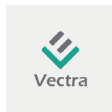
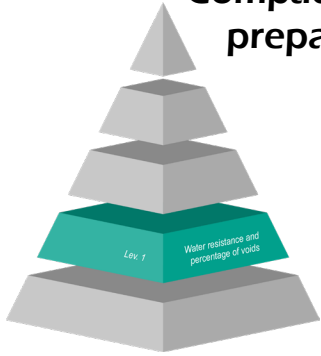


GYRATORY SHEAR PRESS - PCG 3

Compactability, determination of the air voids content of a mixture and preparation of specimens



EN 12697-31

NF P98-252

Description

The latest generation of rotary shear presses, the latest generation, the PCG 3, is able to meet the various requirements of European standard EN 12697-31 including compatibility studies and specimen production. and SHRP criteria.

The effect of compaction is obtained by the action of compression on a measuring cylinder which describes a cone at the summit confused with the center of the upper surface of this specimen and a half angle chosen on the basis of the standard or the desired test.

The process shall submit the materials constituting the specimen to the combined effects of a static compression force and mixing by shearing that guides the grains of the mineral skeleton. It allows for high densities with low compaction energies. The design of this machine is the result of 20 years of experience. It ensures very high stiffness of the specimen receptacle and its consistency on 360°, two parameters that contribute to the quality of the trial and its high reproducibility regardless of the characteristics of the materials tested.

The design of this machine is the result of 20 years of experience. It ensures very high stiffness of the specimen receptacle and its consistency on 360°, two parameters that contribute to the quality of the trial and its high reproducibility regardless of the characteristics of the materials tested. The dissociation of the two complementary functions of shear and clamping also gives this machine a great accessibility to all its active components.

The PCG 3 consists of two parts :

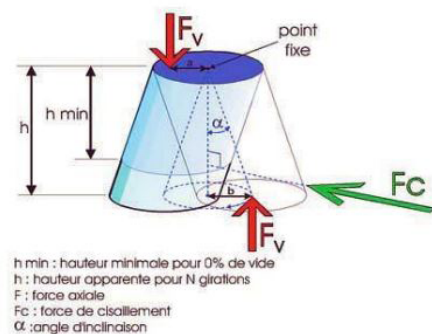
- Test module;
- Command - control - acquisition system.

The test module combines the functions of shear and torque :

- The shear function is integrated in the upper part of the machine that receives the test specimen. A vernier



Schematic diagram



associated with stops allows instant adjustment of the halfangle at the apex of the gyration cone. The gyration is controlled by an electric motor. A set of four bearings ensures the decoupling between the rotation and gyration functions.

- The measurement of the shear stress is possible by means of a compression sensor positioned on the tilt adjustment axis.
- The clamping function forms the lower part of the machine, it essentially consists of a slave electrical actuator whose guidance has been optimized so that it does not affect the selected angle during the test.
- The coupling between the shear and clamping functions is ensured by a special plate supporting the pad forming the bottom of the test specimen

Highlights

◀ Durability

→ Proven longevity, with equipment lasting over 20 years in intensive use.

◀ Safety

→ Integrated winch for mould operation.

◀ Quality

→ High-quality steel fixture and accessories.



Features

Metrological characteristics	
Rotation speed	From 6 à 30 tr/min (+/- 10%)
Molds according to standard	Ø 150 mm (5.9 in) and Ø 100 mm (3.94 in)
Technical specifications	
Dimensions	L = 1.3 m ; D = 0.80 m, L = 4.26 ft ; D = 2.62 ft. H = 1.00 m (3.28 ft) without the stem and the winch h = 1.85 m (6.07 ft) without the stem and the winch
Weight	350 kg (1,808 lbs)
Power supply	230 V single phase - 50 Hz (60 Hz on request)



Standard equipment

The control-acquisition system comprises :

- An electrical cabinet attached to the machine,
- A computer equipped with PCG 3 software,
- PCG 3 specific operating software.
- Pre-determined angles of inclination to meet French, European and American standards,
- No pneumatic energy required.

Terms of use

Expression of results : depending on the choice of test method (French, European, SHRP)... for a series of specimens subjected to the same tests, the microcomputer saves a text file containing :

- The study references,
- The description of the material,
- The test execution conditions,
- The parameters measured during the test for each measured during the test for each specimen at pre-selected numbers of gyrations.

The results are presented in the form of a table and graphs.