Filling Box Apparatus Kajima Test

LT-C1150 | Filling and passing behaviour through obstacles

Transparent body • 35 obstacle bars • Flow under its own weight



35 × Ø20 mm

OBSTACLE BARS

20 mm

MAXIMUM AGGREGATE SIZE

Ø100 mm filling pipe • 50 × 30 × 90 cm • 5 kg

LT-C1150

Photographs and Components

Filling funnel, pipe, obstacle bars and transparent test box

The filling box apparatus is used to observe how self-compacting concrete passes through closely spaced obstacles and fills the box under its own weight. The transparent body makes flow and material accumulation easier to observe.

FILLING FUNNEL

The upper funnel feeds fresh concrete into the filling pipe.

FILLING PIPE

The Ø100 mm pipe directs concrete to the filling side of the box.



OBSTACLE BARS

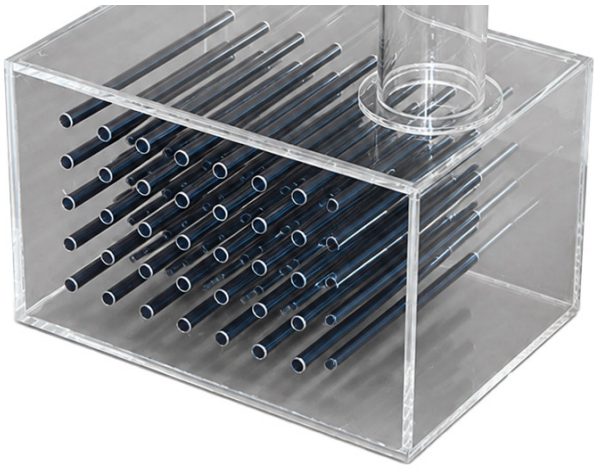
35 bars of Ø20 mm provide obstacles for assessing the passing behaviour of concrete.

TRANSPARENT TEST BOX

The body allows concrete levels, possible blocking and segregation to be observed.



Filling funnel and Ø100 mm filling pipe

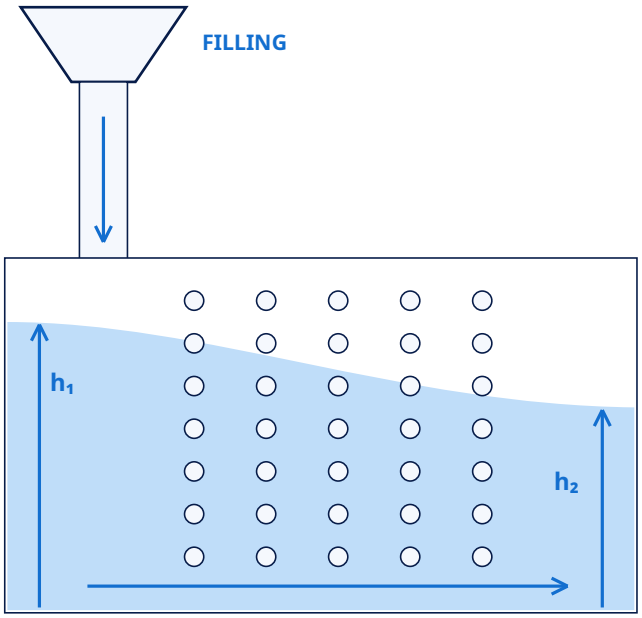


Ø20 mm obstacle bars and transparent test box

Operating Principle and Assessment

Fill • Observe flow through obstacles • Compare final concrete levels

FILLING THROUGH OBSTACLES



35 OBSTACLE BARS • Ø20 mm

SIDE VIEW • SCHEMATIC

Prepare the Apparatus

Clean the box and bars; position on a level base. Check the aggregate size of the concrete.

Fill with Concrete

Feed fresh concrete through the funnel. Observe its flow through obstacles under its own weight.

Compare the Levels

When flow stops, measure the final concrete heights at the filling and opposite sides; assess their difference.

The test allows passing through obstacles and filling the box to be observed together. A smaller difference between final concrete levels indicates more balanced filling behaviour; assess the result alongside the test conditions.

Level Difference and Observation

$\Delta h = |h_1 - h_2|$

h_1: final height at the filling side.
h_2: final height at the opposite side.

Take both measurements from the same reference level. Record accumulation around bars, blocking and uneven flow.

Self-Compacting Concrete

Offered for concrete with a maximum aggregate size of 20 mm. The transparent body helps show movement around obstacles and possible segregation.

Assess filling and passing observations alongside other fresh concrete tests. Clean the apparatus after testing.

LT-C1150

Specifications and Use Workflow

LT-C1150 • Kajima filling box • Self-compacting concrete

Technical Feature	Value / Description
Product Code	LT-C1150
Test Type	Filling box / Kajima test
Concrete Type	Self-compacting concrete
Assessment	Filling and passing behaviour
Number of Obstacle Bars	35
Obstacle Bar Diameter	Ø20 mm
Maximum Aggregate Size	20 mm
Filling System	Upper funnel and Ø100 mm pipe
Body	Transparent test box
Dimensions	50 × 30 × 90 cm
Weight	5 kg
Method References	EFNARC / JSCE

Assess Filling Behaviour Together

Record blocking around bars, aggregate accumulation and possible segregation alongside the final level difference. Measure both heights from the same reference level; assess results using the selected test method.

Test Preparation and Use Workflow

01
Prepare
Clean the box and position on a level base.

02
Fill
Feed concrete through the funnel and pipe.

03
Observe and Measure
Observe flow; measure final concrete levels.

04
Record and Clean
Record observations and clean the apparatus.

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