U-Box Test Set

LT-C0057 | Passing and filling ability test

SCC • 3 × Ø12 mm bars • Sliding gate



3 × Ø12

REINFORCEMENT SIMULATION (mm)

20 kg

APPARATUS WEIGHT

UNI 11044 • 65 × 65 × 110 cm • Stainless-steel contact surfaces

LT-C0057

Photographs and Components

U-shaped test body, sliding gate, passage section and support frame

The U-box evaluates self-compacting concrete flowing through a confined reinforced passage. Concrete moves from the filling chamber to the second compartment under its own weight. Final concrete heights in both chambers are measured and compared.

TEST BODY

Stainless-steel contact surfaces hold concrete in both chambers. Smooth internal surfaces support flow and cleaning.

SLIDING GATE

The gate separates the compartments during filling. Opening it allows concrete to flow through the reinforced section.



SUPPORT FRAME

The rigid supporting arrangement keeps the box stable. Place the apparatus on a firm, level surface.

REINFORCED PASSAGE

Three Ø12 mm bars within the passage allow assessment of concrete movement through reinforcement.



Test body and upper gate section



Body support and retention details

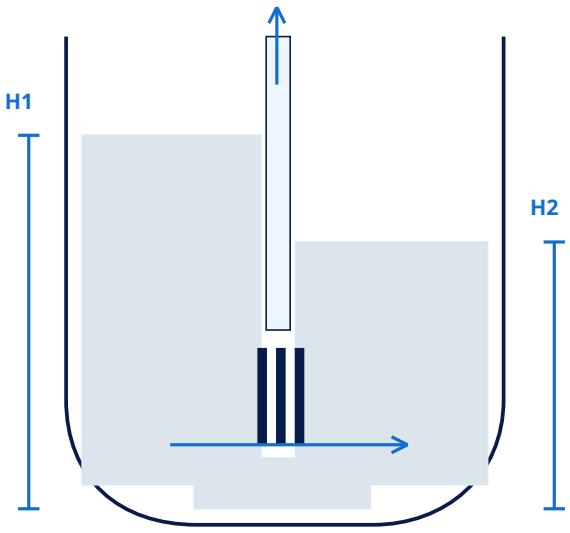
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Operating Principle and Height Differe

Prepare filling chamber • Open gate • Allow flow to stop • Measure heights

FLOW BETWEEN CHAMBERS • SCHEMATIC SECTION

PASSAGE: 3 × Ø12 mm BARS



HEIGHT DIFFERENCE = |H1 - H2|

H1 / H2: FINAL HEIGHTS MEASURED FROM THE SAME REFERENCE

Fill and Hold

Close the gate. Place the specimen in the filling chamber and follow the selected method's holding procedure.

Open and Observe

Open the sliding gate. Observe concrete passing through the bars into the second chamber and any blocking.

Measure Heights

When flow stops, measure final concrete heights from the same reference in both chambers. Record their difference.

The result is based on the difference between concrete levels after flow has stopped. A smaller difference indicates better filling and passing behaviour under the same test conditions. Record blocking observations and specimen identification with the result.

Measurement and Test Records

H1 and H2 are the concrete heights in the two chambers after flow stops. Measure both from the same base reference and in the same units. Record height difference as |H1 - H2|.

Keep initial filling height distinct from final level measurements. Record specimen identification, time, H1, H2 and passage observations. Assess results for the project conditions and selected method.

Mix Comparison and Cleaning

Keep filling, holding, gate opening and measurement consistent when comparing mixtures. Aggregate grading, mortar volume and viscosity may affect passing behaviour.

Support the assessment with slump-flow, V-funnel or L-box data where required. Clean the body, gate and bars after use; check free gate movement before the next test.

LT-C0057

Specifications and Use

LT-C0057 • U-box for SCC passing and filling ability

Technical Feature	Value / Description
Product Code	LT-C0057
Product Name	U-Box Test Set
Concrete Type	Self-compacting concrete (SCC)
Application	Passing and filling ability assessment
Flow Principle	Gravity flow between two compartments
Reinforcement Simulation	3 × Ø12 mm stainless-steel bars
Flow Control	Sliding gate
Contact Surfaces	Stainless steel
Supporting Arrangement	Rigid support frame
Overall Dimensions	65 × 65 × 110 cm
Weight	20 kg
Test Reference	UNI 11044

Final Levels and a Common Reference

Measure H1 and H2 after flow stops, using the same reference. Avoid disturbing the specimen or apparatus; record the height difference with blocking observations.

U-Box Test Workflow

01
Fill
Close the gate and fill the first chamber.

02
Start Passage
Open gate; observe flow through the bars.

03
Measure Levels
Measure final H1 and H2 after flow stops.

04
Record and Clean
Record the height difference; clean the apparatus.

Product Page | liyatest.com.tr/en/urun/u-box-test-set/