

Recommendation for cleaning 3D prints made of Shapeway's Fine Extreme Detail (FXD) or Fine Ultra Detail (FUD)

This material is used for car bodies and fine detailed parts. It is relatively brittle, especially when features are thin.

Uncleaned FXD/FUD is **translucent**. Both plastics are made of an UV cured acrylic polymer, **they are well suited for painting if they are thoroughly cleaned**. The material is heat resistant up to 80°C / 176°F degrees.

During printing, Frosted Detail and Frosted Ultra Detail models are **supported by a waxy material** which is dissolved once the printing is complete. Large amounts of wax are removed by Shapeways with ultrasonic bathes. **But the model remains waxy when shipped to you.**



You can clearly feel the wax with your fingers, but it has also a particular smell, which disappears once cleaned.

This residual wax must be removed before painting, otherwise the paintwork will fail. The wax makes the plastic translucent and glossy. Once cleaned, the model becomes matte white. The smell disappears. Proper cleaning takes its time, count several days for a good result.

1. Warm water

Start with a first bath in warm water, brushing softly with a **toothbrush**.

I recommend using a plastic bucket when rinsing and brushing. If you broke a part, don't panic, take just care not to lose the broken part, you can glue it with cyan glue. We recommend glueing broken parts only when cleaning of the main parts is finished.

Don't hesitate to let the parts soak in a water bath overnight or more.



Note 1: Never apply water or air hotter than 50 ° C / 125°F. Protect your models against heat, specially when storing them in a car.

2. Chemical liquids

After rinsing in water, alternate chemical liquids and warm water bathes. Let the model dry between each cleaning cycle. After a chemical cleaning always rinse with clear water. Then using a low pressure compressed air source to blow out any blocked holes. Household detergents have mostly small effect on wax, but soap helps to rinse the model properly.



Cleaning with stove cleaning spray

Never let the model soak more than 30 minutes in any chemical liquid.

Chemical liquids successfully tested:

- medical isopropanol (IPA), applied with a brush
- stove cleaning spray
- stain remover for clothing, applied with a brush
- acetone free nail polish remover, applied with a brush

Once cleaned, the print loses its translucent aspect and becomes white. Some dried out wax remains as powder sticking on the surface. The powder can be swept away with a soft brush and a needle. Compressed air also helps.

Be always careful, because fine parts are very brittle. **Rinsing three times in warm water is always the last step before painting.**

3. Other products:

US modelers repeatedly reported that products called Bestine, Goo-Gone or De-Solve are working very well. They are not available in Europe.

In this video a modeler uses Bleche-White tyre cleaner, but please, you must be much more careful with the toothbrush than this guy: <http://youtu.be/mVYnbsnoB3Q>

NOT RECOMMENDED :

Acetone and Mineral/white spirit dissolves the wax but also dissolves the plastic leading to quick breakage and failure. Avoid hot water or hot air. Remember: The material is heat resistant only up to 50 ° C / 125°F degrees.

Recommendation for cleaning 3D prints made of Shapeway's White Strong and Flexible (WSF)

WSF is a Nylon-like material. When thin, it's flexible enough for hinges and springs. When thick, it's strong enough for very heavy structural components.

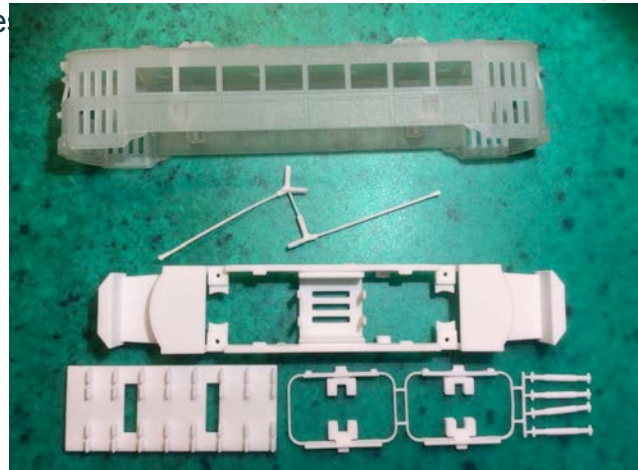
(The recommendations apply also to Shapeway's Black Strong & Flexible, and other colors)

For modeling issues, WSF is used for floors, truck frames, couplers, dummy poles and pantographs, handrails and all parts which could be submitted to pressure and wear. But the surface is very porous and rough, and fine details are not rendered well. Car bodies, or any other model parts with smooth surface

Because no support material like wax is used during the printing process, cleaning is much easier than for FUD/FXD.

It is sufficient to clean the parts several times in warm water with soap. The material is heat resistant up to 80°C / 176°F degrees, but don't try more than 50 ° C / 125°F !

Don't hesitate to let the parts soak in a water bath overnight or more.



Carbody (above) made of FUD, all other parts WSF

After the final cleaning, let the parts dry thoroughly, because water keeps well in the porous structure.