

# Fabrication of Battery-Operated Roof Paint Sprayer with Automatic Charging Off System

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## ABSTRACT

The study was fabricated at Barangay San Juan, Aborlan, Palawan, and was evaluated from April to December 2021. Fabrication of the device was based on the needs of roof painters to lessen their exposure to sunlight during roof painting. The roof paint sprayer was divided into three major parts: First, the container served as overall parts with hand carry at the top. It weighs 6 kilograms when empty but approximately 11 kilograms when it is full. Second, the direct current motor is rated 60 W, 12 V nominal, maximum flow of 5 liters per minute, and a maximum pressure of 116 psi. The base of the motor was fitted at the bottom. The hole of the first container is connected to the inflow of the motor, and a hose with an adjustable nozzle is connected to the outflow. Third, the power source consisted of a connector cord, female socket, 12V transformer, circuit board, green LED, 12Vdc battery, battery indicator, and switch. The performance evaluation of the device revealed during testing, from start, the roof paint sprayer works smoothly and sprayed almost 1/3 area of the target area (10×3 meters) for almost 2 minutes but suddenly as it sprayed, the dc motor starts difficult to run until it stops. The major benefit of the device, if studied further, will spray faster on roofs and smooth output.

*Keywords: Roof paint sprayer, Paint, Motor, Battery, Container*

### **About the presenter:**

**Romel B. Panis** took his tertiary education at the Palawan State University – main campus, Puerto Princesa City, Palawan, and obtained his degree in Bachelor of Science in Electrical Engineering (BSEE) in 2003. In 2009, he enrolled in the long-distance learning program of Cavite State University taking up a Master of Engineering major in Electrical Engineering and completed the degree in 2014. At present, he is teaching at Western Philippines University, Barangay San Juan, Aborlan, Palawan, handling Engineering and Technology subjects. He is happily married to Dr. Eliza A. Panis. He believes that life will be meaningful if you accept failures, face challenges, welcome changes, and strive for progress.

