAL NEEDLE • TOTAL MOVING MASS

ASTM C266 • AASHTO T154

LT-A0043

Photograph and Needle Components

Initial and final needles, guide frame and base

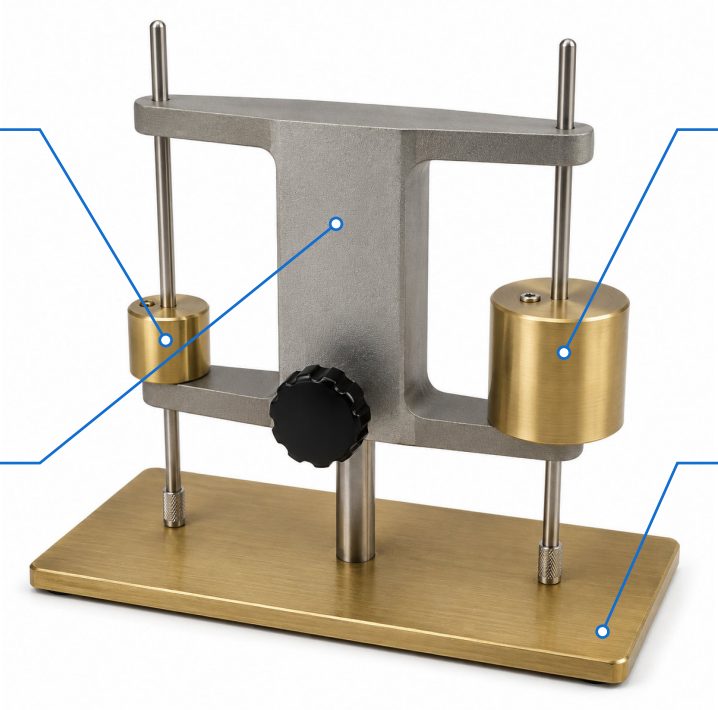
LT-A0043 evaluates initial and final setting times of hydraulic cement paste using two separate needles. Different diameters and moving masses provide two contact conditions for assessing the hardening specimen.

INITIAL NEEDLE

Ø2.12 mm tip; total moving mass 113.4 g. Used for initial-setting checks.

FINAL NEEDLE

Ø1.06 mm tip; total moving mass 453.6 g. Used for final-setting checks.



GUIDE FRAME

The rigid mechanical frame supports the needle systems and guides their vertical movement.

BASE AND SPECIMEN

The base supports the measuring arrangement. Two glass plates are supplied for specimen preparation and testing.



Initial needle and moving mass detail



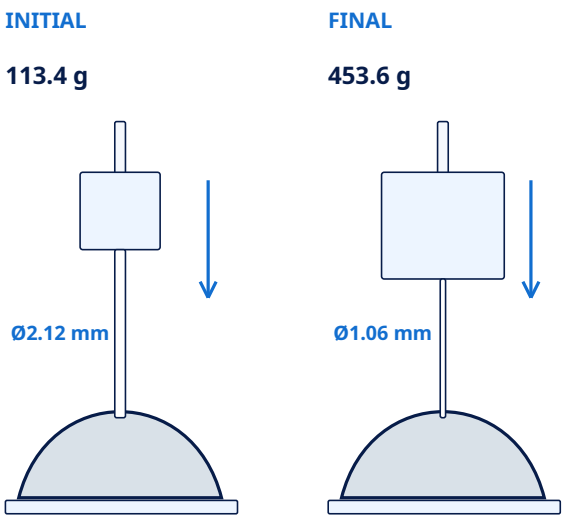
Final needle and moving mass detail

LT-A0043

Two Needles for Two Setting Stages

Prepare paste • Check surface impressions • Record setting time

INITIAL AND FINAL • SEPARATE NEEDLE CHECKS



SPECIMEN: HYDRAULIC CEMENT PASTE

RESULT: INITIAL AND FINAL SETTING TIMES

OPERATING PRINCIPLE • REPRESENTATIVE NEEDLE CONTACT • NOT TO SCALE

Prepare Paste and Timing

Prepare the specimen according to the method and place it on a glass plate. Record the test time reference.

Check Initial Setting

Lower the initial needle onto the surface as prescribed. Assess impressions and record time at the initial criterion.

Check Final Setting

Continue checks using the final needle. Assess surface impressions by the method and record final setting time.

The Gillmore test follows the response of hardening paste to surface contact by two different needles. Calculate initial and final setting times from the same time reference. Apply each stage's needle and assessment criterion separately.

Needle and Specimen Checks

The initial needle has a Ø2.12 mm tip and a total moving mass of 113.4 g. The final needle uses a Ø1.06 mm tip and a total moving mass of 453.6 g. These provide separate assessment conditions.

Keep tips clean and check free vertical movement. Maintain specimen preparation and storage conditions as prescribed. Select contact locations and checking intervals according to the test procedure.

Setting Times and Result Recording

ASTM C266 and AASHTO T154 are methods for determining hydraulic cement paste setting time by Gillmore needles. Assess setting criteria according to the selected procedure.

Record specimen identity, the time reference, checking times and observations. Report initial and final setting times separately. Clean the needle tips, glass plates and frame after testing.

Technical Specifications and Test Control

LT-A0043 • Dual-needle Gillmore apparatus

Specification	Technical Information
Product Code	LT-A0043
Test Purpose	Initial and final setting time determination
Specimen	Hydraulic cement paste
Measuring Arrangement	Two separate Gillmore needles
Initial Needle Diameter	Ø2.12 mm
Initial Moving Mass	113.4 g; total moving assembly
Final Needle Diameter	Ø1.06 mm
Final Moving Mass	453.6 g; total moving assembly
Glass Plates	2 supplied
External Dimensions	300 × 100 × 300 mm
Apparatus Weight	Approximately 2.5 kg
Test Methods	ASTM C266, AASHTO T154

Clean Tips, Vertical Contact and a Shared Time Reference

Keep needle tips clean and check vertical movement. Match specimen conditions to the method; record initial and final times separately from the same time reference.

From Cement Paste to Setting Time Results

01
Prepare
Prepare paste and glass plate as prescribed.

02
Initial
Check surface impressions with the initial needle.

03
Final
Assess impressions with the final needle.

04
Record
Report both setting times and test details.

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