

C15-6655-W0

Rubber Mat for Air Lifting
(Gompita-kun)

Instruction Manual

Thank you very much for purchasing Rubber Mat for Air Lifting (Gompita-kun)

Read all these instructions before use.

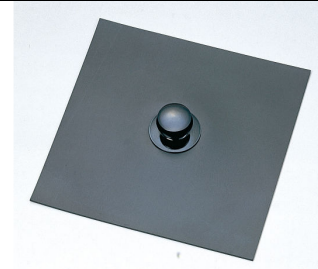
**The Rubber Mat for Air Lifting is special designed for student experiments in
school.**

⚠ Caution

- * Keep the product flat during storage. Do not twist it or fold.
- * Do not leave it under direct sunlight. The rubber may be damaged by UV light.

Specification

1. Material: NBR rubber
2. Size: 300 x 300 x 3 mm (rubber)
3. Knob: diameter ca.30 mm
4. Weight: ca. 450 g



Introduction

Students can realize how heavy the atmospheric pressure is when they try to lift it up. It is easy to use when you put the rubber mat on smooth surface (like table, chair etc.) and try to pull it up.

Purpose

The air has property pushing vertically the surface of matter evenly. The purpose of this product is to make students feel barometric pressure by doing experiments with “Rubber Mat for Air Lifting”.

Procedure of Experiment

1. Explain to students that “Rubber Mat for Air Lifting” is a simple product in which is a rubber plate attached to a knob.
2. Put “Rubber Mat for Air Lifting” onto flat surface, lift and up vertically the mat lift the mat vertically up.
3. You can confirm that "Rubber Mat for Air Lifting" is tightly pressed to the flat surface by the atmosphere pressure.
4. Remove “Rubber Mat for Air Lifting" easily from the surface by sliding mat horizontally to the side.



Sample Experiments

1. Comparison of different pulling direction - horizontal sliding and vertical lifting -

1. Put "Rubber Mat for Air Lifting" onto the flat surface.
2. Lift vertically the mat up.
3. Slide the mat horizontally.
4. Lift a corner of the mat.

To lift the mat is very hard, because atmosphere pressure is pushing the mat. Against, on the other hand, sliding the mat is not difficult. When lifting a corner of the mat, the mat may be lifted easily because atmosphere pressure does not have big effect at the corner which has a small area. After the corner is lifted once, air goes into bottom of the mat and the pressure equals on face side and back side of the mat. Therefore "Rubber Mat for Airlifting" can be easily lifted.

2. Comparison of different putting direction - horizontal putting and vertical putting -

1. Put "Rubber Mat for Air Lifting" onto the flat surface.
2. Lift vertically the mat up.
3. Put the mat on the flat surface of a wall.
4. Draw / pull it towards yourself.

This activity (experiment) shows students that atmosphere pressure has effect to any surfaces evenly. To put the mat on the flat surface of a wall and to pull it horizontally shows the same result as lifting it up vertically. To pull the mat horizontally from wall is very hard.

For your information

Atmosphere pressure has about 100,000 Pa. The pressure is the same as pushing 1 cm² by 10 N. Because the area of "Rubber Mat for Air Lifting" is about 900 cm², surface of the mat is pressed by 9,000 N.

Memo



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