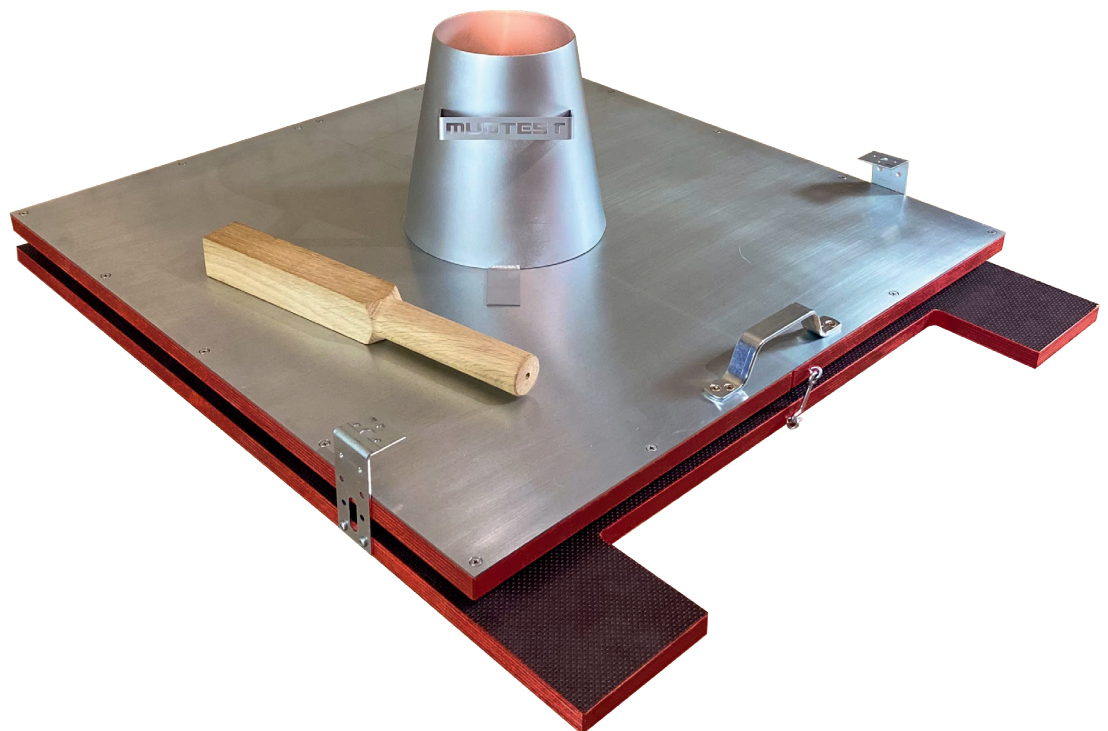


# Flow Table

## Instruction Manual



### Testing fresh concrete

The flow table test is performed according to EN 12350-05 for determining the consistency of fresh concrete.

## Declaration of Conformity

---

The manufacturer

**MUDTEST Sp. z o.o.**  
Chęćmońskiego 77, 32-500 Chrzanów, Poland

hereby declares that the following product:

<b>Name of product</b>	<b>Flow table</b>
<b>Drawing number</b>	6005.10.00000

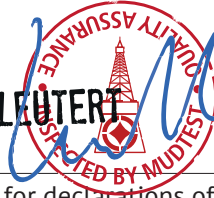
is in conformity with the following directives and standards:

- EN 12350-5: Testing fresh concrete - Part 5: Flow table test

Adendorf, 02.12.2022

Place and date

SEBASTIAN LEUTERT



Management representative for declarations of conformity

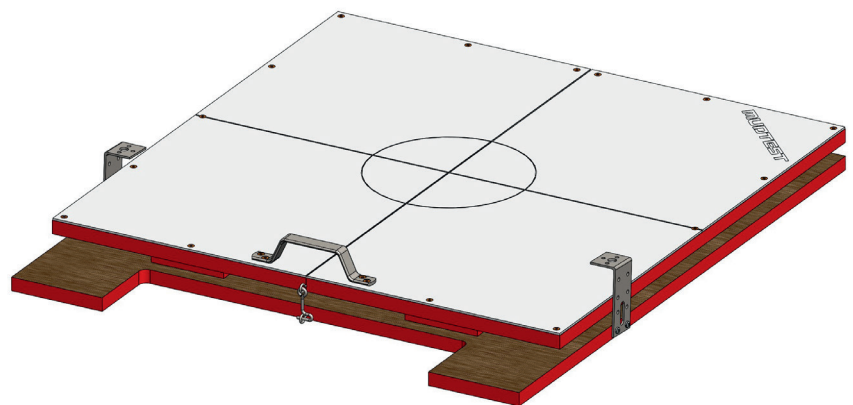
## Description flow table

---

The flow table is used to test the consistency of fresh concrete. The flow table consists of moving table made from a flat plate with a plane area of 700 × 700 mm, on which concrete can be placed. The moving table is hinged to a rigid base onto which it can fall from a fixed height to measure the spread of the concrete.

The main frame and the lower top of the flow table are made from a phenolic film faced plywood. This film faced plywood has improved resistance to abrasion, moisture penetration, chemicals, insects and fungi. The upper part of the flow tables' top is made from a flat galvanized steel plate with a thickness of 2,5 mm. The galvanized surface prevents the steel to be readily attacked by cement paste and makes it liable from rusting. The center of the table is scribed with a cross that run parallel to the edges of the tables' top plate and with a central circle of 210 mm in diameter. The galvanized steel plate and phenolic film faced plywood are screwed together. The flow table top has a mass of 16 kg and therefore complies with the specification requested by EN 12350-05.

Table top and base are hinged in such a way that no aggregate can become trapped between the hinged surfaces. The hinges may be removed easily to weigh the table top. Foot rests are provides to assist in stabilizing the flow table in use. For lifting the table top a handle is provided to ensure that the top is lifted without jerking. The fall height of the table top is limited to 40 mm by means of two stops.



## Technical specifications flow table

---

Dimensions of flow table (L x W)	:	700 x 700 mm
Dimensions of incl. foot rests (L x W)	:	800 x 700 mm
Mass of flow table top	:	16 kg
Total mass of flow table	:	23 kg

## Description mould

---

The mould is used to form the test specimen and specified in EN 12350-5. The mould is made from coated steel which will not be readily attacked by cement paste. The interior of the mould is smooth and free from projections. The mould has the form of a hollow frustum of a cone. The base and the top of the cone are open and parallel to each other and at right angle to the axis of the mould. The mould features two handles, on the upper portion, and foot pieces on the bottom position to hold it steady but to release without movement of the mould or interference with the slumping concrete.



## Technical specifications mould

---

Material	:	Zinc sheet
Diameter of base	:	(200 ± 2) mm
Diameter of top	:	(130 ± 2) mm
Height	:	(200 ± 2) mm
Wall thickness	:	1,5 mm

## Description tamping bar

---

The tamping bar is used to verdichten the fresh concrete inside the mould. The tamping bar is made is made of beech wood, having a square section of side  $(40 \pm 1)$  mm and a length of 330 mm while the square section being approximately 200 mm.



## Technical specifications tamping bar

---

Material	:	hard beech wood
Dimensions	:	40 x 40 x 333 (200 + 130) mm

## Procedure

---



**i** NOTE: Using the flow table allows to subdivide fresh concrete into the following consistency classes: Stiff (F1), plastic (F2), soft (F3), very soft (F4), free-flowing (F5) and very free-flowing (F6)

The flow test may be unsuitable for flow values below 34 cm and greater than 62 cm. Other methods of determining the consistency should be considered. The flow test is also not applicable to self-compacting concrete, foamed concrete or non-fines concrete, nor to concrete with maximum aggregate size exceeding 63 mm.

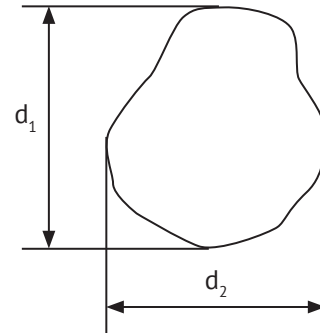
1. Place the flow table on a flat and horizontal surface free from external vibration or shock such as a sand bed.

**i** NOTE: Due to incorrect positioning or unsuitable subsoil the table top may vibrate. This can falsify the test result and a too large concrete spread can be measured. This should particular be considered if an upper limit of the spread was agreed as a must acceptance criteria.

2. Make sure the flow table is working properly
  - Can the hinged top of the table be lifted to the correct limit?
  - Is the hinged top free to fall to the lower stop?
  - Are the contact blocks freed from concrete or other obstacles?
3. Clean the table and the mould.

4. Obtain a sample and re-mix it before carrying out the test using the remixing container and the square mouthed shovel as described in EN 12350-1
5. Dampen the metal surface of the table and the mold immediately prior to testing, but keep free from superfluous moisture.
6. Place the mould centrally on the table top and hold it in position by standing on the two foot pieces.
7. Use the scoop to fill the mold halfway with concrete.
8. Level the layer by tamping lightly ten times with the tamping bar. .
9. Use the scoop to fill a second layer of concrete into the mould. Stellen Sie sich auf die Fußstützen des Ausbreittisches.
10. Level the second layer by tamping lightly ten times with the tamping bar. If necessary, add more concrete to the second layer to maintain an excess above the top of the mould. Do not tamper any further but use the tamping bar to strike off the concrete level with the upper edge of the mould.
11. Clean the area of the table top of any excess concrete.
12. Wait for 30 seconds from striking off the concrete, rise the mould vertically by the handles, over a period of 1 to 3 seconds.
13. Stabilize the flow table by standing on the foot rests at the front of the table.
14. Use the handle to slowly raise the table top till it reaches the upper stop.  
 NOTE: Avoid to hit hard against the upper stop. Hard impact may result in too large spread diameters.
15. Allow the table top to fall freely to the lower stop. Repeat this this cycle to a total of 15 drops, each cycle taking between 1 to 3 seconds.  
 NOTE: Quickly open your hand, so that falling speed of the table top will not be slowed down. This will result in to small spread diameters.

16. Using the measuring tape, measure the maximum dimensions of the concrete spread in to directions parallel to the table edges. as shown in figure below.



17. Determine the spread (mean value F) as follows:  $(d_1 + d_2) : 2 = F$ . Record the measurements to the nearest 10 mm.

**Example:**

Measured:  $d_1 = 460$  mm and  $d_2 = 480$  mm

Mean:  $f = (460 \text{ mm} + 480 \text{ mm}) : 2 = 470$  mm

Result according to the table of spread Classes below: Consistency class F3 - soft

Spread classes		
Class	Spread (diameter in mm)	Description of consistency
F1	$\leq 340$	stiff
F2	350...410	plastic
F3	420...480	soft
F4	490...550	very soft
F5	560...620	very soft
F6	$\geq 630$	very soft

- i** NOTE: If the spread is not stabilized after 15 cycles, wait until stabilization before measuring the dimensions. Record the time between the end of the last cycle and the measurement and mention it in the report.

18. Check and report concrete spread for segregation. The cement paste may separate from the coarse aggregate to give a ring of paste that extends several millimeters beyond the coarse aggregate. In the case of segregation, the test was unsatisfactory

## Order Information

---

<b>Flow test table c/w mould &amp; tamping bar accordance with EN 12350-5</b>	<b>6005.10.00000</b>
Flow table EN 12350-5	6005.11.00000
Mould EN 12350-5	6005.12.00000
Tamping bar EN 12350-5	6005.13.00000
Measuring tape 5 meter EN 12350-1	3900.00.05000
Remixing container EN 12350-1	6001.05.00000
Shovel with square mouth EN 12350-1	6001.03.00000
Scoop 100 mm in width EN 12350-1	3300.00.00410
Thermometer with max. error of 1 °C	3700.10.00000
Timer clock with resolution of 0,5 s	3600.00.00000