

Set of 3 Cylinders, Equal in Volume U8403315

Instruction sheet

11/07 ALF



- 1 Aluminium cylinder
- 2 Iron cylinder
- 3 Brass cylinder

1. Description

The set of three cylinders, equal in volume, is used for determining the densities of different solid bodies. The set consists of one cylinder each of aluminium, iron and brass. As they are of identical volume, the difference between the densities is immediately obvious to the student.

Each cylinder is equipped with a hook.

2. Technical data

Materials: Aluminium, iron, brass
 Dimensions of cylinders: 40 x 20 mm² dia. approx.

3. Sample experiment

Determination of the densities of solid bodies

To determine the density the following equipment is also required:

1 Electronic scales 600 g	U42050-230
or	
1 Electronic scales 600 g	U42050-115
1 Beaker from	U14210

- Place a cylinder on the scale and record the weight.
- Fill the glass beaker with water.
- Suspend the cylinder from the hook of the scale.
- Immerse the cylinder completely in the water and again record the weight.

As a result of the upthrust, the apparent weight of the body is reduced by an amount equal to the weight of the volume of liquid that it displaces.

- Note the difference in weight, and from that calculate the volume of the cylinder.
 - Calculate the density of the cylinder using the equation
- $$\rho = \frac{m}{V}$$
- Repeat the measurements with the other cylinders and compare the results.