

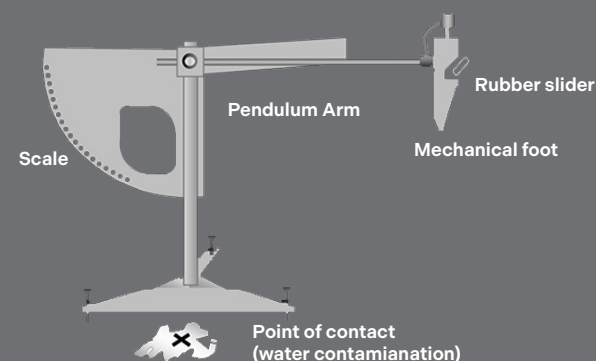


Pendulum test (BS EN 16165)

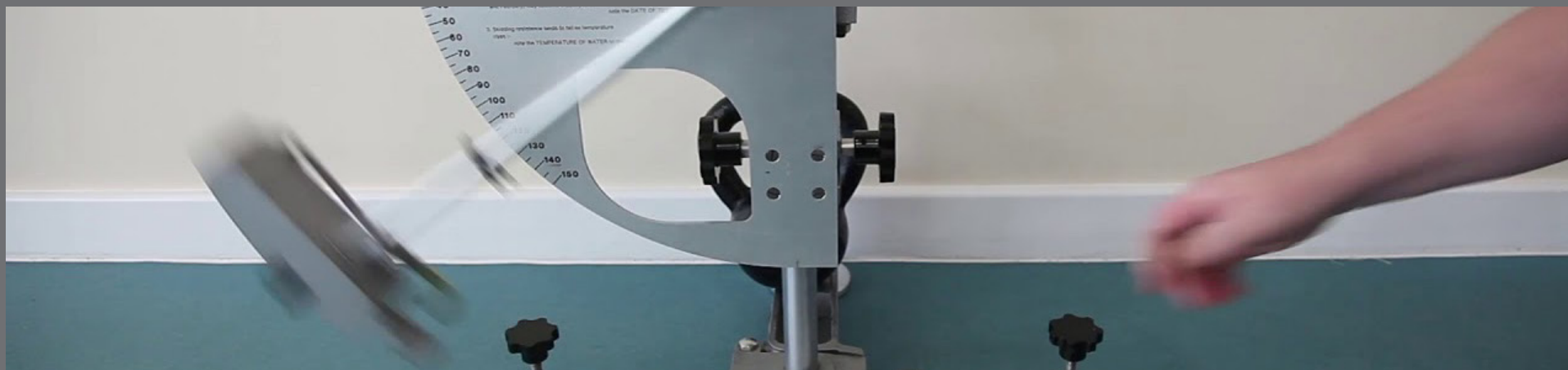
This information should be read in conjunction with British Standards BS EN 16165-2021 and BS 5385-3:2024

- The Pendulum test measures dynamic coefficient of friction (CoF). The test is designed to replicate a pedestrian heel strike, the point at which most slips occur.
- When a pedestrian heel strikes a wet floor a fluid film is created between them, this can cause a slip.
- This test works in wet conditions because it generates a similar fluid film between the slider and the floor.
- It can be used to accurately test the slip potential on clean and dry or contaminated floors. The test also works with dry contaminants.
- This is HSE's preferred method of testing, because it is portable and works in the conditions that slip accidents happen.

The pendulum tester is the subject of a British Standard, BS EN 16165: 2021 and BS 5385-3:2024



For further information or advice please contact 0345 130 2241 or email technical@grestec.co.uk.





Understanding pendulum data

- Pendulum results are referred to as Pendulum Test Values (PTV).
- When the test is operated properly, the PTV should be interpreted as shown in the table.
- This table relates to pedestrians walking in a straight line on a level surface. For other activities or inclined surfaces, the table figures will change.
- The slider referred to in the test data is also important. There are two sliders commonly used, one for shod pedestrians, one for barefoot. You need to make sure the right slider has been used.

Pendulum results: Slider 96 (Shod), Slider 55 (Barefoot)

Pendulum Value (PTV)	Potential for slip
0-24	High slip potential
25-35	Moderate slip potential
36-64	Low slip potential

Table: Slip potential classification, based on pendulum test values (PTV)

Summary

- The pendulum can be used in real workplace conditions.
- It allows you easily compare clean and contaminated floors.
- The test measures dynamic CoF (how people walk).
- Different sliders are used to simulate shod and barefoot conditions.
- If the pendulum is not set up and operated correctly the data may be misleading. it is recommended operators work to UKSRG guidelines.
- This is HSE's preferred method of testing because it is accurate, portable and works in the conditions that slip accidents happen.

Sources of reference

- CIRIA, Safer surfaces to walk on – www.ciria.org
- Specifiers' Handbooks, Internal Floor Finishes – www.cae.org.uk
- Health and Safety Executive – Assessing the slip resistance of flooring