

Technical Data Sheet

Polyurethane finishing on Piano and Furniture Surfaces

Scope: This TDS outlines the general procedure used to finish articles coated with polyurethane resins, such a piano panels or furniture pieces.

Setting:

OEM production / Industrial

Equipment Needed:

- Large format Belt sander & sanding belt #800 of finer.
- Semi Automatic Polishing Machine fitted with 16"x3",16ply 2A Bias cotton buff
- OR Conventional Pedestal Polishing Machine with Soft Cotton Buffs.
- Handheld Rotary Polishing Machine (Makita (Model 9227C or similar)
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Products needed:

- Initial finishing: Ferro-Shuo Finishing Compound B30
- Final Finishing: Ferro Shuo Finishing Liquid High Cut OR Liquidshine High Cut
- Foam Pad 6" Firm (purple) Liquid Shine
- Microfiber cloth.



Procedure:

Sanding Step

- Sand pieces flat with the Large format Belt Sander fitted with 800# belt (or finer if surface finish of applied polyurethane is good).
- If sanding by hand, we recommend sanding with 800# to remove larger defects if needed, but finish with a 1500# paper for a very uniform finish. It is far harder to achieve a good final finish by hand, and the finer paper compensates for this.

Move articles to Polishing Station

Cutting Step

- If using semi-automatic machine, use 16"x3" 16ply 2A Bias cotton buff. Polish articles with Compound B30 to remove sanding marks.
- If using conventional machine, using conventional soft cotton buff, and also use Compound B30.

Final finish should be uniform, smooth and glossy. This can be checked with a 60degree Gloss Meter. (conforming with ISO 2813) reading should be 80 GU, or greater

Finishing Step

- This is best done by hand with a variable speed polishing machine such as a Makita 9227C. There is no need to use this machine on high speed for this process. High speed can scorch plastics and make it flow. Keep the speed setting low on setting 1 or 2 (900rpm, or thereabouts)
- Ensure the article is clean and free of grit before starting.
- Apply an even coating of Cutting Compound High Cut to the surface with a cloth. It can be helpful to work in 1 m x 1m (3ft x 3ft) sections. Polishing off this coating will ensure you polish every section of the article evenly.
- With the polishing machine and the purple pad, polish evenly the article with a slow deliberate motion. Ensure you cover the entire surface of the article with a side to side pattern of 2inch wide strips. Use a gentle pressure and the machine slightly tilted to the side.

Note: If there is excess compound do not attempt to buff it dry. Just leave it there. We will remove later by cloth. Buffing dry simply means there will be un-lubricated particles scratching your surface. This is not ideal.



- Once you have polished off all the compound, polish the surface once more. This time with a slightly higher speed (setting 2 or 3) and with a very light pressure. This will ensure a uniform finish and generate gloss.
- Wipe down the surface with a clean dry microfiber cloth to remove any compound. The surface should be bright and glossy, with a gloss of around 88-90GU, depending on colour. White will be higher, and blacks/blues may be lower.

This is generally an acceptable finish for indoor articles such as furniture and Piano casings.

Note: Lambs-wool pads are popular and can be used. However, be aware the cutting is generally more aggressive with lambs-wool, and the finish is a little less glossy. They can also be messier than foam pads.

Optional: Swirl Removal / Final Gloss Finishing

In some cases the articles may be used outside or require additional finishing to achieve the highest gloss. Some polished articles can appear to have a curious 3D effect akin to a hologram in appearance when viewed in sunlight. In this case it may be desirable to perform this additional finishing step.

For this we recommend a Swirl remover such as "Zero Swirl" used in conjunction with a soft pink foam Pad.

The application is virtually identical to the previous finishing step.

- This is best done by hand with a variable speed polishing machine such as a Makita 9227C. There is no need to use this machine on high speed for this process. High speed can scorch plastics and make it flow. Keep the speed setting low on setting 1 or 2 (900rpm, or thereabouts)
- Ensure the article is clean and free of grit before starting.
- Apply an even coating of "Zero Swirl" Swirl Remover to the surface with a cloth. It can be helpful to work in 1 m x 1m (3ft x 3ft) sections. Polishing off this coating will ensure you polish every section of the article evenly.
- With the polishing machine and the soft pink pad, polish evenly the article with a slow deliberate motion. Ensure you cover the entire surface of the article with a side to side pattern of 2inch wide strips. Use a gentle pressure and the machine slightly tilted to the side.

Note: If there is excess compound do not attempt to buff it dry. Just leave it there. We will remove later by cloth. Buffing dry simply means there will be un-lubricated particles scratching your surface. This is not ideal.

• Once you have polished over all the Zero Swirl, polish the surface once more. This time with a slightly higher speed (setting 2 or 3) and with a very light pressure. This will ensure a uniform finish and generate gloss.



• Wipe down the surface with a clean dry microfiber cloth to remove any compound. The surface should be bright and glossy, with a gloss of around +90GU, depending on colour. White will be higher, and blacks/blues may be lower.

Optional: Sealing

It may be desirable for finish this polishing process with a sealing step. Sealing with a products such as Liquidshine *Restoria* or *Polymer* can give the following benefits:

- Improved feel the surface feels silky and smooth.
- Fewer finger-marks
- Greater depth of color colors are deeper and more intense.
- Removes surface Haze.
- Water repellency makes the surface more water repellent.

The Technical data sheet on Polyurethane Sealing covers this area in more detail.

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For Products in your region please contact

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