



FORTUS Smoothing Station™



FORTUS Burnishing Station™

INJECTION MOLDED QUALITY

The Fortus Smoothing Station™ and Burnishing Station™ utilize semi-automated processes that improve the surface finish of Fortus thermoplastic parts to near injection molded quality finish without the time and cost associated with traditional manual finishing techniques. The Smoothing Station and Burnishing Station work with the entire Fortus family of ABS thermoplastic materials including, ABS-P400, ABSi, ABSplus, ABS-M30 and ABS-M30i.

The Smoothing Station improves the surface finish of the part in a quick two-part process that requires virtually no preparation: Just expose the part in the smoothing chamber and allow the part to cure. The entire process involves only a few minutes of labor; the part is dry to touch in 30-45 minutes and fully cured in 12-18 hours.

The surface can be further improved by creating a matte finish with the Burnishing Station. This optional, but highly recommended step is often preferred since the finish represents the satin look and feel of typical of injection molded parts.

Stratasys Finishing Stations create a surface finish on a part that is ideal for painting, electroplating, or vacuum metallization. Smoothed parts also work well as mold masters for silicone molding, sand casting, or investment casting. Finally, smoothed parts are watertight and can be employed for applications requiring moderate air or water pressure.

Target Applications

Fortus Finishing Stations are ideal for applications where a **smooth surface finish** is desired:

- Mold masters
- Finish painting
- Electroplating
- Vacuum Metallization

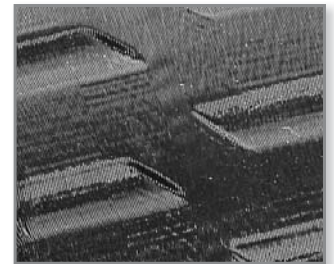


Or applications that require a **sealed surface**:

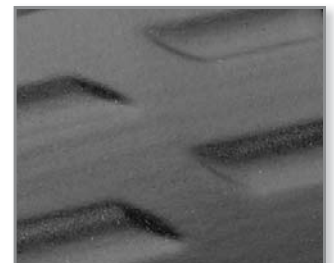
- Liquid applications
- Moderate air pressure applications
- Moderate water pressure applications



Real Results.



Before smoothing



After smoothing:

- Small layer lines removed
- Surface finish close to injection molded part

FORTUS FINISHING STATIONS



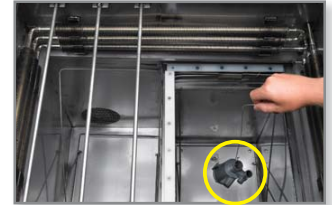
	Smoothing Station	Burnishing Station
System Size (XYZ)	52 x 34 x 48 inches (1320 x 864 x 1219 mm)	55 x 65 x 42 inches (1397 x 1650 x 1067mm)
Chamber Size (XYZ)	13 x 16 x 20 inches (330 x 406 x 508 mm)	40 x 22 x 20 inches (1016 x 559 x 508 mm)
Compatible Fortus Materials	ABS-M30 ABS-M30i ABSi ABSplus ABS-P400	ABS-M30 ABS-M30i ABSi ABSplus ABS-P400
Smoothing / Burnishing Solution	Dupont Vertrel SDG <ul style="list-style-type: none"> Purchase direct from Dupont: www2.dupont.com/Vertrel/en_US Local regulations for use of industrial solvents must be observed.	Armex Flow Formula M Sodium Bicarbonate <ul style="list-style-type: none"> Purchase material direct from Armex: www.armex.com
Operator Attendance	Intermittent operator attendance to expose parts.	Operator attendance required to perform operation.
Operating Environment	Requires 4 in (102 mm) exhaust to outside Well ventilated area Maximum room temperature of 85°F (29.4°C) Maximum room humidity of 85% RH	Maximum room temperature of 85°F (29.4°C) Maximum room humidity of 85% RH
Power Requirements	208-230 VAC 50/60 Hz, 30 amps	Two 110 VAC 60 Hz, 20 amp
Regulatory Compliance	CE	CE
Additional Requirements	Compressed Air Required <ul style="list-style-type: none"> Compressed air minimum of 5 CFM @ 30 psi 	Compressed Air Required <ul style="list-style-type: none"> Dry compressed air minimum 15CFM @ 60 psi
Part Accuracy Study	An independent study was conducted by the University of Texas-El Paso to test part accuracy after the smoothing process. Ultimately, the study found negligible dimensional change on smoothed parts. Study Details: Before smoothing, 49 measurements were recorded on 6 test parts manufactured on a Fortus system. After three 20 second exposures in the smoothing chamber, the mean deviation of pre-smoothing dimensions versus post smoothing dimensions determined that the smoothing process changed the parts by only .0009 inches (.023 mm). As a result, researchers concluded that the smoothing process has an insignificant effect on part accuracy.	

FINISHING PROCESS

SMOOTHING STATION

1. Smooth Part Surface

- Expose FDM part in the smoothing chamber 10-30 seconds
- Remove from smoothing chamber, review surface finish
- Repeat until desired surface finish reached (typically 2-4 times)



2. Cure Part

- Hang part in the curing chamber of the Smoothing Station
- Part will be dry to touch in 30-45 minutes
- Part will be fully cured in 12-18 hours



BURNISHING STATION

3. Burnish Part Surface

No special skills needed

- Lightly blast the part with sodium bicarbonate, giving surface matte finish
- Rinse with water to remove any remaining sodium bicarbonate



For more information about Fortus systems, materials and applications, call **888.480.3548** or visit www.fortus.com

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3D PRODUCTION SYSTEMS