



General Canister Storage And Handling Information

Shelf life recommendation

Stratasys FDM thermoplastic materials will maintain proper product performance over an extended period of time when handled and stored according to the recommended procedures. Like other thermoplastics, the filament within the Fortus canisters can absorb moisture when exposed to ambient humidity. Stratasys canisters are designed to minimize moisture exposure while unopened and opened. When the filament absorbs moisture the final part surface finish, seam quality and overall part aesthetics can be affected. Care should be taken to ensure filament remains dry by following the procedure below.

Stratasys recommends storing Fortus canisters at moderate temperature and humidity levels (55-75°F [13-24°C], 20-60% relative humidity). When stored in these conditions the shelf life of the materials can exceed 3 years for unopened canisters. For opened Fortus canisters, the shelf life will depend upon the volume of material in the canister, but if proper handling and storage is followed (see below) the material will maintain acceptable moisture levels for 6-8 weeks or more. Fortus canisters stored in conditions that significantly deviate from these can experience issues with performance and shelf life.

General canister handling information:

The anti-rotation plug (item 2) is essential to preventing filament issues: Care should be taken to minimize moving the canister while the plug is removed. When loading a canister, the plug should not be removed until the canister is directly in front of the machine and ready to be loaded. The plug should only be removed when the canister is in a vertical orientation. After the plug is removed, be sure to reseal the foil tape to prevent moisture from entering the canister. When a canister is unloaded, the plug should be placed back into position before moving the canister to its storage location. There are holes in the spool where the plug should be inserted so that it fully locks the spool from any movement. To engage the plug into one of these holes the plug should be inserted into the canister hole and then filament should be slowly pulled from the canister until the plug locks into a hole in the spool. The filament can then be clipped and the plastic cap can returned to cover the filament outlet hole.

Canisters should always be in a vertical orientation (as seen in Figure 1): In order to reduce the risk of filament jams, always orient the canister vertically when handling, shipping, and storing the canisters. This is especially important when removing the anti-rotation plug or when the canister is outside of the system with the anti-rotation plug removed.

Handle canisters with care: Avoid swinging or shaking of the canisters at all times during handling.

Pull filament out slowly: When manually pulling out filament from the canisters, pull at a rate of <1 inch/sec (25mm/sec) to avoid over rotating the spool.

Installing a new canister into the system:

1. Remove canister from box and place next to the system in a vertical orientation
2. Peel back foil tape (item 1) and remove anti-rotation plug (item 2). Replace foil tap over canister hole ensuring an airtight seal. Save the plug for later use in storing the used canister.
3. Remove filament cap (item 6a) and snap into position below the thumbwheel (6b)
4. Ensure drive block handle is in the UP (open) position and position canister into system canister bay and engage the drive block by moving the drive block handle to the DOWN position
5. Open thumbwheel door (item 3), remove foam patch (item 7a), and move patch to location 7b.
6. Roll the thumbwheel down to drive filament into the system. Once the filament drive motor begins pulling the filament the system will automatically complete the pre-loading. The LED will turn to a flashing green state.
7. Close the thumbwheel door (item 3).
8. Complete loading material to the head using the system interface and by following the system specific instructions found in your system manual.

When canisters are not in use:

Each canister contains the filament material along with a desiccant to absorb moisture. The desiccant is designed to maintain proper moisture levels for an unopened canister. Once the desiccant is exposed to ambient air it can become saturated and ineffective for moisture control. Proper handling and storage of the canister after it has been opened is essential to maximizing canister life.

Unloading and storing canisters

When a partially full canister needs to be removed from the system, please follow these instructions:

- A. Unload material from the system and remove canister in a vertical position to a location near the system to repackage the canister.
- B. Re-insert the anti-rotation plug (item 2). There are holes in the spool where the plug should be inserted so that it fully locks the spool from any movement. To engage the plug into one of these holes the plug should be inserted into the canister hole and then filament

should be slowly pulled from the canister until the plug locks into a hole in the spool. The filament can then be clipped and the plastic cap can be returned to cover the filament outlet hole (item 6B). Reseal the foil tape over the anti-rotation plug (item 1).

- C. Open the thumbwheel door (item 3) and insert the square foam gasket (item 7A) (stored on the canister - item 7B) into its thumbwheel door location.
- D. Close the thumbwheel door - make sure that it is completely closed.

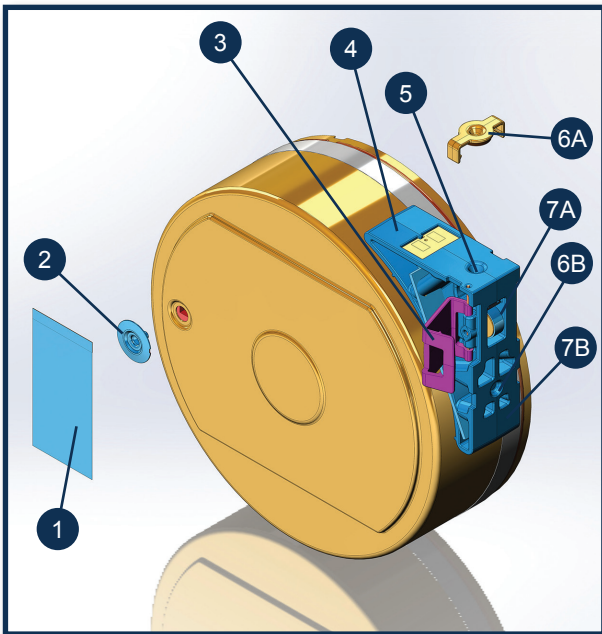
Caution: Make sure the square foam gasket under the thumbwheel door is inserted and place the plastic cap over the filament outlet hole when storing a canister. In less than one hour, an unsealed canister can absorb enough moisture to become unusable.

- E. Store canisters in an upright (vertical) position, do not lay them flat.

Canisters that remain loaded in the system in a non-ready state (LED is off)

When canisters remain on the system and the filament is in a ready or loaded state (flashing green LED or steady green LED), and the canister door is closed, the system air-dryer system constantly purges moisture from the canister to help keep it dry. When the filament is in a non-ready state (LED is off), the canister needs to be sealed to prevent moisture penetration.

- A. Open the thumbwheel door (item 3) and insert the square foam gasket (item 7A) (stored on the canister - item 7B) into its thumbwheel door location.
- B. Close the thumbwheel door - make sure that it is completely closed.



Key to Canister Figure			
Item	Description	Item	Description
1	Foil Tape	6A	Plastic Plug (sealing position)
2	Anit-Rotation Plug	6B	Plastic Plug (stowed position)
3	Thumbwheel Door	7A	Foam Gasket (sealing position)
4	Canister Snout	7B	Foam Gasket (stowed position)
5	Filament		

Disclaimer: These statements are to serve as recommended guidelines to minimize operational issues and to maximize shelf life for both unopened and opened material canisters. This is not intended to serve as a guarantee of the product's shelf life or quality.

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