

The ConTec-Viscometer 5 is a coaxial cylinder viscometer for coarse particle suspension that is suitable to measure the rheological properties of cement paste, mortar and concrete with about 120mm slump or higher.

When stiffer concrete is tested the coaxial cylinder unit is replaced by a blade or Tattersall impeller system.



The rheological properties are described by the fundamental parameters in the Bingham model, the yield value, and the plastic viscosity. They are calculated by the Reiner-Rivlin equation or for concrete. One can also choose to use the values G and H instead of the Bingham parameters, and they are often preferred, as they are simpler and easier to implement. The calculation process also qualifies the proneness of the concrete-mix to segregate by the segregation factor (S), which can be considered as the change in viscosity during testing.

The specified performance range of the ConTec Viscometer 5 is for torque 0.27 Nm - 27 Nm and for rotation velocity 0.1 revolutions per second (rps) - 0.6 rps under normal testing conditions. The absolute range for both the velocity and the

torque can be optionally adjusted. The standard version has the rotation velocity range is 0.05 rps - 0.65 rps. An enhanced version has an extended performance range for rotation velocity of 0,0022 rps - 0.85 rps. The very low rotation velocity of the viscometer makes it possible to measure the stress-deformation curve of the sample mix, an important factor regarding consolidation of concrete. The high torque range of the viscometer is necessary when testing high performance concrete.

The ConTec-viscometer is constructed of heavy gauge steel plates on a steel frame to withstand the environment in cement and concrete production plants or construction sites.



The ConTec Viscometer 5 is the biggest one in the figure

The total testing time normally takes about 3-4 minutes, i.e. from filling the outer cylinder to emptying it again. During this period the concrete is exposed to direct movement for only 75 seconds in a standard test procedure.



The ConTec Viscometer 5 inner cylinder system

ConTec

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