



Machining

English

Surface solutions by STI Group



Complete precision machining



STI Group manufactures according to your drawings, in line with your specifications and with your chosen finish. With CNC-controlled machines, we process your small and large components in accordance with your required form and positional tolerances.

Powerful processes and long-term experience

Even though each application places different requirements on components, they are specified in detail: powerful processes and the highest quality are indispensable for a profitable solution. STI Group has modern machinery for turning and milling, grinding and polishing, on the one hand, and highly experienced experts who guarantee adherence to your specified dimensional accuracy and level of roughness, on the other hand.



Wide range of services

Complete machining

- Multifunctional milling, turning and drilling centre
 - Complete parts processing in a single clamping step
-

Grinding

- External circular grinding
 - Flat grinding
 - Grinding in operating conditions (pressure and temperature)
 - Special curve grinding
 - Belt grinding
 - Profile grinding / Flat grinding
-

Polishing

- Extra fine grinding: Circular grinding with polishing discs
 - Super finishing: Polishing with oscillating advance by means of belt, stones or emulsions/suspensions
 - $R_{max} < 0.05 \mu m$
-

Dimensions: from small to XXL components of up to 1,000 mm in diameter, up to 27,000 mm in length and up to 64 tons in weight

Specialised manufacturing for your work pieces

The manufacturing industry places high demands on its plant and machinery parts. High-precision, automated treatment processes for batch or series production are as much part of our range as repairs or reprocessing. On request, we can process round symmetrical forms in the smallest tolerances.



Infrastructure for precise measurement techniques

STI Group uses comprehensive measurement techniques to precisely evaluate the processed surfaces. For larger components with a diameter of up to 1,000 mm and 2,500 mm in length, a high-precision 3D coordinate measuring system is available directly in the production environment. In addition, we measure the concentricity at a separate test station and control the roughness with high-precision measuring devices. If required, we will include all measurement reports and diagrams with your delivery.



Milling, turning, drilling	Precision	Geometry	Machinery
Medium-sized components Diameter 650 mm Maximum width 3,000 mm Max. weight 3,800 kg	High-precision complete machining, 36 tool stations, 5 pivots	Freely definable curves	WFL M65 Siemens 840D Control
Circular grinding			
Small components Ø 10 – 520 mm Length 10 – 3,000 mm Max. weight 1,200 kg	Roughness R _{max} < 0.1 µm Concentricity < 0.001 mm Cylindricity < 0.002 mm	Cylindrical, concave, convex, freely definable curves	Schaudt PF61 Danobat HG92-2005
Medium-sized components Ø 10 – 1,000 mm Length 10 – 3,000 mm Max. weight 3,000 kg	Roughness R _{max} < 0.1 µm Concentricity < 0.001 mm Cylindricity < 0.003 mm	Cylindrical, concave, convex, freely definable curves, grinding under operating conditions (temperature)	Schaudt PF71 Schaudt PF81 Danobat HG92-3000
Large components Ø 100 – 6,500 mm Length up to 27,000 mm Max. weight 64,000 kg	Roughness R _{max} < 0.1 µm Concentricity < 0.001 mm Cylindricity < 0.004 mm	Cylindrical, concave, convex, freely definable curves, grinding under operating conditions (temperature)	Waldrich (conventional/CNC) Metex
Flat grinding			
Medium-sized components Length 5 – 2'200 mm Width 5 – 700 mm Height 1 – 890 mm Max. weight 4'000 kg	Roughness R _z < 0.8 µm Levelness < 0.002 mm Parallelism < 0.004 mm	Deep grinding, profile & flat grinding, CNC-controlled dividing attachment	Mägerle MFP 160.35.45 Mägerle MPF 220.50.75 Mägerle MFP 160.35.45 Mägerle MGC-L 330.75.90

* Further procedures on request or at www.sti-surface.com

STI Group Surface solutions worldwide.



Individual Solutions	STI Group offers you individual overall solutions – from comprehensive analyses and consulting, development and innovation to the actual treatment process, mechanical processing, the final quality check and transport.
Industrial Areas	Automotive, Aviation, Defense Technology, Film, Foil, Food, General Industries, Hydraulics, Marine & Powertrain, Paper, Power Generation, Print, Textile, Tools etc.
Range of technologies	Hard chrome (including Triplex, structural chrome and Nanochrom), electroless nickel, galvanic nickel, hybrid layers, dispersion layers, thermal spraying (HVOF, plasma, wire flame spraying), Dry Coating (plasma nitriding, PVD, PACVD), painting, grinding, polishing, milling, turning, boring. Various special processes are available on request.
Quality and Precision	STI Group surface treatments stand for precision, functionality and quality. STI Group guarantees the required process safety to achieve the narrowest tolerance ranges and create tailor-made, reproducible surfaces.
S to XXL Components	STI Group develops innovative, tailor-made surface solutions for components up to 6,000 mm in diameter, 27,000 mm in length and 64 tons weight.
Complex Geometries	One of the core competencies of STI Group is the coating of components with complex geometries. STI freeform surfaces are renowned for their optimized characteristics, the highest level of quality and reproducibility.
Single Parts and Series	STI Group is your specialist for custom-designed surfaces, both for individual parts and series. Know-how, experience and modern infrastructure guarantee optimum results.
Research & Development	STI Group carries out systematic application-oriented and pure research and development. Our focus is on high-performance, individually optimized surface solutions for you and your success.

Your contact**Hartchrom AG**

Schulstrasse 70, CH – 9323 Steinach
T +41 71 447 97 97, F +41 71 447 97 92
sti@sti-surface.com, www.sti-surface.com