Can you seal 3D prints with silicone?

Asked 3D Content Team
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Abstract. Yes for seams and joints, not as a coat: silicone sealant is not paintable, goes on at least 1/8 in (3.2 mm) thick and is water ready in 30 minutes to 12 hours.

Keywords: waterproofing, watertight, pla, petg

1 Can you seal 3D prints with silicone?

Yes for joints and seams, but not as a coating over the whole print. A bead of 100% silicone sealant closes the gap where a lid, a pipe or two printed halves meet. GE and DAP list it as non-paintable with a 24-hour full cure, and GE wants a bead no thinner than 1/8 inch (3.2 mm).

1.1 Silicone sealants by cure type

Figures come from each maker's technical data sheet. GE's times assume 73 °F (23 °C) and 50 percent relative humidity, and its fast water-ready times also need at least 65 °F (18.3 °C). GE says cold or dry air slows the cure, and Dow says the same of low humidity.

1.2 Why silicone seals a seam but not a whole print

Silicone sealant is made to fill a gap, and the data sheets size it that way. GE's Tub and Tile sheet calls for a bead between 1/8 and 1/2 inch (3.2 to 12.7 mm) thick, twice as wide as it is deep, and warns against tooling it too thin. Smooth-On's XTC-3D print coating, by contrast, goes on in layers under 1/64 inch (0.39 mm).

The makers also rule out the coating jobs by name. DAP does not recommend its silicone for surface defects, and GE says not to use its sealants as a spackling compound. Neither brand's silicone takes paint, so DAP says to paint the surface first. Cured excess must be cut or scraped off, because GE says no substance dissolves silicone.

Cure sets the third limit. RTV (room-temperature vulcanizing) silicone cures from moisture in the air, working inward

Table 1. Silicone sealants by cure type

Sealant (cure type)	Where it fits on a print	Tack free / water ready / full cure	Limits the maker states	Source
GE Tub and Tile Silicone 1 (acetoxy, vinegar odor)	Lid seams, pipe and cable entries, the outside of a joined seam	30 min / 12 h for a bead up to 1/4 in (6.3 mm), otherwise 24 h / 24 h, curing 2 to 3 mm per day	Not paintable; not for continuous water contact or aquariums; do not enclose it between two non-porous surfaces	GE data sheet
DAP All Purpose RTV 100% Silicone (vinegar odor)	The same seam jobs, away from metal parts	10 to 20 min / 12 h / 24 h	Not paintable; not for continuous underwater use or surface defects; weak on polycarbonate, acrylic, polypropylene, polyethylene, PTFE (polytetrafluoroethylene); corrodes brass and copper	DAP data sheet
DOWSIL 732 Multi-Purpose (acetoxy, industrial)	Bonding two printed flanges, sealing a cable entry	20 min (skin in 7) / not stated / about 3 mm deep per 24 h	No good adhesion on PTFE, polyethylene or polypropylene without DOWSIL 1200 OS Primer; acetic acid can corrode metal in a closed box	Dow data sheet
GE Silicone 2 Glue (neutral cure, light alcohol odor)	Joints near brass inserts or wiring, where acetic acid is unwelcome	30 min / 30 min for a bead up to 3/16 in (4.8 mm), otherwise 8 h / 24 h	Not paintable; not for continuous water contact, aquariums or food contact; releases methanol and ammonia while curing	GE data sheet
DAP Silicone Ultra Aquarium Safe (vinegar odor, aquarium-labelled)	Joints on parts that sit in a tank	10 to 25 min / 12 h, and 48 h before using an aquarium / 24 h, optimum strength at 7 days	Tanks of 30 gallons or less and 18 in or less of water; not paintable; same weak plastics as the DAP row above	DAP Canada data sheet

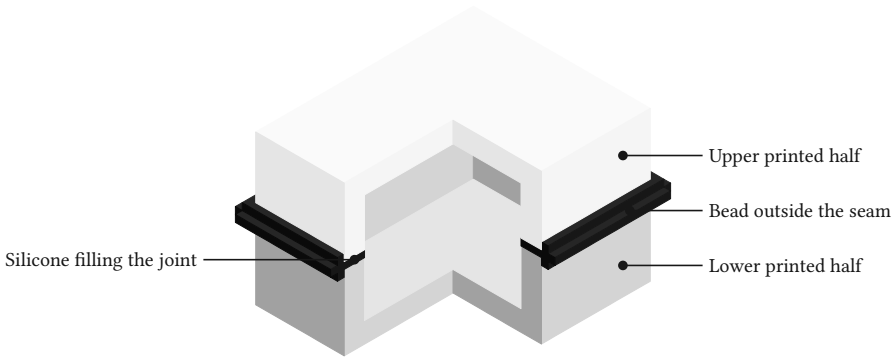


Figure 1. The silicone fills the joint between the two rims and stays exposed along the outside of the seam, where the air it cures from can reach it.

from the exposed surface: 2 to 3 mm per 24 hours in GE's figures, about 3 mm in Dow's. GE says never to enclose the sealant between two non-porous surfaces, and DAP says it will not cure in a totally confined space. When two printed halves are joined, the squeezed-out bead along the outside of the seam is the part that reaches air.

A seam bead cannot stop a wall that weeps. For that, coat the whole part with brush-on epoxy or a waterproofing spray.

1.3 Will silicone stick to PLA, PETG or ABS?

The makers do not say. None of the five sheets names PLA (polylactic acid), PETG (glycol-modified polyethylene terephthalate) or ABS (acrylonitrile butadiene styrene). What they do say:

- **DAP** lists polycarbonate and acrylic with polypropylene, polyethylene and PTFE as surfaces that "do not allow for best adhesion". A polycarbonate print falls on that list.
- **Dow** says unprimed adhesion "may be obtained" on "most common engineering plastics" with DOWSIL 732. It also says good adhesion is not normally obtained on PTFE, polyethylene or polypropylene.
- **GE** warns that plastics can have "unpredictable surface characteristics" and asks for a test patch before the whole job.
- **Surface prep:** DAP's aquarium sheet says to lightly sand or roughen hard plastic first, and Dow recommends light abrasion whenever possible.

Prusa Research even casts silicone caulk in two-piece printed molds and pulls the seals out once dry, a method covered on the gasket page. The peel test at the end of this page settles it for your filament.

1.4 Acetoxy or neutral cure?

Choose by what sits near the joint. Brass heat-set inserts, or electronics inside a sealed box, point to neutral cure.

Acetoxy silicone smells of vinegar because it releases acetic acid as it cures. DAP says its vinegar-smelling silicones are not for use on or near brass or copper, and the same goes for zinc and galvanized metal. Dow warns the acid can corrode metal parts, especially when a closed space traps the cure by-products.

GE's neutral-cure Silicone 2 Glue releases methanol and ammonia instead, so ventilate either way. GE says both types irritate eyes, skin and the respiratory tract before they cure, and recommends gloves.

Both GE sheets rule out aquariums. Aquarium silicone is its own labelled product with its own size limits, like the DAP one in the table. To coat a tank decoration rather than seal a joint, see aquarium-safe prints.

1.5 How to seal a printed seam with silicone

1. **Paint the print first** if it needs color. The cured sealant will not take paint.
2. **Prepare the faces.** Lightly sand where the silicone will touch, then wipe with isopropyl alcohol. Skip soap and water: GE says silicone will not stick to soap residue.
3. **Mask both sides of the seam** with tape.
4. **Join two halves on a bead.** Run a bead on one rim, press the other half on and clamp until cured, as DAP's aquarium sheet directs. Let the squeeze-out form an unbroken bead along the outside.
5. **Tool within 5 to 10 minutes** with a gloved finger, then pull the tape before the skin forms, per GE.
6. **Clean smears with rubbing alcohol.** On hard plastics, GE rules out mineral spirits.
7. **Wait out the cure.** Keep water off for the water-ready time in the table and leave the joint untouched for 24 hours. Deeper beads need more days: say the bead is 6 mm deep, then at 2 to 3 mm a day allow two to three days.

For a lid that must open again, use DAP's method for formed rubber parts. Lay a bead on the box rim and cover it with wax paper so it cannot stick to the lid. Close the lid on the paper and let the bead cure. For lids under pressure, an O-ring in a printed groove is the tested route on the gasket page.

1.6 How to check the seal on your own print

1. **Peel test a scrap first.** Print a flat scrap in the same filament, prepare it the same way, lay a bead and wait the full 24-hour cure. Then peel the bead back with pliers.

2. **Read the peel.** A pass leaves torn silicone stuck to the plastic. Dow's target for its silicone adhesives is 100 percent cohesive failure: the silicone itself tears and the bond holds. A bead that lifts off clean has failed to bond. Roughen the surface more, try the maker's primer, or switch to epoxy.
3. **Leak test the sealed part** only after the full cure. Fill it, stand it on a dry tissue overnight and watch along the bead. The leak test gives the full procedure.
4. **Read the leak.** A wet line along the seam means a gap in the bead or a failed bond, so cut out the bead and reseal the seam. A damp patch spreading across the wall means the wall leaks, which no seam bead fixes. Coat the wall or reprint it with more perimeters.

References

[1] Tub and Tile Silicone 1 Kitchen and Bath Sealant, Technical Data Sheet (GE Sealants, Henkel). https://gesealants.com/wp-content/uploads/2020/06/TD-GE-Tub-Tile-Sil-1-2026.03.20-EN.pdf. Accessed October 28, 2026.

[2] Silicone 2 Glue, Technical Data Sheet (GE Sealants, Henkel). https://gesealants.com/wp-content/uploads/2023/04/TD-GE-Silicone-2-Household-Glue-2024.06.01.pdf. Accessed October 28, 2026.

[3] DAP All Purpose RTV 100% Silicone, Technical Data Sheet (DAP). https://images.dap.com/DAP%20INDUSTRIAL%20ALL%20PURPOSE%20100_%20RTV%20Silicone%20Sealant_TDS.pdf. Accessed October 28, 2026.

[4] DAP Silicone Ultra Aquarium Safe & All-Purpose Premium Waterproof Sealant, Technical Data Sheet (DAP Canada). https://www.dap.ca/media/6627/cda_dap-silicone-ultra_aquarium-all-puprose-premium-waterproof-sealant_sp_clear_en.pdf. Accessed October 28, 2026.

[5] DOWSIL 732 Multi-Purpose Sealant, Technical Data Sheet (Dow). https://static.rapidonline.com/pdf/87-1232_v3.pdf. Accessed October 28, 2026.

[6] DOWSIL 739 Plastic Adhesive, Technical Data Sheet (Dow). https://www.farnell.com/datasheets/4151585.pdf. Accessed October 28, 2026.

[7] XTC-3D High Performance 3D Print Coating, Technical Bulletin (Smooth-On). https://www.smooth-on.com/tb/files/XTC3D_TB.pdf. Accessed October 28, 2026.

[8] Watertight 3D printing part 2: Airtight closable models (Prusa Research blog). https://blog.prusa3d.com/watertight-3d-printing-part-2_53638/. Accessed October 28, 2026.

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