



VICTREX AM™ 200

Part Numbers

Filament Canisters	
355-70030	VICTREX AM 200 Model Material, 92.3 cu. in. - Plus
355-03120	SR-100 Soluble Support, 92.3 cu. in. - Plus
355-03260	SUP8000B, 92.3 cu in. – Plus
Printer Consumables	
511-10740-S	T20F tip
511-10100	T12SR100 tip (SR-100 support)
511-10401	T16 tip (SUP8000B support)
325-00275-S	High temperature build sheet, 0.02 x 16 x 18.5 in. (0.51 x 406 x 470 mm)
325-00475-S	High Temperature build sheet, 0.02 x 26 x 38 in. (0.51 x 660 x 965 mm)

Compatible machines include the F900® and Fortus 450mc™ with hardened components. The F900 requires the Validated Materials license and the Fortus 450mc requires the All Materials License or equivalent.

Description of VICTREX AM 200

VICTREX AM™ 200 is based on LMPAEK™ technology and is part of the PEEK family in the PAEK polymer group. Designed specifically for additive manufacturing, offers the benefits of a polyaryletherketone (PAEK) material while addressing challenges associated during 3D printing this group of polymers that includes PEEK and PEKK.

Key Attributes

- High temperature material with breakaway support
- A PEEK-based copolymer filament produced using Victrex's LMPAEK™ polymer technology
- Excellent chemical resistance and use temperature
- High-performance strength
- Flame, smoke, and toxicity (FST) capabilities, such as the ability to meet FAR 25.853
- Low outgassing
- Available in 0.010 in (0.254 mm) slice height

Primary Application

- Aerospace
- Oil and gas

Challenges customers have with current solutions

- Long lead times
- Limited ability to prototype, iterate, or improve parts
- Other materials do not have same material properties and are not known within targeted industries.

Benefits of VICTREX AM 200

- Design flexibility: A high temperature material that is paired with a soluble support
- Crystallinity post-annealing: printing amorphous allows the use of soluble support but annealing allows the parts to gain stiffness above the as-printed material stiffness.



Printing Challenges and Tips

VICTREX AM 200 is a Stratasys Validated Material. Validated Materials are developed by Stratasys or a third-party provider, meet Stratasys quality standards, and have received basic reliability testing for use with Stratasys FDM printers. They also undergo a less extensive tuning and testing process than a Stratasys Preferred Material. To better prepare the user for what the build experience may include, this section outlines tips and known difficulties with this material.

- Use Sparse supports.
- Depending on the geometry, VICTREX AM 200 prints in both the amorphous and crystalline state which results in color variance throughout the part. Areas that cool more quickly tend to be more amorphous. Areas that remain hot longer tend to be more crystalline. The crystalline areas appear lighter in color than the amorphous area, creating the color gradients within the part.
- Printing parts with layer times of greater than 60 seconds results in more consistent part color and mechanicals. It is recommended to use the full height purge tower option in Control Center™ and GrabCAD™ Print. The full height purge tower will result in a head swap on every layer and will ensure the recommended minimum layer time is reached.
- A shiny surface finish may occur on short toolpaths compared to the more typical matte surface finish. This is caused by differential surface roughness due to differences in extrusion flow rates.
- VICTREX AM 200 is prone to curling, partially due to the crystallinity of the material. The crystallization can also cause sink on some geometries. The SUP8000B profile has been tested to exhibit less curl than the SR-100 profile. Stabilizer walls and anchor pins can be utilized to minimize curl if the part geometry allows.
- When printing holes, poor seams may be noted on the interior seams, primarily with the SR-100 profile. If needed, the holes can be cleaned up with a hand tool following the build.
- For a Validated Material, the tip is anticipated, but not guaranteed, to print well until the tip life is expired. When paired with SR-100 soluble support, the model tip life is set to 1508 cm³ (92 in³). When paired with SUP8000B breakaway support the model tip life is set to 4524 cm³ (276 in³).
- Parts can be annealed for increased tensile properties and chemical compatibility. It is recommended to anneal parts in sand. Baseline annealing settings are 2-3 hours in sand at 170 °C (338 °F). The temperature and time settings will need to be adjusted depending on part size(s), sand volume, etc. Annealed parts shrink significantly more than amorphous parts so users should consider adjusting the part shrink factor in Insight™ before printing. A shrink factor of 1.0210 has been calculated to work for certain geometries.
- Reference the VICTREX AM 200 datasheet for more information on the strength differences between the SR-100 and SUP8000B profiles.

