

# **ABSORBER SET – for radiation**

**Cat: AP0030-001** (set 24 absorbers)

# **DESCRIPTION:**

A set of 24 different plates used to study the absorption of radioactive particles. The plates range from Tissue Paper and very thin foils for Alpha particle absorption to thicker aluminium foils and plates for Beta particle absorption to lead plates for Gamma particle absorption.

Each absorber has an active area of 60x60mm and the complete set is housed in a strong cardboard container with a plastic insert for the storing of each absorber.

In addition to absorbers, the set contains 3x plastic plates used for supporting the thick lead plates in Castles where the lead plates are too thick to fit the grooves in the Castle sides.

The set includes also a strong spring loaded plunger and base as a holder for both the radioactive source and the absorber so that these items are always in the same relative positions for reproducible experiments.



AP0030-001 set of 24 absorbers

Physical size: 240x200x85mm LxWxH Weight: 3.3kg

Kit contains holder for absorbers and for radioactive sources behind the absorber.



### The specifications for each absorber are:

| THICK          | DENSITY                 | # | THICK           | DENSITY                | #  | THICK   | DENSITY                | #  |
|----------------|-------------------------|---|-----------------|------------------------|----|---|------------------------|----|
| Tissue Paper   |                         |   | Aluminium sheet |                        |    | Lead plate  |                        |    |
|                | 1.82 mg/cm <sup>2</sup> | 1 | 0.48 mm         | 130 mg/cm <sup>2</sup> | 9  | 1.73 mm   | 1.95 g/cm <sup>2</sup> | 18 |
| Aluminium foil |                         |   | 0.60 mm         | 161 mg/cm <sup>2</sup> | 10 | 3.04 mm   | 3.43 g/cm <sup>2</sup> | 19 |
| 0.015mm        | 3.20 mg/cm <sup>2</sup> | 2 | 0.76 mm         | 208 mg/cm <sup>2</sup> | 11 | 4.41 mm   | 4.94 g/cm <sup>2</sup> | 20 |
| 0.022mm        | 4.30 mg/cm <sup>2</sup> | 3 | 0.93 mm         | 250 mg/cm <sup>2</sup> | 12 | 6.20 mm   | 7.02 g/cm <sup>2</sup> | 21 |
| 0.050mm        | 13.8 mg/cm <sup>2</sup> | 4 | 1.18 mm         | 375 mg/cm <sup>2</sup> | 13 | 7.75 mm   | 8.73 g/cm <sup>2</sup> | 22 |
| 0.10 mm        | 27.0 mg/cm <sup>2</sup> | 5 | 1.58 mm         | 423 mg/cm <sup>2</sup> | 14 | 9.36 mm   | 10.58g/cm <sup>2</sup> | 23 |
| 0.15 mm        | 38.4 mg/cm <sup>2</sup> | 6 | 1.97 mm         | 528 mg/cm <sup>2</sup> | 15 | 12.21mm   | 13.16g/cm <sup>2</sup> | 24 |
| 0.25 mm        | 68.3 mg/cm <sup>2</sup> | 7 | 2.45 mm         | 656 mg/cm <sup>2</sup> | 16 | Including 3 plastic plates with different orifices to support lead plates in castles. |                        |    |
| 0.31 mm        | 77.7 mg/cm <sup>2</sup> | 8 | 2.91 mm         | 783 mg/cm <sup>2</sup> | 17 |   |                        |    |

IEC manufactures a range of high quality, low cost Geiger Counters suitable for both the Laboratory and in the field.



#### Parts & accessories:

AP1885-001 Geiger tube holder, to align GM tube with absorber holder.

Low level radioactive sources suitable for classroom use are:

PA2667-001 (Polonium 210 Alpha source)

PA2667-010 (Strontium 90 Beta source)

PA2667-020 (Cobalt 60 Gamma source)

## Designed and manufactured in Australia