# 🪴 RILLIA Self-Watering Planter – 3D Printing & Setup Instructions

## 🌱 Planter Description

**This is a self-watering planter designed to keep your plants healthy with minimal effort.**

- **Inner diameter: 108 mm**
- **The planter consists of two parts: a top planting section and a bottom water reservoir.**
- **You fill the reservoir with water, and moisture is gradually delivered to the plant through cotton ropes.**
- **Over time, roots may grow through the drainage holes at the bottom of the planter and reach the water directly — especially after weeks or months.**
- **Ideal for plants that prefer constantly damp soil, such as ferns, baby tears, and moisture-loving herbs.**

## 🧵 Self-Watering Rope Setup

- **Use cotton rope for effective water absorption.**
- **The planter includes 8 mm holes for rope placement.**
- **You can use:**
  - **A single rope up to 7 mm in diameter, or**
  - **Fold a thinner rope in half to create a double wick**
- **To install:**
  1. **Tie a knot at one end of the rope**
  2. **Push it through the hole from the top of the planter**
  3. **Trim the rope so it reaches the bottom of the reservoir**



## ✅ Material Recommendation

- **PETG is strongly recommended, especially for the bottom reservoir, due to its water resistance and excellent layer bonding.**

# 🔽 Bottom Tray (Water Reservoir)

**Material: PETG**
**Purpose: In constant contact with water – must be watertight**

**Print Settings:**

- **Layer Height: 0.16–0.2 mm**
- **Infill: 8–10%, *Gyroid***
- **Walls: 4–5 perimeters**
- **Top & Bottom Layer Pattern: *Archimedean Chords* (optional)**
- **Seam Position: *Rear* or *Back***
- **Seam Style: *Scarf* (for better watertightness)**
- **Extrusion Multiplier: Increase by +0.02 to +0.06 (e.g. use 1.02–1.06)**
- **Max Volumetric Speed: 8–12 mm³/s (set in filament settings)**

**Additional Tips:**

- **Test for leaks after printing by filling with water and observing for 24 hours.**
- **If leaks occur, consider:**
  - **Sealing the inside with epoxy resin**
  - **Increasing extrusion**
  - **Slowing down the print**
  - **Raising the nozzle temperature slightly**

# 🔼 Top Planter Part

**Material: PETG (preferred) or PLA+**
**Print Settings:**

- **Layer Height: 0.2–0.24 mm**
- **Infill: 8%, *Gyroid***
- **Wall Lines: 2–3**
- **Seam Alignment: *Aligned***

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💬 Questions or Feedback?

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🧠 Join the Community:

https://discord.gg/SagnAaCgHF