Test Technician: Nasser Abdel-Fatah

Test Number(s): ET200831NA01-Spool1 & Spool2

Plastic Name: Wood Fill PLA Pellets

MSDS: N/A Need to contact Manufacturer

Manufacturer: Push Plastics

Supplier: Push Plastics

Additives: Wood

Material Form: Pellets, light brown.

Extrusion Test Notes

Material preparation: None.

Grinding: None.

Drying: Yes, 4 hours 150C.

Extrusion Setup: EX6. Airpath(2X). Filameasure SPC Unit with Tablet, and Spooler.

Extrusion Results: The above test numbers were able to generate filament at 1.75mm with a tolerance of $\pm$0.05mm. The settings, speeds, and additions are in the correct range to generate filament. Further testing will need to look at any improvements when using a chrome screw. Also adjustments to the back and middle zone might help with consistency.
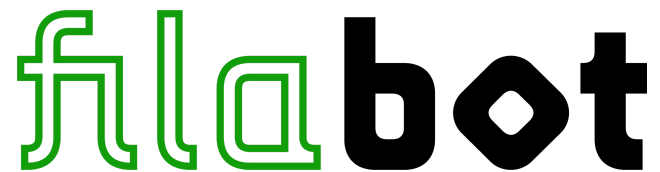
Test Settings:
Materials were extruded in the EX6 with the following settings:

Heat zone settings:
- Front: 168 degrees Celsius
- Middle: 173 degrees Celsius
- Back: 172 degrees Celsius
- Feed: 50 degrees Celsius

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Fans Settings:
- Front: Mid
- Middle: Mid
- Feed: Mid
- Motor: Max

EX6 Power:
- D.C. Volts: 20
- D.C. Amperes: 1.5-2

Nozzle Used:
- Standard Nozzle Test number: ET200831NA01-Spool1/Spool2
- Size: 2.00mm

Screw Used:
- Standard Stock Screw Test number:ET200831NA01-Spool/Spool2

Airpath Settings:
- Number of Airpath's: 2
- Fan Speed: 100% & 50%
- Magnets: 5 used along Airpath. End, Center, Front.
- Tape: No.

Spooler Settings (0.5kg spool):
- Drive: mid to slow
- Traverse: 40%

Notes on Equipment

The positioning of Equipment: When extruding the polymer space the EX6 50mm (2in) away from the first Airpath. Have no space between Airpath 1 and Airpath 2. And space the Spooler 30cm (1-foot) between Airpath 2 and the Spooler.

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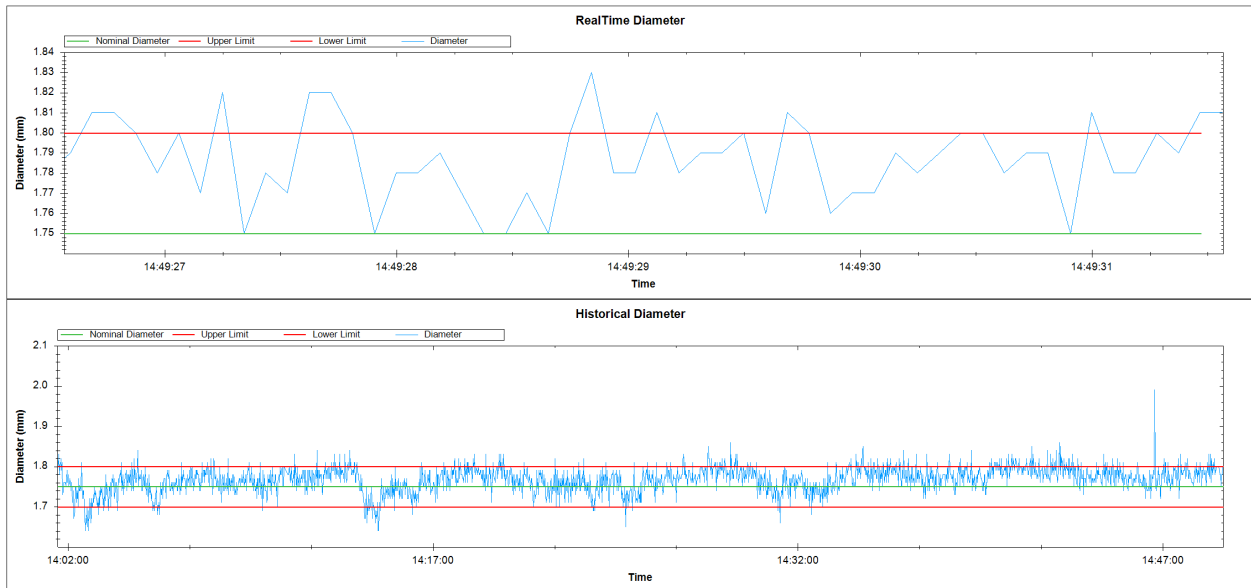Barre, VT 05641
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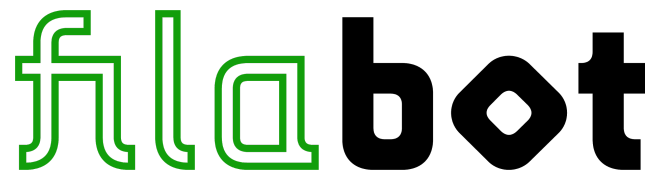
Results:

Graph 1. Test: ET200831NA01-Spool1. Stock Extrusion Testing Nozzle and Screw.
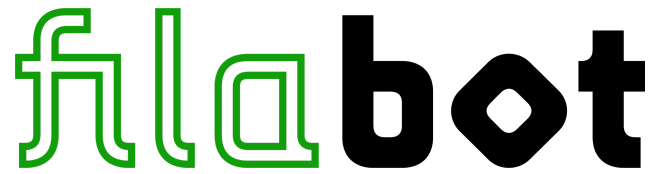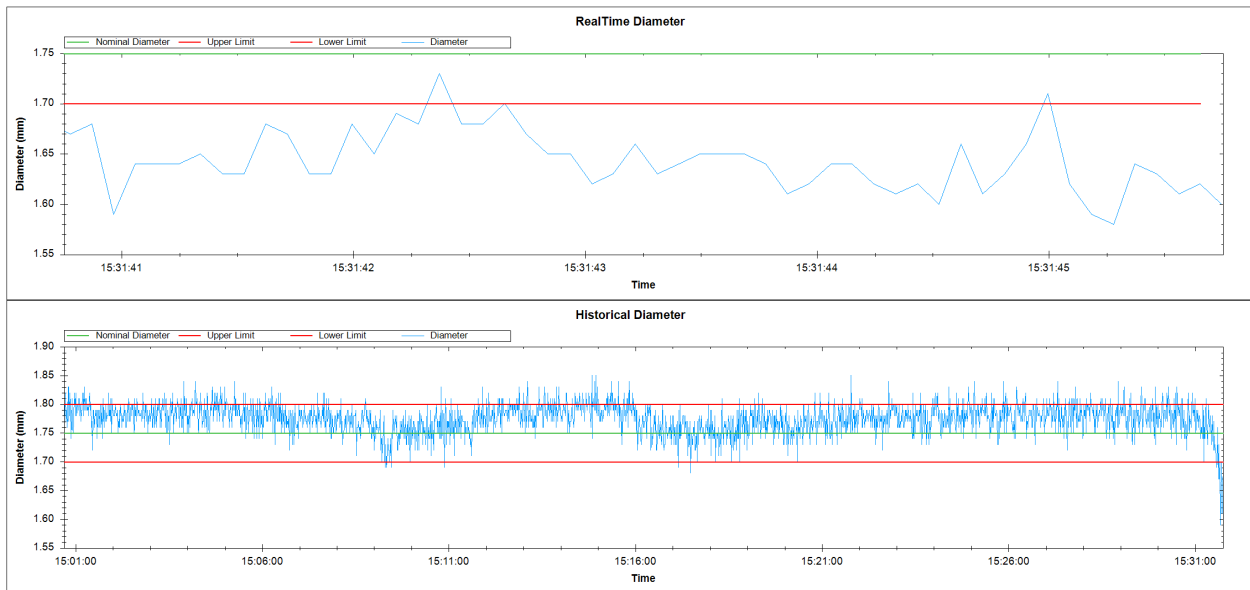
Graph 2. Test: ET200831NA01-Spool2. Stock Extrusion Testing Nozzle and Screw.