SLP FEATURES BROCHURE 2026

SLP - USA Born and Raised

SLP has been a dedicated leader in the lighting industry since 1969, specializing in developing and manufacturing a full spectrum of innovative lighting solutions. Our comprehensive services include **Contract Manufacturing**, **Injection Molding**, **Fabrication**, **Gasketing**, **Vacuum Metallizing**, **Engineering & Development**, and **Prototyping**. We prioritize our customers, guiding products from concept to reality, and consistently invest in research and development, utilizing the latest technology for in-house testing and subsequent UL approval and certification. Our ISO 9001:2015 certified facilities ensure we can support our customers in today's dynamic global market.

As a leading component supplier, our roots run deep on American soil. We are immensely proud to be **Made in America**, guaranteeing unparalleled quality and reliability, and supporting domestic excellence while upholding the requirements for **BABA** and **BAA**.

BAA / BABA Compliant Fixtures

The Buy American Act (**BAA**) and the Build America, Buy America Act (**BABA**) are key pieces of legislation that mandate the use of U.S. manufactured products in federally funded projects, supporting domestic jobs and manufacturing.

BAA applies to direct federal purchases (like lighting for military bases/government offices) and requires products to be manufactured in the U.S. with a **minimum of 65% domestic component cost**.

BABA (part of the 2021 Infrastructure Investment and Jobs Act) applies more broadly to all federally-funded infrastructure projects (like lighting for bridges/roads). It also requires U.S. production, but with a **minimum of 55% domestic component content** for manufactured products.

CONTRACT MANUFACTURING

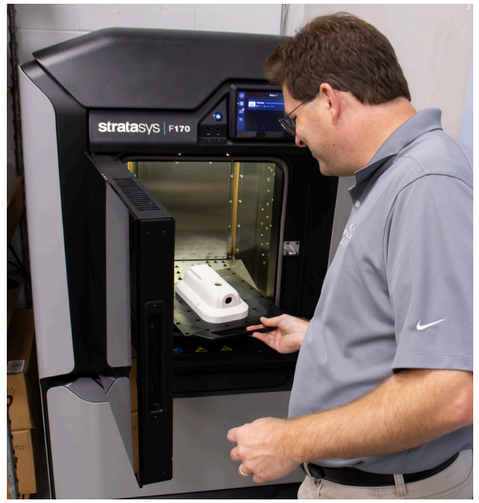
Rapid Prototyping

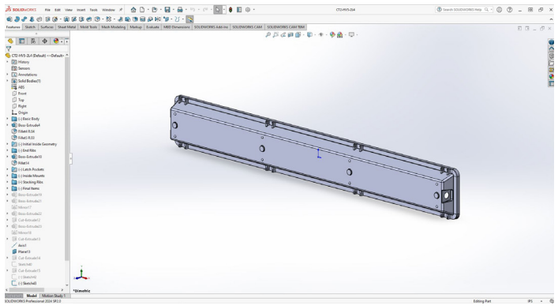
SLP's prototyping capabilities give your concepts physical form fast. Our 3D printer lets our engineers transform CAD files into tangible parts in hours, not weeks. This isn't just rapid prototyping. It's **intelligent iteration**. We create functional prototypes that **validate fit, form, and assembly** before we commit to expensive tooling. We refine designs, catching issues early when changes are cheap and fast. Our **prototyping workflow saves time and money** on the front end. Our process is thorough because precision isn't negotiable. Before we cut steel for injection molding, SLP **refines designs until every detail is dialed in**.

Engineer Team

SLP's engineering team is where innovation meets execution. These aren't your average CAD operators. Our engineers combine deep **expertise in thermodynamics**, **structural mechanics**, and **materials science** with advanced Solidworks modeling to create robust lighting fixtures. They strategize over **thermal management**, **stress analysis**, and **environmental protection**, running countless simulations to perfect every detail before a single part is molded.

We apply this same expertise to contract manufacturing partners who need serious engineering firepower. When you work with SLP, **you're tapping into pure engineering talent**.



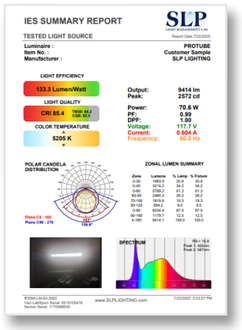


Solid. Works. Industry Standard.

SLP's engineering team designs and manipulates CAD files in Dessault Systems Solidworks. This 3D software allows engineers to **create detailed 3D models** and technical drawings. The platform offers parametric modeling capabilities, allowing users to design complex assemblies and parts with tools for element analysis, computational fluid dynamics, and design validation.

Photometric Goniophotometer

Our industrial goniophotometer is a complete light measurement solution featuring a precision 2-axis goniometer that rotates light sources through their full 3D distribution field. By combining a spectrometer sensor with an integrated power analyzer, the system **rapidly captures comprehensive photometric data** in a single measurement cycle, typically completed in just 2-10 minutes.



IES Data Report Downloadable

Our IES data sheet includes **luminous intensity, spectrum, CCT, CRI, TM30, beam angles**, and efficiency metrics. The system accommodates a wide range of light sources from small LED chips to large street lighting fixtures (up to 25 kg and 1.5 m diameter in standard configuration) and automatically **generates industry-standard IES and LDT simulation files**. This eliminates the need for separate integrating sphere measurements while providing all the data you need for lighting analysis and specification.

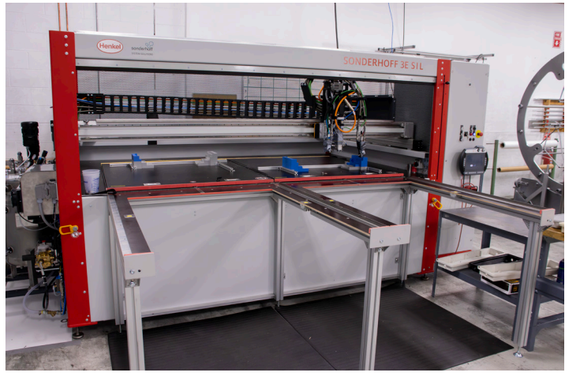
GASKETING: POLYURETHANE & SILICONE

Automated Pour-In-Place Gasketing System

SLP utilizes advanced robotic gasket dispensing equipment to apply precision pour-in-place gaskets directly onto lighting components. Our systems can **dispense both polyurethane and silicone foam** materials in precise, programmable patterns to **create custom seals that perfectly match each component's geometry**.

The Ultimate Weather Seal

This technology ensures consistent bead placement, optimal material usage, and repeatable quality across production runs. The system handles silicone formulations for **extreme environment applications** requiring superior temperature, UV, and chemical resistance. By eliminating pre-cut gaskets and applying material exactly where needed, the process reduces waste while achieving reliable IP-rated seals that protect against dust, moisture, and environmental contamination.

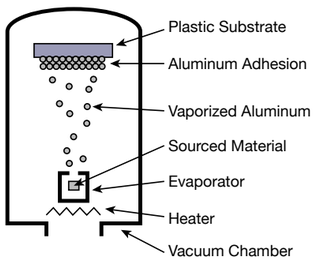


SILSONDERHOFF 3E SIL for silicone gasketing

VACUUM METALIZER

Vacuumed Metalizing Explained

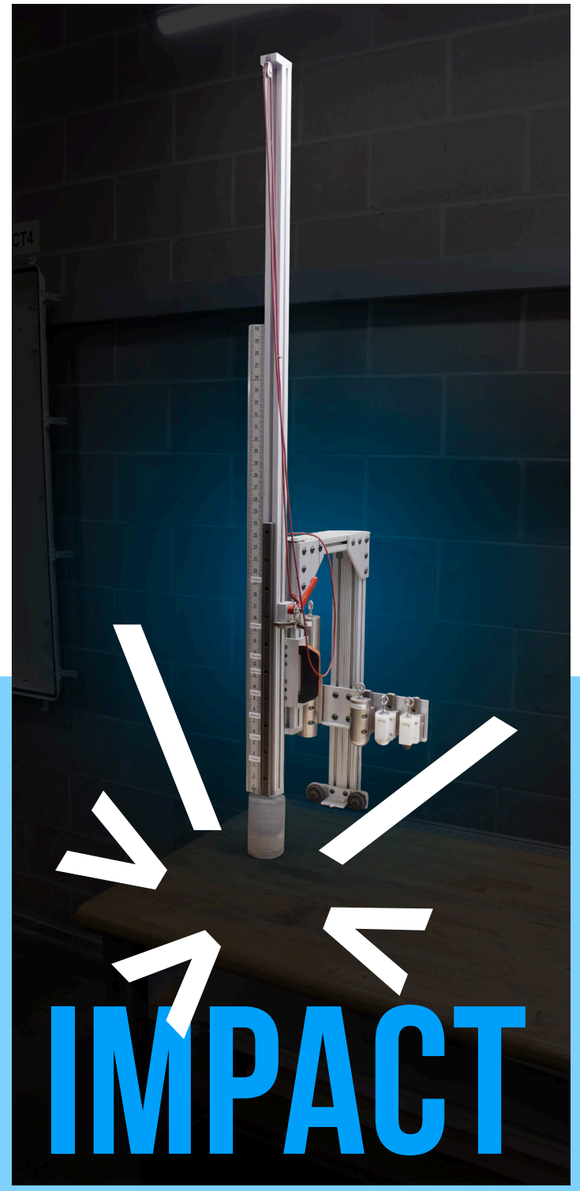
Vacuum metalizing creates a **mirror-like, reflective finish** on plastics inside a large, sealed vacuum chamber. Aluminum slugs or wires are heated until they **evaporate**, forming a cloud of **hot aluminum atoms**. As plastic parts rotate through this cloud, the aluminum vapor **condenses** onto their surfaces. The heat from the atoms briefly **melts or softens the plastic's outer layer**, allowing the aluminum to bond chemically and mechanically for excellent **adhesion**.



An Incredible Mirror Finish

The resulting metallic coating is incredibly thin, typically **0.1 to 0.5 microns thick**. Despite its microscopic size, this uniform layer provides the characteristic **super reflectivity** and brilliant mirror finish. This process is essential for items needing a metallic look and high brightness, from automotive reflectors to decorative fixtures.

IK TEST



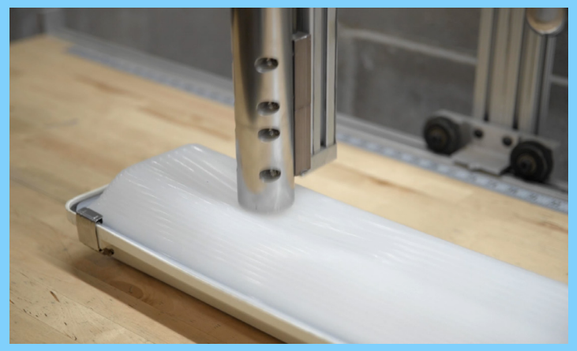
Impact Resistant Products

Our rigorous IK drop test process is essential for guaranteeing the **durability and quality** of every product we ship. We use this equipment to simulate real-world impacts.

We test optical lenses and housing bodies by dropping calibrated weights from specific heights. This lets us accurately **measure the impact energy in joules** against international IK rating standards.

Evaluation (Pass or Fail?)

We evaluate each component against strict pass/fail criteria. Failure happens when we see any cracking, shattering, or structural damage. If a piece fails, we immediately initiate design or material improvements to fix the weakness.
This thorough testing **guarantees our products maintain their structural integrity**.

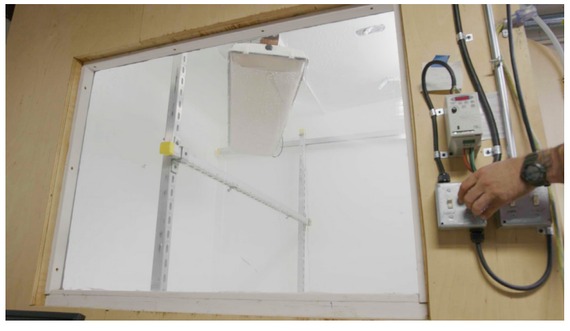


PASSES√

ENVIRONMENTAL TESTING

IP Spray Chamber

Every SLP fixture faces the ultimate durability test in our IP spray chamber, built to exact UL specifications. **High-pressure water jets blast fixtures** from multiple angles, simulating years of rain, washdowns, and harsh weather in a controlled environment. This chamber validates IP ratings for the rain test, IPX3, IPX5, and IPX6.



IP Dunk Tank

Complete submersion reveals what spray testing cannot. Our UL-specification **dunk tank fully immerses fixtures** underwater to verify their sealed integrity against total water ingress. This test ensures **gaskets, seals, and housing construction work together as a watertight system**, not just water-resistant components. Passing this test grants us the IPX7 certification. IPX9 is tested with our 1500PSI pressure washer system.

HEAT CHAMBER TEST

Fixtures Under Stress

The Industrial Heat Chamber evaluates a product's operational performance and material **stability under heat stress**. This testing is critical for high-bay warehouse and industrial facilities where heat naturally rises and concentrates near the ceiling, creating extreme thermal conditions around lighting fixtures. During testing, **thermal couples are checked** to accurately monitor and record temperature readings, verifying that the product can safely function.

TEMPERATURE THRESHOLD MARKERS

FAHRENHEIT / CELSIUS

- 131° / 90° — MAXIMUM
- 131° / 55° — HOT WAREHOUSE
- 104° / 40°
- 77° / 25° — MINIMUM

Quality Drivers

Quality drivers include built-in thermal protection that monitors temperature through progressive testing stages (77°F > 104°F > 131°F > 194°F) and reduces output when needed to prevent damage, then automatically restores normal operation once cooled.

Vibration Testing

We mount fixtures to our vibration testing rig and subject them to **rigorous shaking** to identify any loose components or structural weaknesses. This testing ensures **our fixtures can withstand demanding environments** like construction sites, industrial facilities, train, locomotive, subway and other high-vibration applications.

ROLL FORM/PUNCH

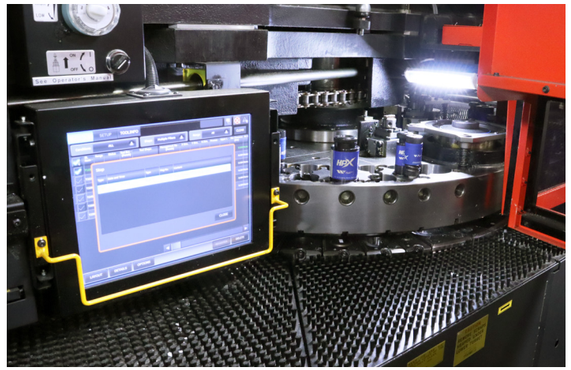
Automation At It's Best

Our roll former and punch is an automated manufacturing line to produce Citadel LED mounting trays quickly and efficiently. The punch machine **precisely punches out cuts and holes** for a myriad of lighting setups. This universal layout allows for different LED board lengths, configurations, and cuts for T8 tombstones.

UNIVERSAL CUTS

TOMBSTONE T8
LED PCB

TURRET PRESS



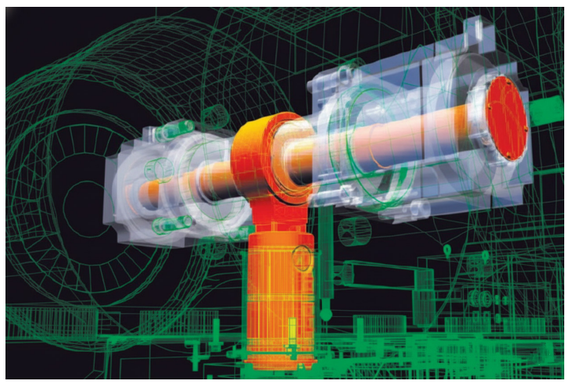
Turret Press Metal Fabrication

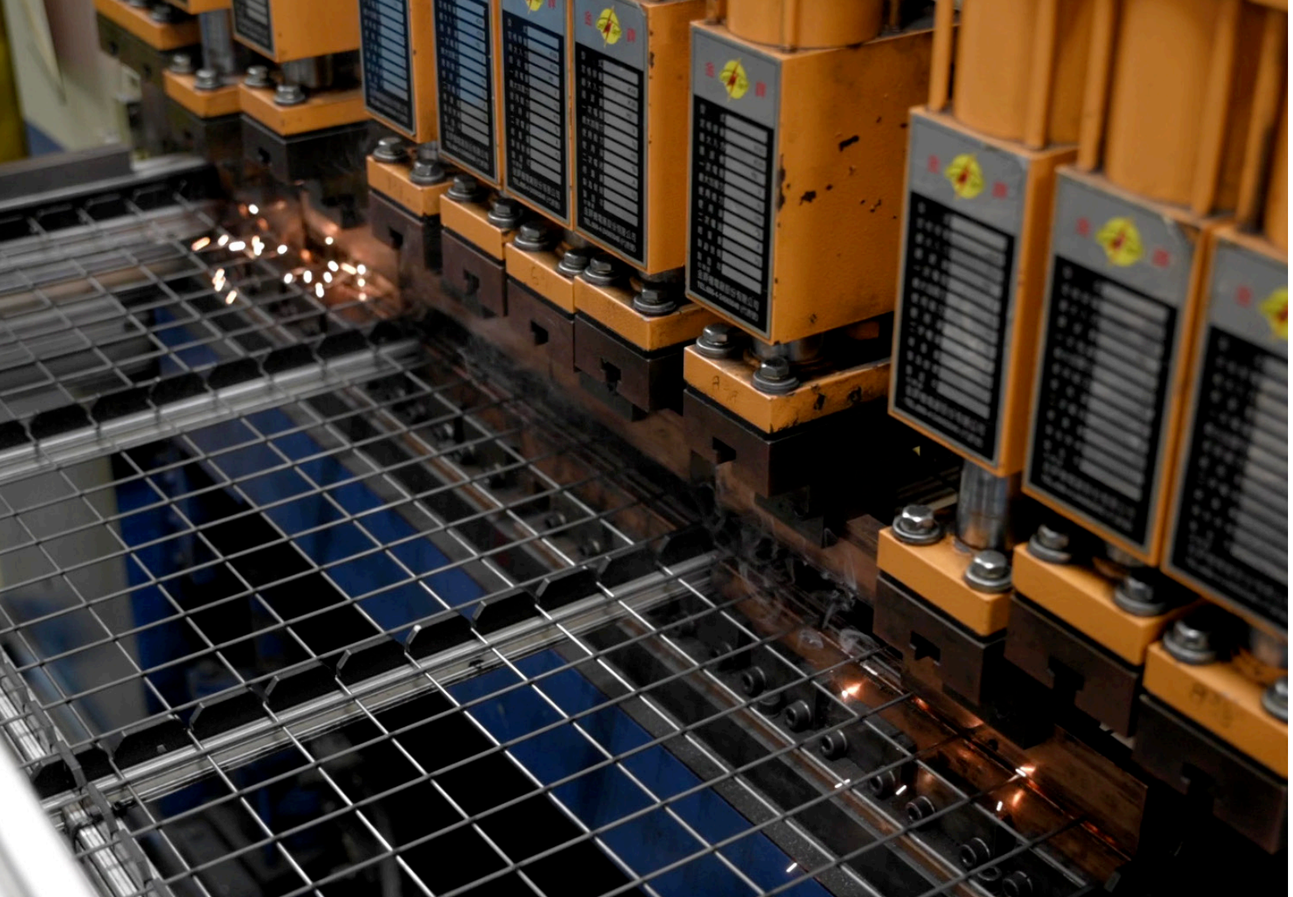
At its core sits a sophisticated cylindrical turret head: a rotating arsenal of cutting and forming tools that **transforms flat sheet metal into finished parts** with ruthless efficiency.

Cylindrical Set Of Tools

The turret holds dozens of different tool stations for punching, nibbling, forming, or marking.
The machine **rotates to the exact tool needed, strikes with controlled force, and moves to the next operation in fractions of a second.** One setup. Multiple operations.

Twin AC servo drives directly coupled to the drive shaft



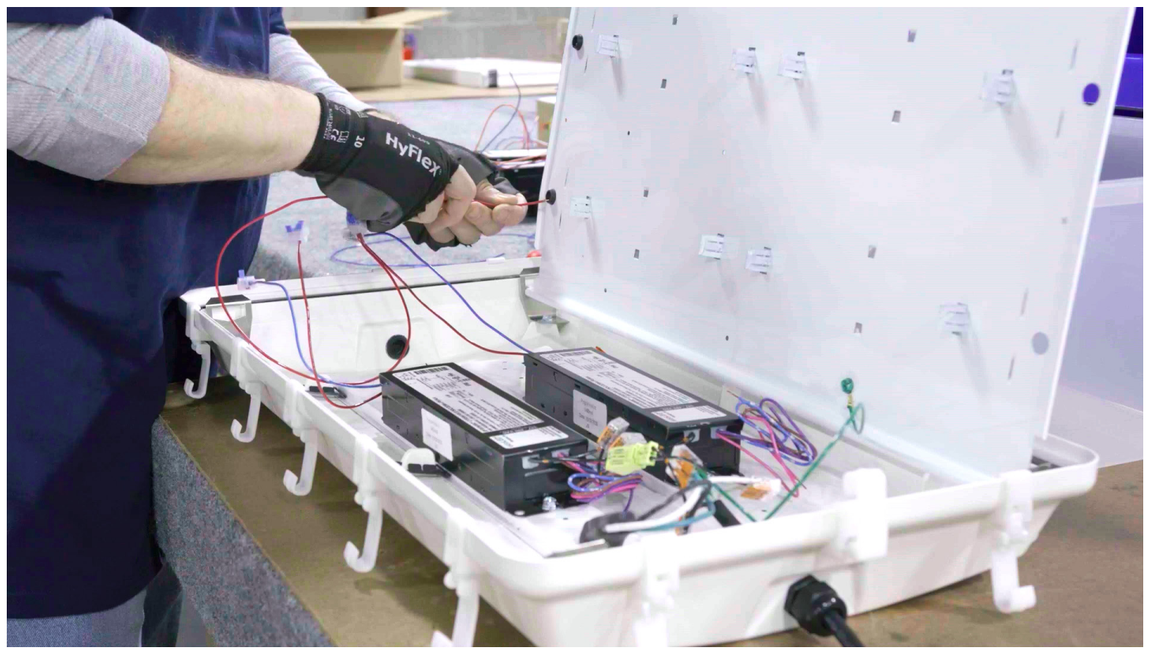


WIRE GUARD WELDING

Precision Mesh Welding

This dual-layer multi-point welding system transforms individual wires into precision-welded mesh guards in one seamless process. Operators load the wires into the rail grid framework, and the machine's **multi-point welding** heads fire in synchronized sequence to **fuse each intersection into a rigid, flat wireguard**.

EFFICIENT ASSEMBLY



Skilled Craftsmanship and Production

SLP Lighting relies on **local Missouri craftsmen** who staff our extensive internal manufacturing capabilities. These skilled individuals are the foundation of our quality control, ensuring superior product consistency and cost-effective production. Using a U-shaped assembly line, we maximize workflow efficiency.

SAFE. PRECISE.

Precision Assembly and Commitment to Safety

Our highly trained labor force reduces assembly time by utilizing the **plug-and-play driver system**. They quickly program standardized drivers via smartphone; this capability manages voltage variability, drastically reducing inventory complexity. The diligence of our assemblers ensures accurate placement of custom LED boards and the proper use of **pre-cut cable whips**, eliminating field waste. Safety is prioritized: all staff are equipped with proper gear and receive best-practice safety training.

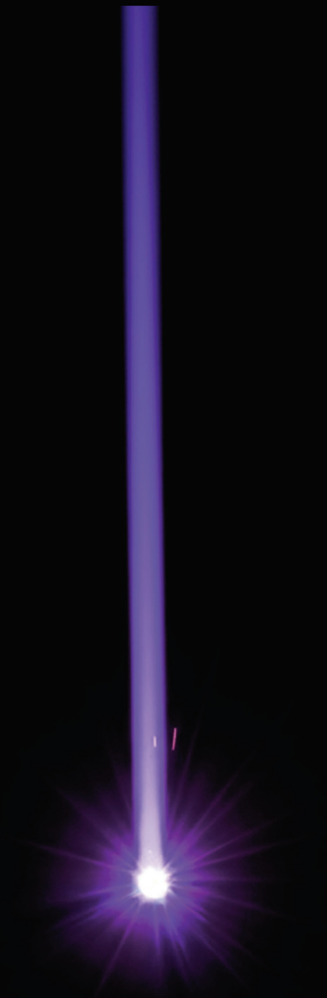
LASER CUTTER

Precision Laser Manufacturing

Our laser system tears through acrylic, metal, wood, stone, and textiles with industrial-grade precision that doesn't quit. This large-format powerhouse combines high-speed servo motors with advanced optics technology to deliver **consistent, razor-sharp cuts** and engravings across massive work areas, turning complex designs into finished products while competitors are still setting up.

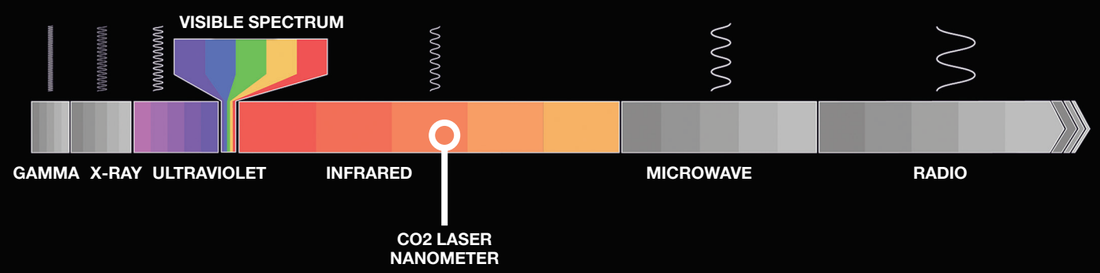
CO_2 Laser Beam

Our laser operates at 10,600 nanometers of invisible infrared energy, perfectly tuned to blast through plastic with surgical precision.



CO_2 Laser
10,600 Nanometer

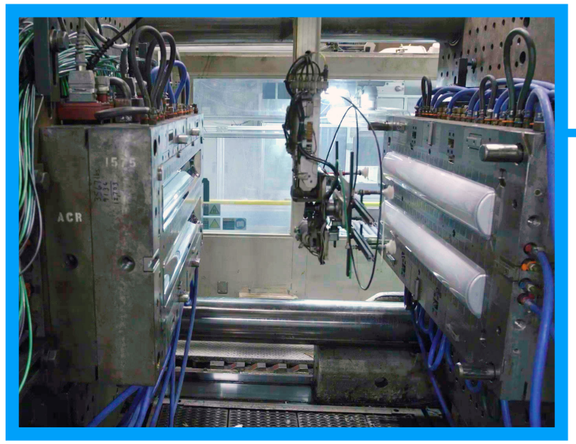
Electromagnetic Spectrum



INJECTION MOLDING

Molten Plastic to Perfect Component

Our injection molding system **transforms thermoplastic pellets into precision components** through heat, pressure, and exact control. The massive tool halves lock together with thousands of pounds of clamping force, creating a sealed cavity. The reciprocating screw drives **molten plastic** at over 400°F into every detail of the mold in milliseconds. As the **material cools** and solidifies, molecular bonds lock into place. The mold opens, the robotic arm with **suction cups transfers the finished part** down the assembly line. SLP produces thousands of identical components with tight tolerances, measured in thousandths of an inch.



SLP LIGHTING

IMPRESSED?

CONTACT US. WE WANT TO BE YOUR LIGHTING SOLUTIONS PARTNER

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