CALIFORNIA SAW & KNIFE WORKS

Food Processing Knives

Ensuring that each customer derives all the benefits possible from our knowledge, experience and technology is what Cal Saw is all about. We produce custom knives for all key food industry groups: Fruits; Potatoes; Spices and flavorings; Meat, poultry and fish; Vegetables; Nuts, Candies, and Bakery products.

The Important Questions To Ask:

Are your processing blades cutting into your profits?

When blade performance falls short of expectations, when product quality starts to slip, you've got problems that can really cut into your bottom line. We've been making cutting tools for over a century. Our experience can help you achieve your productivity goals.

Are you getting the best technology available?

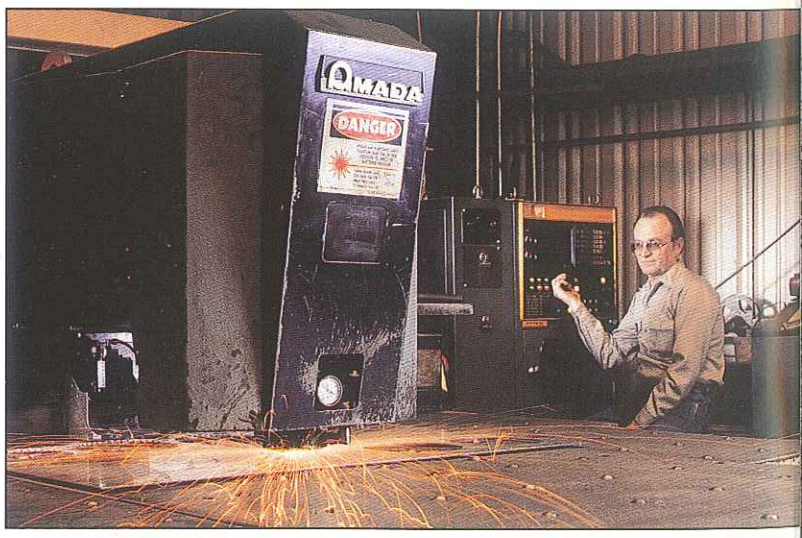
Cal Saw has been at the leading edge of blade design for decades. We closely follow manufacturing technology, and form part of the advance guard in transforming new design concepts into reliable, durable, affordable machine knives.

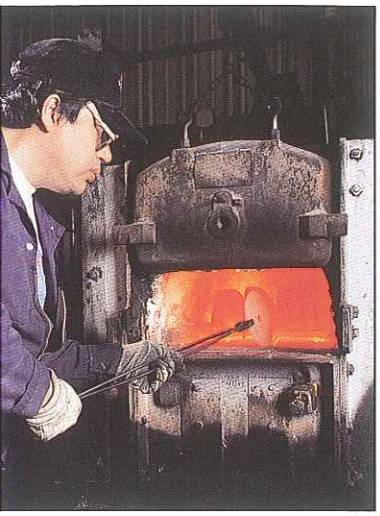
How does Cal Saw work with Food Processors and Equipment Makers?

Here are three examples:

- When blades are subject to excessive wear, bending, corrosion or breakage, we investigate to see if process variables are contributing causes. Only when we have identified the problems inherent in the process do we propose a new material, new design, or a change in the manufacturing process.
- Sometimes the first sign of a knife problem is not breakage, but reduced product quality. If it can be corrected by improved sharpening or maintenance procedures, we'll suggest these options first. If a new design is clearly indicated, our goal is to make sure it fully supports your quality standards.

Whether you're a multinational or a single-plant operation, we will use equal care to help you find the right knife for your job.





Knife Manufacturing Technology

We're the leaders in materials selection and design. In some industries, the hardest knife available is the best knife for the job. In food processing, other properties can be even more important. Both the choice of materials and the blade's design must account for corrosion resistance *and* mechanical properties — such as toughness and resistance to wear and bending.

Cal Saw's experience with a broad array of materials and coatings ensures that the requirements imposed by your production process, no matter how demanding, can be met. We've worked extensively with
• Martensitic and Precipitation Hardening Stainless Steels • Carbon and Alloy Steels • Tool Steels • Cobalt and Nickel-based SuperAlloys • Wear-resistant coatings.

Blending The Best Of Old And New Technologies

Cal Saw embraces new technologies. Our grinding machines are guided by computerized numerical control to deliver maximum precision and surface integrity. We have developed proprietary heat treating processes that reduce residual stresses and ensure long-term flatness in our products. And our laser cutting capability allows us to handle complicated shapes economically, even when the number of units ordered is relatively small.

Experience also teaches us that there are certain judgments which can be made only by seasoned individuals. Heat treating exemplifies Cal Saw's experience at work. Our people handle thin, fragile parts at temperatures over 1800°F, where the slightest mistake can cause irreparable damage. It takes years of experience to develop the judgment and handling skills to ensure a flawless product.

Stringent Quality Control

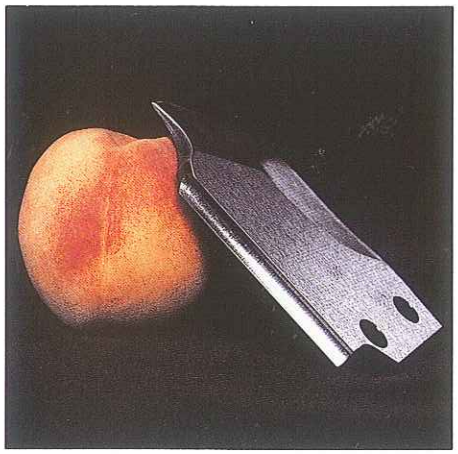
Cal Saw's approach to Quality Assurance can best be described by two words: attitude and commitment. Because Cal Saw staff function as part of a team responsible for the entire production process, each is highly committed to maintaining the integrity of your product from start to finish.

While our manufacturing processes produce knives of great accuracy and complexity, they also have the potential of undermining quality by introducing subsurface damage that can lead to cracks, fatigue failure or premature loss of a sharp cutting edge. For that reason, we monitor metallurgical research conducted by the aerospace industry to understand better the effects of manufacturing on high performance materials.

Customized Solutions

FROM MANUAL TO AUTOMATED SYSTEMS. A specialty frozen food processor faced the potential loss of a major product to a plant with lower labor costs. The plant had attempted to compete by automating, but was unable to get results equal to those achieved by hand.

Solution: Cal Saw analyzed their prototype cutting and trimming system. By careful selection of materials, as well as the manufacturing methods used, Cal Saw was able to deliver a knife assembly possessing the required accuracy, rigidity and toughness.



IMPROVING PRODUCT QUALITY. A plant processing dehydrated vegetables detected excessive variation in slice thickness, which in turn lead to significant degradation of product quality. An investigation revealed that erosion of the parts regulating the slicer's knife gap was responsible.

Solution: Cal Saw confirmed this analysis. Then, by manufacturing these parts from carefully chosen new materials, Cal Saw was able to help the plant maintain excellent product quality—without thickness variation and without adjustments to the knife assembly during the entire processing season.

REDUCING DOWNTIME. A pineapple cannery's re-coring machines were frequently shut down for blade replacement. Because the cylindrical knives were difficult to change, each replacement cycle involved considerable delay in the time-critical production process. The cannery had tried knives made from several different materials, but none met its performance and product quality standards.

Solution: Cal Saw studied the materials used to manufacture these knives and determined that no single material could achieve the desired objectives. Cal Saw engineers developed a combination of a base material and surface coating which greatly extended the intervals between repairs and replacements.

FOOD PRODUCT INNOVATION. An equipment manufacturer charged with developing a special processing system had encountered a difficult problem: How to design knives capable of producing very narrow strips from a food product that was brittle and incompressible.

Solution: Cal Saw devised a knife assembly which reduced compression during slicing while still preserving the strength of the cutting edge. As a result, the cracking and fracturing of the product was eliminated.

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Reliability and Efficiency Since 1886.

It is rare that a company can boast a record of unbroken service spanning more than a century. Founded in 1886, California Saw and Knife Works of San Francisco is proud to be one of those few.

Today, Cal Saw is a specialized manufacturer of knives, saws, and a variety of high strength precision metal products. The company produces food processing knives and wear parts that are among the finest in the world. The firm's design and manufacturing processes are closely supervised by a team of highly experienced engineers.

Cal Saw began to serve the food processing industry in the 1920s. Since then Cal Saw has maintained a commitment to helping food processors and equipment manufacturers improve production efficiency and food quality, helping our customers develop new systems that will deliver better products.

Feel free to ask us about the problems we have solved. They may be a lot like yours. Satisfied customers are our most effective salespeople.

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