

# Application Note

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## Bonding application with DX-300 Series Precision Dispenser

**Overview:** A common “Time and Pressure” fluid dispensing application involves the use of a syringe and an electromechanical dispenser to deposit fluent materials. To achieve optimal dispensing performance, the dispenser must have a capable microprocessor, fast-acting solenoid valve as well as a robust air pressure regulator and an accurate air pressure gauge. The DX-300 Series is a family of fluid dispensing appliances that possess these attributes.

### Application Description

This application calls for the dispensing of 30mg of Loctite 480 with a tolerance of +/-2mg inside a small cavity of an electronics control box. The opening of the cavity is 0.018” (0.46mm) in diameter; consequently the outside diameter of the dispense needle must be smaller than 0.018” (0.46mm) in order for the needle to enter the small cavity.

### Product and Equipment Used

- A DX-300 Precision Dispenser
- A TE727050 Dispensing Needle
- A 70303RHB Receiver Head Assembly, 3-cc
- An Ohaus Explorer Pro EP114 precision balance

### Fluent Material Applied

Loctite 480 Cyanoacrylate, packaged in a 3-CC syringe with viscosity of 100 to 200 cps (mPa.s)

### Setup Process

- Set air pressure to 40 psi
- Select needle size of 27-gauge X 1/2"
- Dispense time set to 4.50 seconds
- Record the weight of 25 shots

### Results

The DX-300 repeatedly dispenses Loctite 480 very precisely and consistently.

- Average shot size measured = 0.0294g
- Variation rate measured = 0.973%

