

FINISHING STAINLESS STEEL

THE 10 ESSENTIALS

To achieve a precise finish, maximize efficiency and cost savings, and ensure worker safety, be sure to follow these 10 best practices.

1. Clean before you start

Always clean your workpiece before starting any finishing job to remove contaminants on the surface. By doing so, you'll avoid smearing grease on the surface, clogging the abrasives, and making deeper scratches that will require more work to fix.

2. Start at the finish

Determine the desired finish before you begin the finishing process. This will allow you to map out the process, determine exactly what you'll need at each step, and avoid any unnecessary steps (for example, repairing deep scratch patterns because the original abrasive was too coarse).

3. Choose the right abrasive

When removing a weld bead from the surface, choose your abrasive carefully. An abrasive that's too coarse could gouge the surface, making a smooth blend impossible and ruining your workpiece.

Starting with a too rough abrasive

Starting with the right abrasive

Too deep scratches, workpiece is ruined



4. Watch your grit sizes

To go from a coarse finish to a finer one, we do not recommend skipping more than three grit sizes at a time. If you need to combine steps, Walter has solutions that can help you do that.

5. Practice cross grinding

Cross grinding is a technique used in finishing and polishing that involves blending in a direction that's perpendicular to the previous step. Cross grinding is important because it highlights areas where the previous scratch pattern needs to be blended.

1st work step

2nd work step



6. Pay close attention to pressure and angle

Getting the pressure and angle right when grinding is a must. As a general rule, you should apply more pressure when removing material (taking down a weld, for example) versus polishing. Applying the right pressure and angle keeps the material from overheating and prevents discoloration, surface gouges and warping.

7. Use the recommended RPM

All finishing power tools have variable speed, and each abrasive is recommended for use at a specific speed. It's important to respect those recommendations so you can achieve a better, faster finish and a guaranteed perfect result without the need for rework. The abrasives will last longer as well: they won't wear down prematurely, and they won't glaze or lose their efficiency due to running too slowly.

8. Select the right power tool for the job

The geometric shape of the workpiece is an important consideration because it imposes certain constraints. You need to match the power tool to the shape to do the job effectively. For example, a pipe sander would be best for working on a straight circular tube, but getting to an inside corner will require a fillet weld grinder. Most importantly, you need a variable speed grinder to achieve the best results.

9. Follow standard safety practices

When it comes to metalworking with power tools and abrasive products, safety is the most important aspect of the job. Taking the necessary safety precautions not only prevents accidents, injuries, fatalities, and downtime, but also enhances employees' health, well-being, productivity, and work quality.

The following Personal Protective Equipment (PPE) items are essential:

- Eye and face protection (face shield, safety glasses)
- Hearing protection (earmuffs, ear plugs)
- Hand protection (proper work gloves)
- Respiratory protection (dust mask, air systems)
- Body and foot protection (safety boots)

When working with a finishing power tool, a safety guard must be in place to protect the operator from the moving abrasive surface and to deflect flying fragments from the workpiece or the abrasive product itself.

Finally, we strongly recommend unplugging the power tool:

1) prior to mounting the abrasive product; and 2) between steps while operators switch products.

10. Finish the process with care

Once you've achieved the desired finish and a passive surface, it's important to remove any dirt, dust, fingerprints, handling marks, and oils and to protect the surface. Our E-Nox Shine™ is ideal for cleaning, brightening, and protecting food processing equipment, pharmaceutical equipment, and all other types of stainless steel products.



E-Nox Shine™
Order no. 53-G 403