



## A Clean Steel That Lasers Faster, Holds Shape, Cuts Downtime

**SCS** stands for *Smooth-Clean-Surface*, an amazing flat-rolled steel offering valuable competitive advantages for laser, plasma and torch cutting. It's a replacement for pickled and oiled and hot-rolled black, and it's so smooth, so clean and so flat you'll think it was invented just for laser cutting.

The patented SCS process feeds ordinary coils or sheets of hot-rolled black through an abrasive brushing, rinsing and drying system where all dirt, heavy scale and rust is removed. What remains is a microns-thin layer of oxide that's mechanically bonded to the base steel and polished to a smooth, cold-rolled matte finish.

The SCS surface is more than just smooth and 'ultra-clean'. *It actually inhibits rusting.* No coating or oil is used and no special packaging is required. SCS resists rusting with normal handling and protected storage, giving it a 'shelf-life' that extends for many months and even years. And when material with existing rust is run through the SCS process, the rust is removed and does not return.

### LASER CUTTING IN OVERDRIVE

If you laser P&O, you've seen how splash and smoke can fog the laser lens and quickly foul exhaust filters. If you laser hot-rolled black, the dirt and scale can cause beam diffraction that hampers smooth cutting. Very heavy scale or surface rust may even shut off the laser.

SCS removes such obstacles, providing a very consistent distance between lens and sheet surface, plus a finish so clean and smooth the beam encounters virtually no

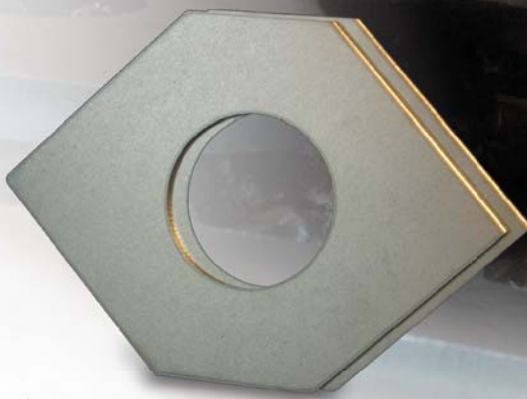
'debris' along its cutting path. This lets you choose a nozzle size and power level combination that leads to an increase in cutting speed. How much? Following the recommendations in our *SCS Laser Guidelines*, users routinely see 15% to 20% increases over their highest speed for cutting P&O. Some have increased speed as much as 50% – laser and plasma cutting!

### THE SHAPE OF QUALITY

Laser operators want steel that's as flat as possible. It doesn't come much flatter than SCS. As part of the SCS process, coils undergo a combined roller and tension-leveling to remove edge wave, bow and many coil breaks. When material is SCS processed in sheet form, it is first either temper passed, cold-rolled, or aggressively roller-leveled to remove shape defects.

And in many cases, laser-ready SCS sheets first have virtually *all* shape defects removed through stretcher-leveling – a method of putting the material into plastic deformation that stress-relieves the entire sheet. *SCS sheets that are stretcher-leveled do not spring back after lasering!*





**Sets of 'twin' parts  
lasered from stacked  
sheets of stretcher-  
leveled SCS.**



With no springback and completely clean, oil-free parts, laser operators can actually stack their SCS sheets and laser two sheets at a time. ***That's right – two sheets, two parts, one cut.*** Stretcher-leveled SCS makes this possible because parts don't deflect after cutting and there's no oil to make them stick to each other. They lift cleanly out of the blank.

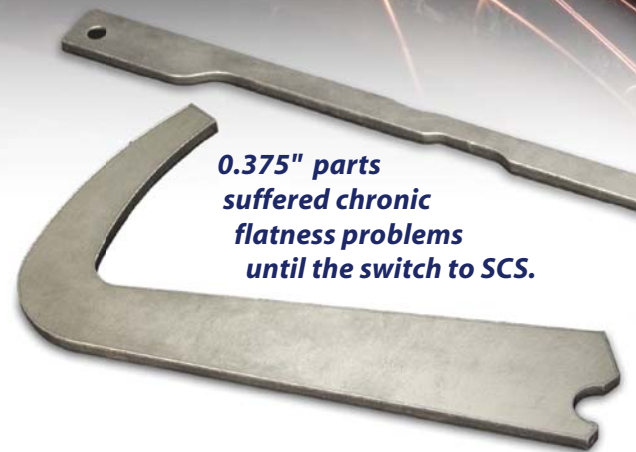
Double-stack lasering may not work for thicker sheets or very small parts, but for parts like those shown above, lasering twin SCS sheets can boost output by 40%. That advantage just isn't available with P&O or hot-rolled black.

## **PERVASIVE PRODUCTIVITY GAINS**

Faster cutting . . . double-stack lasering . . . reduced springback. These are big, bold productivity gains you capture by switching your laser/plasma cutting to SCS. But more subtle efficiencies also result from the switch to SCS – advantages that are rooted in the remarkable SCS cleanliness.

When your steel is 'SCS-clean' everything it touches stays cleaner. Like equipment, tooling, work clothes. You spend less time cleaning your shop. You also spend less time cleaning lasered parts for painting or finishing. Paint prep for SCS parts can be considerably leaner than that needed for P&O or hot-rolled parts, yet the SCS parts' paint finish and corrosion protection will outperform P&O or hot-rolled in nearly every case.

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**0.375" parts  
suffered chronic  
flatness problems  
until the switch to SCS.**

Other valuable SCS productivity advantages:

- ***Reduced maintenance due to cleaner lenses, filters and no head damage from springback.***
- ***No material handling shutdowns from oily blanks sticking together when destacking.***
- ***Recover the value of material that's rusted or has shape problems. SCS removes rust and resuscitates the surface.***

Laser job shops and multi-laser/plasma operations can even leverage SCS productivity gains to avoid capital outlays. One such job shop owner shelved his plans to add a sixth laser, acknowledging that SCS, "Will let us grow our business with the five lasers we already have!"

## **GETTING STARTED WITH SCS**

Conducting an SCS laser trial is easy. Whether you need three sheets or thirty bundles, we'll SCS process your material and support you in optimizing its performance. We can also introduce you to licensed SCS producers who supply both the steel and the SCS processing.

Contact us to discuss your SCS laser/plasma trial today.

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