

POCKET GONIOMETER PG-2

The PG concept

A pocket goniometer measures the contact angle, which appears at the interface between a liquid droplet and a substrate surface.

The contact angle is commonly used to understand how a liquid and a substrate surface interact with each other. In our daily lives we are often exposed to contact angle phenomena similar to these situations :

- why rain drops “bead up” on a waxed car
- why an egg does not stick in a “non-stick” frying pan
- why a glue might not always repair a broken cup
- how the rain droplets can stay on the outside of the tent roof
- how a wet diaper can remain dry against the skin

The pocket goniometer PG-2 is an automated instrument for measurements of static and dynamic contact angles even on absorbent materials like paper.

The built-in camera captures a video sequence of the liquid droplet applied on the surface to measure contact angle (wetting), volume (absorption) and base width (spreading) of the droplet as a function of time.

Connects to a standard laptop or PC with a USB port, which will also supply power to the instrument.



Model PG 2

Features

- Measurement of :
 - **Static contact angles**
wetting of non-sorptive surfaces
 - **Dynamic contact angles**
wetting and sorption as a function of time
 - **Surface tension**
 - **Surface free energy**
- Very small size easily carried in the pocket
- Integrated camera : captures 15 images/sec
- Manual dispensing unit for special test liquids
- Easy to install - no hardware !
- User-friendly software for Windows 98/ME/2000/XP with dialogue in your own language

Cardboard, Paper, Plastics

Physical specifications

Dimensions

16 x 5.5 x 4.2 cm (LxWxH)

Net Weight

350 grams

Options

- Miniature dispensing unit
- Video output and software for automatic evaluation of surface tension, wetting, spreading and absorption as a function of time

Standards

TAPPI T-458, ASTM D724, ASTM D5946

Applications

Printing - Agriculture - Paper - Detergents - Corona treatment - Coating - Pharmacy - Board - Inks - Flame treatment - Adhesion - Biomedicine - Wood - Oils - Surface sizing - Cleaning - Papermaking - Metals - Surfactants - Surface tension - Absorption - Cosmetics - Plastic - Water - Surface contamination - Wettability - Dentistry - Textile - Solvents - Surface energy

Material

Parts in the pocket goniometer that are in contact with liquids are designed of following materials:

- Liquid container:
glass with top in Delrin
- Pump tubing:
metal tube stainless steel (SIS2333)
pump tubing Tygon (R3607)
drop tubing (PTFE)
- Manual dispenser:
cylinder wall (Polypropylen)
plunger (PTFE)
nose stainless steel (SIS2346)
dispensing tip stainless steel (SIS2333)

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