

INCLINED PLANE - TORSION DYNAMOMETER

MED 02.10b



Material:

Item-no.	Qty.	Description
DS101-1G	1	Support base, large, L=500 mm
DS090-3K	1	Sliding saddle "Sepp", H=40 mm
DS300-50	1	Support rod, squared, L=500 mm, 12x12 mm
DS400-3K	1	Bosshead cross-pattern, Demo, green
DS130-1S	1	Inclined plane, simple (02)
DM650-1R	1	Roller, 500 g
DM132-1D	1	Torsion dynamometer 5 N
DS130-1T	1	Holder for Torsion dynamometer for inclined plane

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Purpose

Measuring the downhill force which is depending on the inclination of the plane.

Preparation

Place the sliding saddle in the centre of the large support base; afterwards insert the support rod into the sliding saddle. Next mount the bosshead at the upper end of the support rod. The holder for the Torsion dynamometer is mounted at the end of the inclined plan; then the Torsion dynamometer is fixed in the holder.

Mount the complete inclined plane in on the bosshead as shown on the image.
Hang the 500 g roller into the hook of the Torsion dynamometer

Bring the inclined plane with the loose end into horizontal position; make sure that the roller does not roll off the inclined plane.

As soon as the roller does not exert any tensile force anymore tare the Torsion dynamometer (set to 0) by turning the scale.

Experiment

Swivel the inclined plane slowly from 0 - 90 °. Angles from 0 ° to 90 ° are read in 15 ° steps and the related forces are noted.

Determine the weight of the roller and then compare it with the downhill force for the respective inclinations.



Note

The inclined plane can also be fixed at certain angles with additional material, to get an idea how this setup could look please check the experiment MED 02.10a