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Product Name :

Zinc Plate

Product Code :

SLE/EAM/16



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Description :

Zinc Plate (Product Code: SLE/EAM/16) is a 40 x 40 mm zinc plate mounted on a 4 mm connector so that it can replace the top plate of an electroscope. Once fitted, it turns the electroscope into a simple photoelectric effect kit: a negatively charged plate loses its charge when lit by ultraviolet of a suitable wavelength, which students see as the leaf falling. It is madeby **Jain Scientific Equipments Pvt Ltd (ScienceLab)**, Ambala, India.

Specifications

Parameter	Detail
Plate	Zinc, 40 x 40 mm
Mounting	4 mm connector
Fits	Replaces the top plate of an electroscope
Demonstrates	Discharge under UV lighting; the photo-electric effect
Also required	UV lamp of suitable wavelength (not part of this item)

Typical Use

Clean the zinc surface first, since a dull oxide layer weakens the effect, then plug the plate intothe electroscope in place of its usual top plate and give it a negative charge so the leaf rises.When the UV lamp is switched on and aimed at the plate, electrons are emitted from the zinc and the leaf slowly collapses. Repeating with a positive charge produces no discharge, and holding a sheet of ordinary glass between lamp and plate stops the effect as well, because the glass absorbs the short-wavelength ultraviolet that does the work.

Those three observations – negative charge lost, positive charge kept, glass blocks it – lead students to the idea of photons and threshold frequency far more convincingly than a diagram. The demonstration fits naturally into a radiation experiment sequence at senior level. UV lamps can harm eyes and skin, so never look into the lamp, keep exposure short and use suitable eye protection.

Manufacturer

This accessory is produced by Jain Scientific Equipments Private Limited, the Ambala, Haryana company behind the ScienceLab name, which makes electrostatics and modern-physics apparatus for schools and colleges. Read more on the company profile.

Related Electricity and Magnetism Equipment

The zinc plate works as part of an electroscope set-up; these items help complete it:

- Electroscope, Gold Leaf — a plate-topped electroscope with a deflection scale; ask us to confirm fit with the zinc plate.
- E-Field Detector — confirms whether the plate carries negative or positive charge.
- [illegible]
- [illegible]

More

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