

KNIVES PRODUCTION PROCESS

Step 1: Blade Shape Cutting

The blade shape is carved from the steel sheet through either laser cutting or press cutting techniques. Laser cutting offers enhanced versatility and is particularly well suited for smaller production batches. Conversely, press cutting requires the development of a unique stamp mold for each knife shape.



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Step 2: Thermal Hardening with Vacuum Heat Treatment and Deep Freeze

During this step, the knife blade undergoes a sophisticated thermal hardening process, utilizing various techniques such as annealing, tempering, case hardening, precipitation strengthening, and high-temperature hardening.

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Step 4: Blade Leveling and grinding

The blade leveling process involves skillfully polishing the tip of the blade using a specialized polishing material, resulting in a smooth and sleek curvature reminiscent of a clamshell. Subsequently, the entire blade undergoes a meticulous polishing procedure, known as the grazing process, to further refine its surface.

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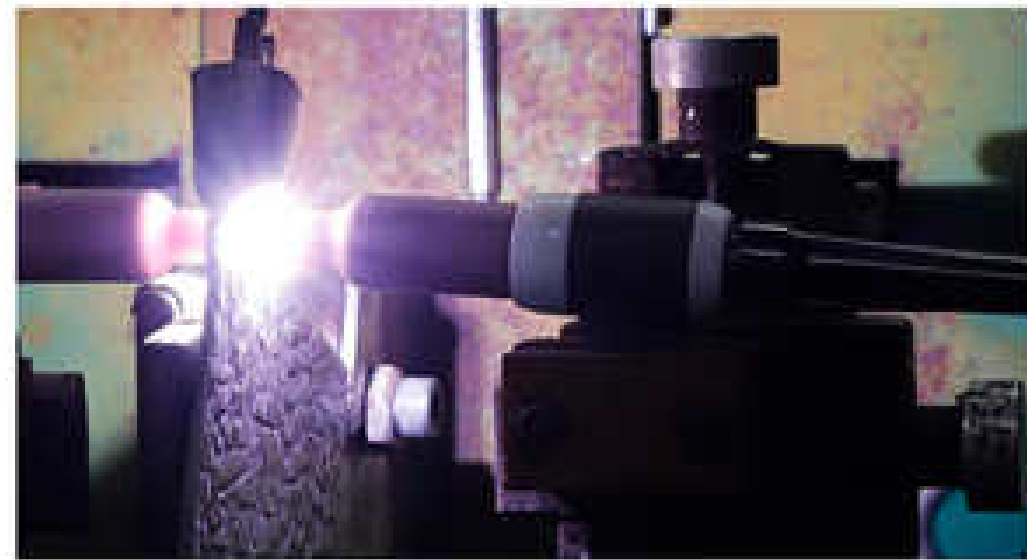
Step 6: Abrasive Blasting or Acid Etching

Fine glass particles are sprayed onto the blade surface, adhering to it throughout the process. This treatment enhances the visibility and clarity of the Damascus patterns by highlighting the differences in surface roughness between the softer and harder parts of the stainless steel material, which possess varying adsorption capacities. Additionally, acid etching is employed to create beautiful and distinct Damascus steel patterns through a chemical reaction between an acidic etchant solution and the steel of the knife blade.

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Step 3: Bolster Welding

The bolster, which is the thicker metal component situated between the blade and the handle, is expertly welded to the blade. Through the application of high-power electrical welding, the two steels are fused together into a unified and solid piece.

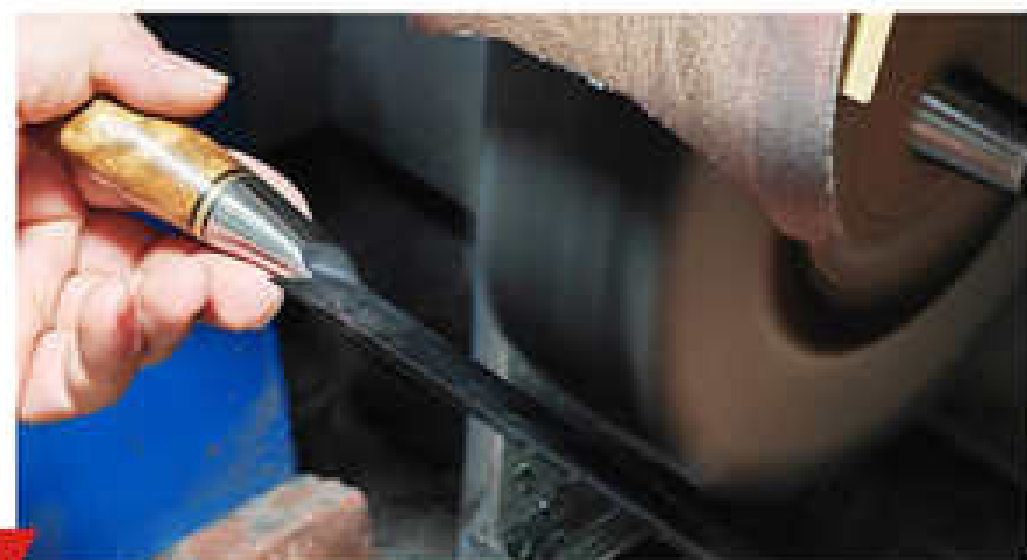


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Step 5: Blade Polishing

This process also plays a crucial role in achieving the desired bevel structure and revealing the original color of the steel. The initial polishing is carried out using a water mill, followed by fine polishing with a rubber wheel, resulting in a glossy knife face. Various polishing techniques, such as sanding, mirror light, and bright light, are employed to achieve different effects and obtain the distinctive patterns found on Damascus kitchen knives.

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Step 7: Wet Stone Sharpening

The wet stone sharpening process involves grinding the blade while continuously pouring water on the whetstone. This technique prevents excessive heat generation caused by friction, significantly improving the tool's smoothness and sharpness.



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Step 9: Handle Polishing

Handle polishing involves meticulously polishing the handle, bolsters, and rear bolsters. This process aims to achieve a beautiful and smooth handle by removing surface irregularities and leveling small parts. Attention to detail is crucial during this polishing stage.



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Step 11: Inspection

Inspection plays a crucial role in ensuring the overall quality of the production process. After completing significant production stages, thorough inspections are conducted on representative samples from each batch to guarantee the quality and consistency of our knives. To facilitate this rigorous testing, we have a dedicated testing laboratory equipped with advanced equipment to assess important factors such as sharpness, hardness, cutting angle, salt spray resistance, and other essential parameters. These comprehensive tests are conducted on a batch basis, ensuring that the knives within each production batch meet our stringent quality standards.



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Step 8: Assembling

In this step, the wooden handle is assembled with the blade or bolster. Different knife structures require specific assembly methods. Typically, the handle is secured using screws or glue to ensure stability and integrity with the blade.

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Step 10: Logo Application

During this step, the knife's surface is customized with a logo. Various techniques such as laser printing, electric spark, or embossing can be employed based on the type of surface. The logo application adds a personalized touch to each knife.

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Step 12: Packaging

Once all production processes have been completed and rigorous inspections have been conducted, the knives are carefully packaged. Depending on customer requirements, the knives are packed in gift boxes or other suitable packaging materials.

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