CALIFORNIA SAW
&
KNIFE WORKS

Food Processing Knives

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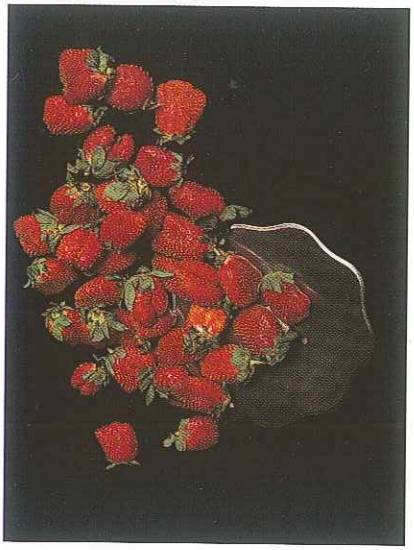
Reliability and Efficiency Since 1886



It is rare that a company can boast a record of unbroken service spanning more than a century. Founded in 1886, California Saw & 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. Our 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 1920's. Since then we have 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.

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 make custom knives for products across the spectrum of the food industry... fruits and salads; vegetables and spices; meat, poultry, and fish; nuts, confectionery, and bakery products.

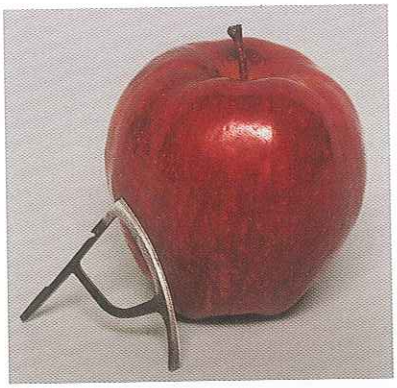
The Important Questions to Ask:

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, in order to transform design concepts into reliable, durable, affordable machine knives.



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

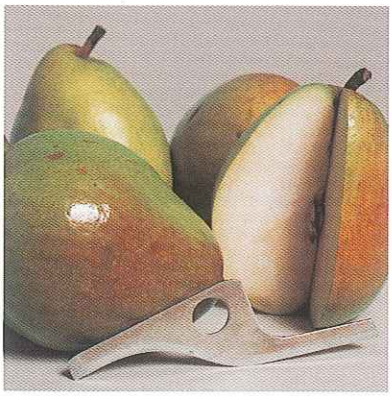
When blades display excessive wear, bending, corrosion, or breakage; or when product size or surface quality has deteriorated; we are ready to work with you to analyze the problem. If it can be addressed by process modification, or by improved knife maintenance, we'll suggest that option first. If a new design is indicated, we work with you in creating it and producing the knife; 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 probably 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.

We know that certain tasks, such as the heat treatment of fragile parts at over 1000°C, must be performed by seasoned professionals. It takes years of experience to develop the judgement and skill to ensure a well-made 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.

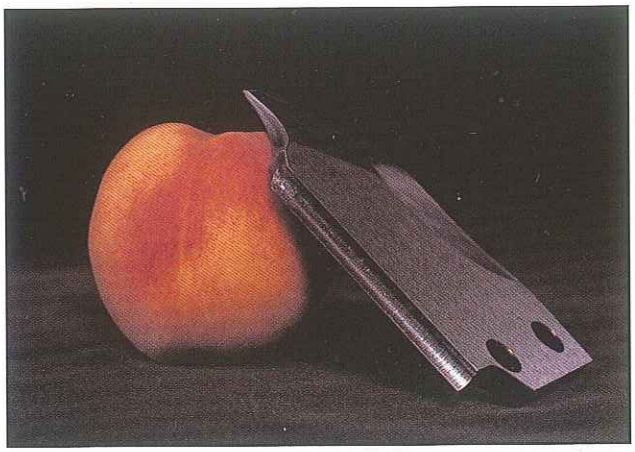
While our manufacturing processes produce knives of great accuracy and complexity, they also have the potential to undermine quality by introducing subsurface damage that can lead to cracks, fatigue failure or premature loss of a sharp cutting edge. For that reason, we keep abreast of current research to understand better the effect of manufacturing on high performance materials.

Customized Solutions

Improving Product Quality.

A plant processing dehydrated onions detected excessive variation in slice thickness, which in turn led 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 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. The cannery had tried knives made from several different materials, but non met its performance and product quality standards.

Solution: Cal Saw studied the problem 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 crushing of the product was eliminated.

Increasing Capacity

An increase in orders meant that a tomato processor was faced with the prospect of installing a second slicing unit. Before doing so, the plant manager called Cal Saw.

Solution: The design of the circular knives was modified to provide greater feeding action. The increased slicing capacity allowed the cannery to fill more orders — without the cost of more equipment.

Increasing Yield

In order to process small fish with as little waste as possible, a system was developed that depends on a thin, contoured circular knife which must cut with great precision. The problem lay in finding someone who could make the knife to the required tolerances.

Solution: Cal Saw's CNC grinding technology made the difference, successfully producing a knife within narrow limits for flatness, diameter, and shape.

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