STROJÍRNY A STAVBY TŘINEC

MACHINERY

www.sas-trinec.cz

BASIC INFORMATION

The Company STROJÍRNY A STAVBY TŘINEC, a.s., is a stock-holding subsidiary company of TŘINECKÉ ŽELEZÁRNY, a.s.

The long-term tradicion of production for domestic and foreign customers covers especially custom-made engineering production like technological units and weldments incl. the CNC machining, manufacturing of stuctures, smith forgings and manufacturing of metallurgical rolls for hot rolling process.

The company ensures activities especially in industrial and civil building incl. the turnkey projects (complete supplies) and road building incl. the repairs in the building industry.

The company has a long-term experiences with repairs and maintenance of manufacturing equipment of TŘINECKÉ ŽELEZÁRNY, a.s. in field of mechanical, electric and building works too.

The Company consists of production plants:

- **ENGINEERING PLANT**
- **STEEL STRUCTURE PLANT**
- **ROLL – TURNING PLANT**
- **ELECTROTECHNICAL PLANT**
- **BUILDING PLANT**
- **REFRACTORY – BUILDING PLANT**
- **DESIGN & DEVELOPMENT DEPARTMENT**

The long–term production experiences, wide range of production possibilities and services, up-to-date CNC machine tools, modern welding technology of the Construction Workshop incl. the certificates for welding of complex structures, availability of using high quality steels from the mother company guarantees that Strojírny a stavby Třinec, a.s. will be an interesting business partner for you.

The Company is a member of:

- **Česká asociace ocelových konstrukcí (Czech Structure Steelwork Association)**
- **Národní strojírenský klastr, o.s. (Czech Machinery Cluster)**

THE QUALITY CONTROL MANAGEMENT SYSTEM

The Quality Management System acc. to EN ISO 9001:2015 is in compliance with International Standards and regulations. It provides guarantees, that conditions for conformity of delivery with requirements specified by a customer have been created. The Quality Control Management System refers to all processes and activities of company.

The Environmental Management System - all utilized technology, materials and means of production used in Strojírny a stavby Třinec, a.s. are carefully chosen in reference to Integrated Quality System EMS to minimise negative impact to environment according to International Standard EN ISO 14001: 2015.

The Occupational Safety and Health Administration system according to EN ISO 45001:2018.

The Energy Management System - in accordance with the EN ISO 50001:2011 Standard. The company is focused on effective management with energy, trying to continually reduce the energy demand, which leads to reducing of costs and environmental impact.

Product certificates provide a quarantee that technical and utility parameters comply with the demands defined in specific standards.

CERTIFICATES AND LICENCES

- Quality Management System certification in accordance with the EN ISO 9001:2015 Standard
- The Environmental Management System in accordance with the EN ISO 14001:2015 Standard
- Quality Management Systems - Guidelines for quality management in projects ISO 10006:2017
- The Occupational Safety and Health Administration system pursuant to the EN ISO 45001:2018
- The Energy Management System in accordance with the EN ISO 50001:2018 Standard
- Welding Licence for structures welding acc. to Czech Standard ČSN EN ISO 3834-2, TKP 19 SŽDC and section 19 TKP MD ČR *(TÜV NORD Czech, s.r.o.)*
- Quality certificate for manufacturing of pressure tanks and pressure pipings, direction 97/23/EC, EN 13445, EN 13480, EN 12952 according to standards EN ISO 3834-2
- Welding Licence for manufacturing and assembly of structures according to Czech Standard ČSN EN 1090 – 2 *(TÜV NORD Czech, s.r.o.)*
- Welding according to AWS D1.1-2010 (welding documentation WPQR)
- Product certificate for manufacturing of smith forged bars from Quality Material P355QH1 and C35 E acc. to PED 97/23/EC Standard, annex 1, section 4,3 *(AD 2000 - Merkblatt W0)*
- Licence for manufacturing and supplies of forging of axles (smith forged, roughed and machined) for railway cars acc. to Czech Standard TP-SAST-01, 02 *(České dráhy - č.342)*
- Licence for manufacturing of asphalt matters (asphaltic concrete) *(VÚPS Praha)*

ACREDITED MEASURING CENTRE

The Measuring Centre is equipped with 3D co-ordinate measuring appliance MITUTOYO and with the length meter CARL-ZEISS-JENA ULM 01-600 C.

Measuring centre offers:

- Calibration of length measures
- Measuring and calibration services

ACREDITED CALIBRATION TEST-ROOM No.: 2241

The test-room offers services for calibration of electric values:

- Calibration of electric measuring instruments
- Direct-current voltage up to 1 000 V
- Direct current up to 1 000 A
- Alternating voltage up to 750 V
- Alternating current up to 1 000 A
- Resistances up to 100 Mohm

EN ISO 50001:2018

EN ISO 9001:2015

EN ISO 14001:2015

ISO 10006:2017

EN ISO 45001:2018

ENGINEERING PLANT

MAIN ACTIVITIES

PRODUCTION

- **Technological units** incl. the assembly of hydaulic, pneumatic, electric parts and project engineering management
- **Weldments and structures** incl. the machining, surfacing and the assembly
- **Cranes and suspension devices** incl. the design (turnkey projects - complete supplies)
- **Pressure tanks, piping** incl. the assembly
- **Single-purpose engineering machines and appliances acc. to own or customer´s technical drawings**
- **Smith forgings up to max. weight 3 tonnes incl. the heat treatment and CNC machining**
- **Overhaul repairs and maintenance of manufacturing equipment, especially for metalurgy**
- **Overhaul repairs and modernization of machine tools and forming machines**
- **Machine parts, spare parts parts incl. the renovation**

SERVICES

- Heat treatment, ionic nitridation, induction hardening
- Supplies of hydraulic hoses incl. the couplings (complete supplies – repairs)
- Saw band welding (width 13 ÷ 54 mm; min. thickness 0,5 mm; max. thickness 1,6 mm)
- Thermometry services (Thermal camera Fluke Ti45)
- 3D portable digital electro-optical measurements

MACHINERY

TURNING

Lathes	**Workpiece max. D**	**Max. length**	**Note**
SKIQ 16 CNC	2100 mm	1500 mm	Slide ram 1000 mm max. 10000 kg
SK 12	1250 mm	1000 mm	Ø table 1180 mm max. 4000 kg
SK 25	2600 mm	1570 mm	Ø table 2400 mm max. 6000 kg
Spikes lathes CNC	**Max. Ø**	**Distance between spikes**	**Note**
SE 520 Numeric	290 / 520 normal 300 mm	1500 mm	max. 1000 kg
Masturn 550i CNC	350 / 550 mm	1500 mm	max. 1000 kg
Masturn 70 CNC	510 / 820 mm	4500 (4440 max.) mm	max. 3500 kg
SUA 63 Numeric	380 / 655 mm	3500 (3250 max.) mm	max. 8000 kg
spikes conventional	max. 1600 / 1980 mm	max. 8000 mm	max. 30000 kg
Chucking lathes CNC	**Max. Ø**	**Max.lenght workpiece**	**Note**
KH 35 CNC	900 / 1400 normal 1200 mm	1000 mm	max. 2000 kg
Special lathes	**Max. Ø**	**Lenght between spikes/torque**	**Note**
relieving DH 250/4	250 / 300mm	1000 / 630 mm	

BORING AND MILLING

HORIZONTAL BORING			
Ø of spindle	**Table size**	**Travel X, Y, Z, W**	**Note**
Ø 100 mm	1000 x 1120 mm	1250, 1100, 940, 710 mm	Max.3000kg
Ø 110 mm	1400 x 1600 mm	2500, 1600,1250, 710mm	max. load of work table 8000 kg
Ø 130 mm	1600 x 1800 mm	3500, 1800, 750, 750 mm	Max.load of work table 8000 kg
Ø 160 mm WD 160 CNC	2000 x 2000 mm	7890, 2430, 1000, 1000 (1000 manual) mm	1 work table + table 1000 x 1000 mm Max.table 20000kg Base plate 4000 x 3700 mm working platform max. weight 20000 ÷ 40000 kg CNC parting machine
Ø 160 mm W 160H CNC	2000 x 2000 mm	3990, 2430, 1560, 1560, 1500 mm Z + W can not be combined	Max. 25000 kg
Ø 180 mm CNC HCW 2 180	2500 x 3000 mm	11000, 3500, 1300, 1200, 2500 mm	Clamping plate 6400 x 3900 mm Load max. 40000kg 5-axis heads UFK 1000 NC
Ø 225 HCW 3000	3000 x 3000 mm Additional carousel plate 4000 mm	6000, 3000, 2000, 1400, 3400 mm	multifunction center for machining by turning and milling

MILLING			
Machine type	**Table size**	**Travel X, Y, Z**	**Note**
universal conventional	2000 x 400 mm 1800 x 630 mm	1250, 400, 400 mm 1400, 630, 600 mm	
FNG 40 CNC	800 x 400 mm	600, 400, 400 mm	max. 350 kg
Milling center MCV 1270 Speed	1500 x 670 mm	1270, 610, 720 mm	max. 1200 kg
Portal milling center FVC 160 / 3,2 CNC	3200 x 1600 mm	3400, 2452, 1000 mm	indexed 2-axis head Sempuco KFU-D3/90 max. 8000 kg

HOBBING MACHINE FOR GEARING	
External gearing type	**Parameters**
Straight gearing (rolling and dividing) Oblique gearing (rolling mode)	Outside gearing Ø 20 ÷ Ø 2500 (Ø 3000) mm modul 1 ÷ 22 angle of view α = 20° precision t IT 7 ÷ 8 roughness Ra 3,2 oblique gearing ß = do 48°
screw wheels (rolling)	modul 1 ÷ 25 angel of view α = 15° a 20° one and multiple
String wheels (rolling and dividing)	pitch = 9,525 ÷ 136 mm Ø = 6,35 ÷ 46 mm

SHAPING

Shapers and slotters	**Parameters**
Shaper	max. cutting stroke: 700 mm
Slotter	max. cutting stroke: 1150 mm
Gear shaper OERLIKON K4a	Ø 50 ÷ 1 720 mm; pitch angle: $7^o \div 10^o$ max. pitch angle: 180^o
Shaper FELOW Machine 0H 50A	max. Ø of workpiece body: 800 mm max. hight of workpiece 230 mm module: 1 ÷ 8, max. height: 125 mm external Ø of teeth 50 ÷ 500 mm, internal Ø of teeth up to Ø 450 mm, accuracy of manufacture IT 7- 8 roughness Ra 1,6 ÷ 0,8 according to material of workpiece pressure angle 20°; straight teeth ß = 0°

GRINDING

Grinding operations	**Max. size**
External	to Ø 300 x 1500 mm
Inside I	to Ø 650 x 680 mm
Tool Grinding machine SAACKE UW IC NC	table clamping 130 x 130 mm, head stock height 135 mm, grinding travel 220 mm, grinding spindle speed 2 000 ÷ 10000 min^{-1} spindle Ø 60 mm
BUC 85C NC/4000 Practic–universal cylindrical grinding machine	External grinding: diameter Ø 850 mm, L_{max} 4000 mm, m_{max} = 3 t, Ra 0,2, IT 5, inside: max/min Ø = 400/100 mm, L_{max} = 500 mm, possibility of grinding of cones, radiuses, curves

FORMING AND PRESSING

Workpiece	**Parametrs**	**Note**
Shaped forgings	up to max. weight 600 kg	pinions and bandages up to the weight 600 kg
Shaped shaft forgings	up to max. weight 3000 kg	max. Ø 350 mm max. L 3000 mm
Bars	up to max. weight 3000 kg	max. 240 x 240 mm max. L 6000 mm
Pressings	120 x 425 mm	friction press, max. press power 250 t
Bars made from continuously cast semi-finished products with no guarantee of ultrasonic testing	up to max. weight 3000 kg	max. 320 x 320 mm max. L 6000 mm acc.cross section

BROKE FORMING, ROLL BENDING

Bending operation	Parametrs
Broke forming CNC Brake Press Safan H-Brake 480T-4100-TS 1	min. thickness 1 mm, max. thickness 60 mm max. sheet width 4000 mm up to thickness 10 mm max. sheet width 3000 mm above thickness 10 mm
Bending	up to sheet width 2000 mm and thickness 6 mm
Roll bending Small bending roll Big bending roll	 min. Ø 200 mm, min. sheet thickness 3 mm, max. sheet thickness 20 mm max. sheet width 2500 mm min. Ø 700 mm, min. sheet thickness 5 mm, max. sheet thickness 50 mm max. sheet width 3000 mm
Four cylinder hydraulic bending machine MCB 3053	Min. min. Ø 590 mm, min. sheet thickness 15 mm, max. sheet thickness 80 mm max. sheet width 3000 mm. Bending of cones

SHEARING, CUTTING

Operation	Workpiece dimension
Shearing	max. thickness 12 mm, max. L 3000 mm
Cutting - saw MEB Aeco 410 DG saw Pegas 440	max. 750 x 410 mm, max. Ø 410 mm max. L 7500 mm; angle range 30° - 135°

PAINT APPLICATIONS, SPRAYING

Spraying box - Max. size	Note
Box size: 10 x 4,5 x 5 m Max. weight 10 t	according to agreement e.g. water paint, epoxy paint, paint with zinc, fast drying etc.

STEEL-GRIT BLASTING

Steel-grit blasting box - max. size	Note
Box size: 10 x 4,5 x 5 m Max. weight 10 t	according to agreement e.g. mobile blasting device

WELDING, FLAME CUTTING, ELECTROSPARK CUTTING

- arc welding (E – 111)
- semiautomatic welding in shielding atmosphere (MIG/MAG – 131/135)
- semiautomatic welding in shielding atmosphere (TIG – 141)
- semiautomatic welding in shielding atmosphere (MOG – 136)
- flame welding (311)
- submerged arc welding and surfacing technology (APT 121)
- automatic electric arc surfacing in shielding atmosphere (135)
- CNC cutting machine RUM 3000 GP: plasma arc cutting: 12000 x 2550 x max. 40 mm;
  oxygen cutting: 12000 x 2300 x 100 mm,
- oxygen cutting on CN machine – VANAD PROXIMA K30/85 (3000 x 8000 x 150 mm)
- CNC cutting machine RUM 2500 P: plasma arc and oxygen cutting: 6050 x 2050 x max. 25 mm,
- electrospark cutting AGIE CUT SPRINT 20, max. dimensions of workpiece: 300 x 200 x 220 mm, surface roughness of workpiece Ra 0,8 and AGIE Clasic (500 x 350 x 420 mm, Ra 0,4)

HEAT TREATMENT

Heat treatment is carried out in an electric bogie hearth furnaces or furnace-shafts which has a lining of filamentous materials. Its possible to carry out heat treatment in an inert atmosphere of nitrogen. The furnace temperature regime regulation is controlled by a central computer via thermal sensors with registration and recording of the process.
Cementation of the surface is provided by controlled carburization in protective atmosphere.

Material for heat treatment

- the whole range of steel grade including stainless steel, tool steel acc. to Czech Standards ČSN 11 ÷ 17 + 19 and theirs equivalents in compliance with EN, ASTM, DIN, AISI etc.
- cast steels,
- cast iron.

Type s of heat treatment:	**Main and auxiliary facilities, inside dimensions and specification:**
▪ normalizing, normalizing with tempering ▪ soft annealing ▪ stress relief annealing ▪ wire coils annealing ▪ heat treatment ▪ tool steels hardening and tempering ▪ rolled bar products annealing, tapering and homogenization annealing ▪ gas case – hardening, pack hardening ▪ surface hardening ▪ oil, water and air hardening	▪ **Car–hearth furnace 2000 x 1100 x 6500 mm,** *max.* temperature 1150 °C, possibly inert atmosphere, max weight of heat 20 t, single part 10 t (max. lifting capacity 10t) ▪ **Car–hearth furnace 1000 x 700 x 1500 mm**, max. t, 1100 °C, possibly inert atmosphere, max. weight of heat, 1 t, ▪ **Shaft furnace, diameter 1600 x 4000 mm**, max. t 1100 °C, possibly inert atmosphere, max. weight of heat 5 t, ▪ **Shaft furnance, diameter 1000 x 2000 mm**, case hardening with retort, equipped with an oxygen probe and controlled carburizing, max. weight of heat 2 t, ▪ **Two hardeming shafts of the diameter 2500 x 4200 mm** (oil circulation), ▪ **Hardening tank 2000 x 4100 x 2500 mm oil and water** hardening oil BURGDORF (oil and water with medium temperature circulation), ▪ **Hardening shaft with inert atmosphere, 600 x 500 x 750 mm**, max. temperature 1 280 °C ▪ **Car –hearth furnace 7000 x 3000 x 2200 mm** max. temperature 1 050 °C, max. weight of heat 50 t
Induction hardening	
▪ gradual induction hardening peripherically ▪ gradual induction hardening vertically ▪ gradual induction hardening method by tooth after tooth	Max. weight = 5 t, **Flat strips:** H_{max} = 150 mm, L_{max} = 1 m, hardening = 45 ÷ 62 HRC (acc. to material), max. hardening depth = 6 mm **Travelling wheel, gear wheels:** D min = 200 mm, D_{max} = 2000 mm, module m ≥ 10; **Cylindrical components:** D_{min} = 30 mm, D_{max} = 200 mm, larger D by method „around periphery“ L_{max} = 1000 mm (1500 mm – on twice)
Ionic nitridation	
▪ carbonitriding a oxinitriding	D_{max} = 1 m, H_{max} = 1,5 m, m_{max} = 3000 kg

STEEL STRUCTURE PLANT

MAIN ACTIVITIES

- Manufacturing and assembly of structures incl. the steel bridges to EXC 3
- Processing of steel profiles (cross section 60 – 800mm) by the CNC drilling and cutting machine.
- Repairs of machinery
- Manufacturing and assembly of cranes and crane runways
- Repairs of wagons for TŘINECKÉ ŽELEZÁRNY, a.s.
- Wheel sets machining from Ø 300 mm to Ø 1100 mm
- Renovation of wheel sets by surfacing incl.tyres
- Grab repairs
- Renovation and repairs of rubber conveyer belts and moulded rubber goods
- Customer service of manual lifting mechanisms
- Validation test of suspension means
- All type balances repairs and calibrations
- Repairs of machine component fractures or breakages by cold METALOCK repair proces

Advantages of METALOCK process:

- Saving costs for purchase of new machine part, or eventually complete machine
- Repairs directly on the spot without disassembly
- Rigidity and tightness of the joint (comparable to original quality material)

Examples of repaired parts:

- Cast iron, cast steel, aluminium and brass from 4 mm thickness
- Rolling mill stands, engine blocks, turbine casings, pump casings, gearboxes, gears, machine tool beds, presses etc.

MACHINERY

- Profile forming and plate roll bending (max. thickness 15 mm, max. width 3000 mm)
- CNC drilling and cutting machine including continuous blasting equipment
- Roll plate bending (max. thickness 10 mm, max. width 3000 mm)
- Precise plate cutting up to thickness 200 mm, size 3,1 x 12 m
- Machining by horizontal milling machine W100
- Welding by MIG/MG, TIG
- Machine cutting of profile material (size 600 x 500 mm)

ROLL - TURNING PLANT

MAIN ACTIVITIES

- Production and machining of metallurgical rolls incl. the roll calibration
- Production of shafts (wind power plants, cylindrical, stepped, conical, spline, turbine, rotary, generator, etc)
- CNC milling – engraving of inscriptions and signs
- Slab, billets, blooms grinding
- Heat treatment - soft annealing, stress relief annealing of weldments, worpieces, steel bars bundles and cast rolls
- Cutting of materiál – cutting, cutting off

MACHINERY TURNING

TURNING

Turning	Machine type	Work piece size, weight	
profile surfaces conical surfaces rolls calibration thread turning	CNC lathes	max. Ø of workpiece max. lenght of workpiece max. weight	2450 mm 6500 mm 40 t
classic rolls calibration		max. Ø max. lenght max. weight	1200 mm 4000 mm 15 t
classic turning		max. Ø max. lenght max. weight	1000 mm 4500 mm 15 t

MILLING AND GRINDING OPERATIONS

Operation	Limit dimensions of workpiece	Work piece size, weight
Milling - wobblers - various milling operations - milling-engraving	max. diameter of workpiece max. length of workpiece max. weight of workpiece max. size height max. weight	2450 mm 7000 mm 25 t 5000 x 5000 mm 2000 mm 25 t
Grinding - on round shapes incl. cones	max. workpiece Ø max. grounded Ø max. length max. weight	1000 mm 1000 mm 6000 mm 8 t

Grinding	Workpiece parameters	
Special grinding machines CENTRO MASKIN (plane roughing of metallurgical semi-finished products)	width thickness length max. weight	200 ÷ 800 mm 110 ÷ 500 mm 6000 mm 5000 kg
CNC SK rolls grinding	max. Ø length max. weight	300 mm 80 mm 50 kg

Cutting	Workpiece parameters	
Band saw MEBA 620-S Band saw BOMAR EXTEND 1120.1120	max. Ø max. size max. lenght	1120 mm 1120 x 1120 mm 10000 mm

Automatic NC Band saw EVERESING H-800 HANC	max. Ø	800 mm
	max. size	800 x 800 mm
	max. lenght	10000 mm

ELECTROTECHNICAL PLANT

MAIN ACTIVITIES

Repair of machine and devices - repairs of all type motors:

- Low-voltage induction motors up to power output 630 kW
- High-tension motors up to power output 2,8 MW
- Direct–current motors up to power output 5 000 kW
- Synchronous motors up to power output 3 000 kW
- Transformer repairs up to power output 1,6 MVA

We carry out repairs of rotary and static welders, dynamos, hydraulic relievers and vibrators.
We also carry out welding of shafts by MIG, MAG and repairs of motor machine components.
The rotating parts are dynamic balanced up to weight 1,6 tonnes and length max. 2 930 mm and diameter max. 1 600 mm (balancing machine of type SCHENK acc. to Czech Standard ČSN 01 1410). We offer repairs of lifting magnets, manufacturing and repairs of starting resistors, repairs of manual electric tools too. We provide motor setting into horizontal and vertical plane by laser.

Electrical works, electric instalation

- Electrical wiring system of buildings
- Implementation of electrical units (production lines, high voltage wiring, etc.)
- Repairs and overhaul repairs of cranes and suspension devices
- Manufacturing of switchboards (low voltage)
- Lighting installation acc. to customer´s requirements

We offer installation and maintainance of electric fire alarm systems, installation of remote control of cranes and conductors assembly. We provide these services from technical drawings, assembly, auditors´ report to supply delivery. We are able to offer you complete supplies – turnkey projects too.

Testing and general overhauling

- Testing and measurement of alternativ – current and direct-current motors (low voltage and high voltage) before, during and after repair or overhauling by using of modern diagnostic tools
- Testing of oil and air transformers
- Measuring of electric strength of liquid dielectric transformer oils
- Testing of tachogenerators, setting of centrifugal switches and measuring of dynamometer electric values
- Testing of aids and dielectric gloves
- Full – scale monitoring of crane operation and units
- Logic automat programming of type LOGO, ALFA etc.
- Setting of current, voltage, power and earth-fault protections and regulators
- Primary testing of turbo-generators (after repairs and after stop working)
- Electric values measuring acc. to customer requirements, electric cable measurement
- Voltage testing of electric cables up to 120 KV (SS)
- Determining of electric cable lines
- Fixing of technical faults by using of surge generator
- Vibration measurements on motor (vibro diagnostics bearings)
- Temperature measurements with a thermal camera

MACHINERY

Workshop of repairs of electrical machines

- Machines for machining down (lathes, shapers, cutter, saw, drill)
- Balancer, puller 100 t
- Degreasing machine, oil purifier Micafluid

Coil winding shop

- Winders, presses, expander of the coil (round wire, profile, small coils), expander of the high voltage coil
- Woodworking machines
- Station for impregnation (boiler 2 m^3)

Testing

- Dynamometer up to 50 kW, sets on lay-out of the line and troubleshooting cables
- Equipments for measuring of coils, windings (before and after repair), tester of oil Meger
- Device for adjusting of electrical protections in substations

Calibration test-room

- Kit of devices for calibrating instruments for measuring electrical quantities

Electrical installation

- Machines for sheet metal processing (shears, presses, saws, drills)
- Hydraulic kit for Cu and Al collection
- Tools and equipment for electrical work outside of the worksho

BUILDING PLANT

MAIN ACTIVITIES

- Erection of buildings for industrial, water management, environmental, agricultural, civil, housing construction, turnkey projects
- Loft conversion, insulation and renovation of, roof and roof construction, drywall
- Carpentry and scaffold work
- System formwork DOKA, machine plastering and classical rendering of all kinds
- Rehabilitation of reinforced concrete structures, wet masonry of complete buildings by certified systems
- Repairs and reconstruction of industrial floors
- Excavation work, foundation of reinforced concrete and steel structures
- locksmith work
- Electrical installations
- Air conditioning and engineering networks
- Assembled family and apartment houses
- Painting and glazing works, manufacture of furniture, woodwork
- Transport routes
- Consultancy, repairs, reconstruction of buildings
- Cargo transportation and mechanization

MACHINERY AND FACILITY

- Mixing Plant of type Teltomat (capacity 70 t/hour)
- Equipment for sheetmetal and locksmith manufacturing
- Building machines (finishers, road rollers, vibrating plates, cutting machines etc.)
- Tubular scaffolding, light mounting devices and towers
- High-pressure water jet
- Floor cutter and grinder on concrete
- JCB backhoe loader

REFRACTORY-BUILDING PLANT

MAIN ACTIVITIES

- Refractory works – repairs of blast furnaces
- Repairs of refractory linings of ladles, tundishes and pig iron receivers
- Converter repairs incl. the linings demolition, cleaning of noses and exchanges of tapping parts
- Repairs of boilers, heating furnaces, special boiler units incl. the guniting
- Checking of refractory linings, consultancy
- Excavation works, earthworks, demolishing works by using belt earth moving machines
- Repairs of lift trucks, carriages, load carriages and tractors
- Road maintenance, sprinkling, sweeping

MACHINERY

- Single-purpose machine of type ROMAN 02 for demolishing of linings of pig iron receivers
- Machine Cat 330 LEONARD for cleaning of noses and exchanges of tapping parts
- Lift trucks, tractors, machines for asphalt mixture laying, sweeper-flusher etc.
- Milling device for milling of refractory and concrete runners for blast furnaces
- Milling device for destroying of earth, sands etc.

DESIG & DEVELOPMENT DEPARTMENT

MAIN ACTIVITIES

- Engineering technology design
- Structures design
- Expert consulting services
- Detailed Engineering – processing of detailed manufacturing technical drawing of technological equipment and machine devices for metallurgy, rolling mills, finishing lines and devices
- Detailed Engineering – processing of detailed manufacturing technical drawings of structures (buildings, railway and road bridges)
- Preparing of technical drawings of repaired machines, technological lines and devices
- Preparing of technical drawings of cranes incl. the structures and suspension devices
- Development and design of single-purpose engineering appliances and complex engineering machines and devices incl. the electric, pneumatic and hydraulic parts
- Manufacturing of designed machines and equipment and customer service (Production Plant)
- Engineering strenght calculations by Finite Element Method
- Space fully dimensional simulation
- Technical drawing digitization
- Reprographic services

SOFTWARE:

- Autodesk Inventor 2020 (3D)
- Autodesk AutoCAD Mechanical 2020 (2D CAD)
- Vise Image v. 16
- ANSYS 18.2 – Solutions for large linear and nonlinear problem by the Finite Element Method
- E-plan 2.8 – electrical engineering
- Tekla Structures 2017
- SCIA Engineer 19.1
- EasyArchiv + Easy 3D PLM - management of drawing documentation and 3D models

Address:

Strojírny a stavby Třinec, a.s.
Průmyslová 1038, Staré Město,
739 61 Třinec
Czech Republic

inquiry.sas@trz.cz
marketing.sas@trz.cz

www.sas-trinec.cz

January 2022