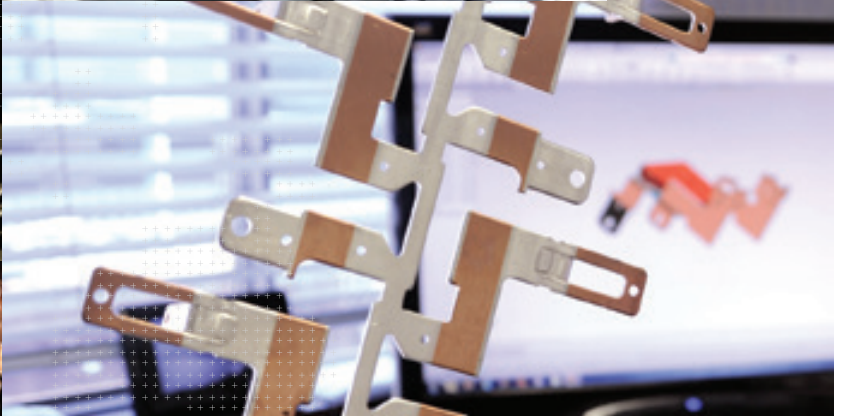


PRECISION ENGINEERING  
SINCE 1899

**STL**



# INNOVATION

SAMUEL TAYLOR (STL) IS AN INNOVATIVE, QUALITY-DRIVEN COMPANY, WHICH COMBINES A PERSONAL SERVICE WITH CUTTING-EDGE TECHNOLOGY, EXPERIENCE AND CONTINUED INVESTMENT.





**For over 100 years STL has been at the forefront of engineering technology, supplying intelligent, cost-effective precision engineering solutions for manufacturing industries across a variety of markets throughout the world.**

**From sophisticated bonding of base and precious metals to bespoke process optimisation, our unique blend of technology, experience and knowledge enables us to create more agile, more effective production solutions to address even the most complex of manufacturing challenges.**

**Innovation is in our history**

Since it pioneered the first electrically-driven rolling mill in the early part of the 20th Century to becoming the first UK company to start contact welding in the 1960s, STL has always had innovation at its heart. Today the company continues to show the way with its unique combination of technology, software and innovation.

From the use of 6-axis fully programmable robotics through to 3D design and modelling STL continues to be at the leading edge of manufacturing technology. With one eye on the future of the environment we have developed a range of sophisticated products for the Smart metering industry.

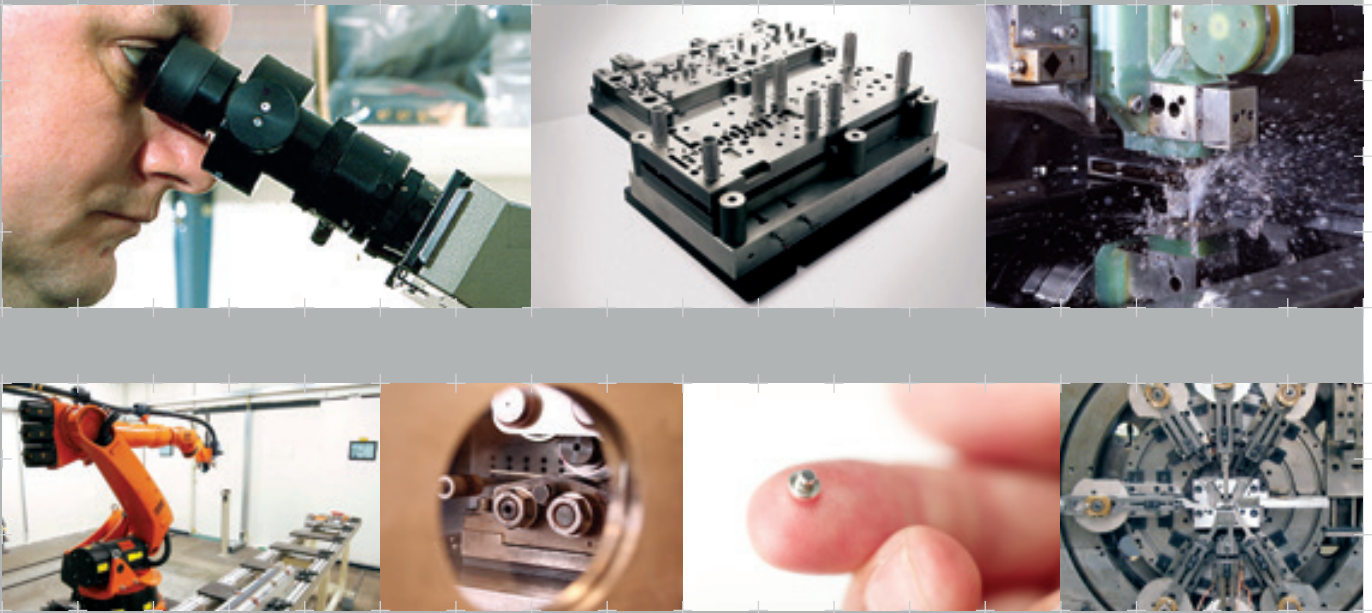
**STL**

# PRECISION

AT SAMUEL TAYLOR WE PROVIDE THE BEST OF BOTH WORLDS. THROUGH A HIGHLY EXPERIENCED AND TALENTED TEAM OF ENGINEERS USING SOME OF THE BEST TECHNOLOGY AND RAW MATERIALS AVAILABLE, WE ARE ABLE TO MANUFACTURE CUSTOM-MADE PRODUCTS TO SUIT INDIVIDUAL APPLICATIONS.

The logo consists of the letters 'STL' in a bold, white, sans-serif font, centered within a solid red square. The background of the entire page is a close-up photograph of a precision-machined metal component, likely a valve or actuator, with a prominent knurled section. A teal-colored horizontal band is overlaid across the middle of the image, partially covering the red logo square.

**STL**



**Engineering excellence**

Our tool-making facility works to within a few microns tolerance as do some of the production processes. Foils rolled to a thickness of 50 microns hold tolerances of better than 3 microns – less than the particle size of cigarette smoke.

Precision is not enough in the age of SPC. At STL, tolerances are measured and predicted statistically, allowing for better tolerance build-up on assemblies and better control on automatic assembly machines. While stamped products with tolerance levels of 50 microns are achieved with good capability scores.

**Technology and machines**

To provide the best service, we invest in the best equipment and people. STL uses the very latest technologies to design and build our own press-tools. We also use machines sourced from around the world and our core technology ranges from metallurgical bonding to mechanical joining and adhesive bonding through to STL's unique metal-processing and transformation skills.

Tiny items of jewellery are soldered or adhesively joined, while contact and other parts can be bonded both hot and cold, brazed, mechanically joined and welded. Mostly the processes are either continuous, as with bonded strips, or fully automated at speeds of over 300 pieces per minute.

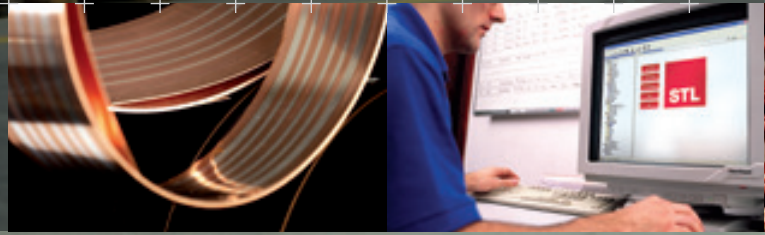
Our state-of-the-art equipment ranges from custom-build rolling mills with Volmer flying micrometres to heading machines with intelligent computer systems which are self-learning and can automatically shut a process down in the event of a fault.

Housed in a temperature-controlled environment, we have Agie wire cut machines which can be programmed and operated by laptop, programmable robot assembly machines, high speed Bruderer presses to a 300-tonne Ching Fong machine built to take progressive dies in excess of two and half metres long.

Our relationship with both Loughborough and Birmingham City Universities gives us unique access to SEM (scanning electron microscope) facilities and similar devices for real analysis and problem-solving in the material sciences through to rapid prototype machines for both plastics and laser sintered metal technology.

# EFFICIENCY

WITH SMARTER TECHNOLOGY AND MORE AUTOMATED AND STREAMLINED PROCESSES, STL CAN MANUFACTURE HIGHER-QUALITY PRODUCTS, DECREASE PRODUCTION TIME, LESSEN OVERHEADS AND KEEP WASTAGE TO AN ABSOLUTE MINIMUM.

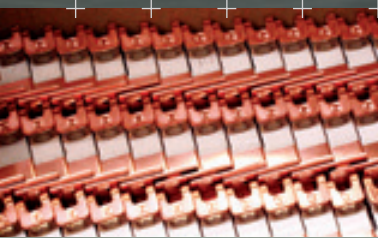


## Measurement techniques

To ensure that only the perfect product reaches you and that quality is maintained at every level and every stage of the production process, Samuel Taylor utilises a number of recognised quality tools. These include:

- Advanced product quality planning (APQP)
- Product part approval process (PPAP)
- Design and Process FMEA
- Design verification and validation
- Design for six sigma manufacturing
- Statistical techniques – preliminary process capability studies (PPK)
- Ongoing process capability evaluation (CPK)
- Performance measurement
- Laser scanning
- 3D CMM with both vision system and touch probes with reverse engineering capability.





**Established product range**

STL is a truly global supplier, working with customers in over 20 countries including Europe, China, the Far East, Middle East, South Asia and America. Our commitment to quality and the implementation of ISO 9000 systems has resulted in a culture of excellence which remains the cornerstone of STL.

**Reduced costs, increased value**

STL can assist clients on a fast and clear route to market without the high cost of an in-house design facility, providing customers with practical solutions to real problems, gained from years of hands-on experience of manufacturing in real world situations.

**Innovation throughout**

Technological innovation, interesting challenges and novel products are what STL does best. By using state-of-the-art technology and up-to-the-minute thinking, we can assist clients in finding optimised solutions, potentially saving them millions of Euros each year.



### Rolled products

STL uses both an in-house developed cold-cladding process for the bonding of base and precious metals and also seam welding and hot bonding for certain applications. Our cold-clad process allows for very thin silver layers to be deposited with pinpoint precision minimising the amount of precious metal needed.

Our unique throughlay process provides the fuse industry an alternative product to solid silver at under half the current costs. The use of seam welding is preferred in some applications, especially where lower volumes are involved and hot bonding is generally used for micro-profile tape and other similar applications.

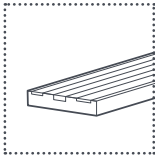
These products can be supplied in large accurate coils for client's own stamping or alternatively, we can manufacture the stamped component, delivering a quality, ready-to-use product at a reduced cost.

**STL**

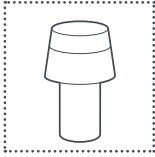
## PRODUCT RANGE



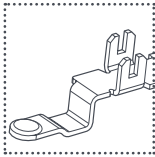




Rolled products



Headed parts



Welded contact assemblies

### Headed parts

STL offers a full range of precious metal headed contacts in mono-metal, bi-metal and certain tri-metal formats. Our range of products offers the designer a risk-free and flexible solution, particularly where materials which can't be welded are required for higher power applications or where in-house assembly is preferred.

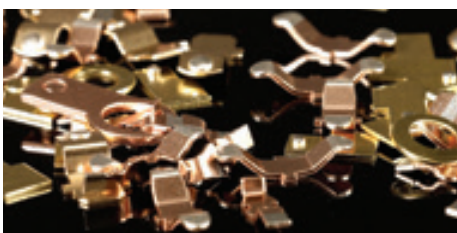
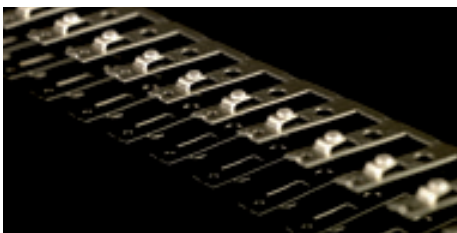
STL produces cold-bonded rivets which allow for shank entry points as well as indent points to aid auto-assembly. We also produce larger diameter

rivets, suitable for switching over 200 amperes and comparing favourably with brazed parts which anneal the backings and can be slow to produce.

Our use of high quality materials such as silver tin oxide enables rivets to withstand rigorous short-circuit testing in difficult conditions. We also supply riveted components using automated in-die riveting processes, allowing parts to be assembled, checked and stamped in a single process at speeds of up to 300 parts per minute.

- Solid rivets
- Bi-metal rivets
- Specialised headed components
- Semi-tubular rivets
- In-die assembled products

Rolled products  
Headed parts  
Welded contact assemblies



### Welded contact assemblies

For customers wishing to concentrate their resources on switch design and construction, STL manufactures and supplies complete contact assemblies incorporating welded contacts. These may be produced from wire or microprofile tape. Welded contacts are always the most cost-effective method of producing contact assemblies for the sub 20 ampere market and high-volume products.

Using a true JIT manufacturing system, we can turn strip, wire or

microprofile tapes into welded contact assemblies in a single integral operation within seconds. Additionally, because we use high-quality carbide dies combined with market-leading equipment from around the world, remarkably consistent component quality can be maintained across long production runs. All finished products are supplied as pre-contacted banded strip or ready-to-assemble components.

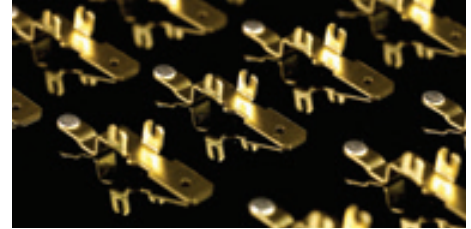
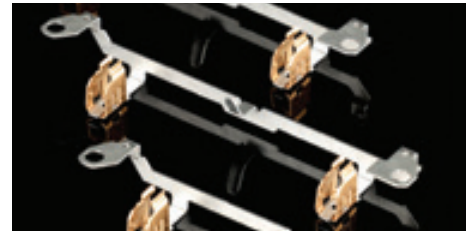
- Solid form contacts
- Raised form contacts
- Inlaid form contacts
- Bimetal tape contacts

### Microprofile tapes

To minimise the use of precious metals led to the evolution of microprofile bi- and tri-metal tapes. STL offers both continuously seam-welded and diffusion-bonded materials, each rolled, drawn and shaped to the exact specified profile. The product is supplied layer-wound on customer reels either with or without paper interleaving. Components are normally pressed and welded by STL to provide a quality, ready-to-assemble product with the minimum amount of precious metal.

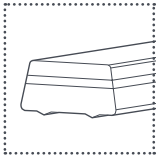
In addition to traditional contact arrangements, microprofile tapes allow production with pseudo alloys such as silver cadmium oxide and silver tin oxide and subsequent welding to other surfaces such as thermo bi-metal blades or very thin spring carrier materials.

- Solid tapes
- Bimetal tapes
- Tri-metal tapes
- Tape welded parts

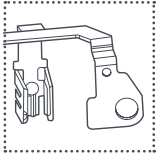


## PRODUCT RANGE

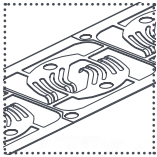




Microprofile tape



General contact assemblies



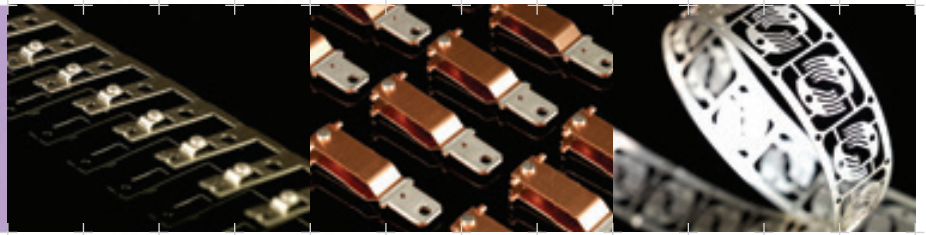
Precision pressing

### General contact assemblies & customised solutions

STL is able to produce a wide variety of parts and combinations, from micro turned-parts to heavy pressings on 100 or even 300 tonne presses. We have a department which specialises in low-volume, high-quality applications for the defence industry and another making parts for the jewellery industry.

- Riveted assemblies
- Brazed assemblies
- Soldered assemblies
- Spot welded assemblies
- Low volume assemblies
- Contact sub assemblies
- Deep drawn parts
- CNC turned parts
- Sub 1mm turned parts

Microprofile tapes  
General contact assemblies  
Precision pressings



### Precision pressings

Using high-speed presses from Germany and Switzerland, STL is able to offer cost-effective solutions for the client within the medical or connector sectors, for example. The combination of these presses and STL's own high-speed tooling provide

consistently high-quality parts including pre or post-plated materials for high-volume production. STL stamped parts can involve multistrip assemblies, tapping, auto packing and other specialist needs as required.

The logo consists of the letters 'STL' in a bold, white, sans-serif font, centered within a solid red square.

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Rolled Products

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Electrical Contact Rivets

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Welded Contact Assemblies

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Microprofile Tapes

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General Contact Assemblies & Customised Solutions

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Precision Pressings

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Design & Manufacture of Press Tools

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