

ENGINEERING AND METALLURGICAL GROUP



UNEX®

HEAVY ENGINEERING

MINING EQUIPMENT

STEEL STRUCTURES

CUT PARTS AND COOPERATION





UNEX[®]

HEAVY ENGINEERING

UNEX a.s. has a long standing tradition, not only in the area of production of equipment for continuous mining, but also in the production and supply of complete technological units, such as cranes and handling or production equipment.

Heavy engineering production operations include welding of steel components and structures such as frames and parts of the working equipment of building, mining or agricultural machines, turbine frames, drive units and compressors, heavy weldments for pressing equipment, production or sports hall structures or bridge structures. We are capable of processing standard structural steel as well as special steel of type WELDOX and HARDOX.

The production program is supplemented by services, which we provide to our customers. These are mainly assembly, repair and reconstruction of giant machines and handling equipment, both from our own production range as well as the products of other companies.

The products from our engineering plants in Uničov-Brničko and in Snina in Slovakia are supplied to customers worldwide, who are operating in the segment of handling, mining, building construction and agricultural equipment, power engineering equipment, in the railway and marine industry, offshore, etc.

In the area of welding, we are certified according to the ČSN, EN and DIN standards, but we also have experience with welding according to the ASME IX, AWS D 1.1 and NORSOK M101 standards.

**ENGINEERING PLANTS TOTAL ANNUAL PRODUCTION
CAPACITY IS APPROXIMATELY 24,000 TONS.**

TECHNICAL AND PRODUCTION CAPABILITIES



Design and Development Work

We provide technical support, it is understood as all technical activity - offer proceeding, development, production drawings, up to technical assistance during production and assembly.



Cutting and Forming of Materials

We deliver shape cut parts from standard construction steels and special material. We are also able to provide non-standard materials or materials with unusual dimensions.



Welding

As a standard we ensure welding of standard and austenitic steels and welding of non-ferrous metals, including aluminium. We verify the quality of welding using all known methods.



Machining

We are able to perform both rough and precision finishing machining of parts with dimensions from several centimetres up to sizable workpieces. We process both rotating and non-rotating parts, including those involving intricately shaped surfaces.



Heat Treatment

We offer normalization, annealing, quenching and tempering, stress relieving, soft annealing, stress relieving after welding and ferritizing annealing.



Surface Treatment and Painting

The entire production process is ended with a surface treatment and final painting and/or anti-corrosion protection according to customer request.



Quality Control

We check the quality of our production throughout the entire production cycle. Our certified laboratories and test-rooms are fully equipped to help us evaluate the quality of all produced materials and final products.



Completion and Assembly

We assemble mining equipment, but also construction units. In the case of products for which we do not provide assembly work, we assemble such equipment ourselves and for more complicated technological components we also do trial assembly operations.



Service

We repair and renovate own products as well as the products of other companies. The scope of offered operations is based on the requirements of the customer – from minor repairs to overhaul and modernisation of machinery.

MINING EQUIPMENT

UNEX a. s. is a traditional manufacturer of machinery for continuous open-pit mining of large volumes of materials and also of stocking machinery for power stations. In addition to manufacturing bucket wheel excavators K 45, K 650, KU 300, KU 800 and K 2000, UNEX has manufactured reclaimers KN 160, N 1250, N 2000, N 35 and N 15 and participated in equipment of significant Czech power stations.





1. MINING EQUIPMENT

Classical bucket wheel excavators on caterpillar or hydraulic walking undercarriage with telescopic boom for mining overburden, coal and minerals. Theoretical capacity ranges from 1,200 to 5,800 m³/h, specific cutting force from 90 to 168 kN/m.



2. TRANSPORT DEVICES

Long-distance belt conveying is used for continuous transport of large volumes of various bulk materials, e.g. overburden and coal in open-cast mines or other materials such as ore, phosphate etc. Theoretical capacity ranges from 1,600 to 10,000 m³/h, belt width 1,200 to 2,200 mm.



3. STOCK MACHINERY

There are two types of stock machinery: Stacker with a theoretical capacity of 250 to 2,000 m³/h, and reclaimer taking material from a stock with a capacity of 55 to 2 000 m³/h.

UNEX WAS A LEADING PRODUCER OF BUCKET WHEEL EXCAVATORS FOR THE CZECH AND EAST EUROPEAN MARKET, TO THIS DAY, THESE ARE THE BIGGEST SELF-PROPELLED MACHINES THAT MAN HAS EVER CREATED ON THE EARTH...

CONSTRUCTION AND EARTHMOVING MACHINES

We manufacture steel weldments, booms, upper frames and frames of chassis and work equipment with a typical weight up to 60 tons.

Welded parts are custom designed, in series or repeated, according to our own or the customer's documentation. All parts can be machined and painted according to customer's request.

We also offer assembly of sub-groups and partial assembly of whole units.

Our product range includes:

Product	Length	Weight
Parts of undercarriages	4–10 m	600–30,000 kg
Upper frames		1,500–60,000 kg
Vehicle frames		400–20,000 kg
Booms and arms	3–12 m	300–30,000 kg
Base plates and dump bodies		1,000–20,000 kg



HANDLING AND LIFTING EQUIPMENT

Cranes and other lifting equipment are some of the traditional products made by UNEX. We offer a wide variety of lifting equipment – from simple hoists to sophisticated devices manufactured according to customer requirements including general repairs and renovation of all types of cranes.

Manufactured types of cranes and their parts:

- bridge cranes – chiefly used for handling loads in manufacturing process
- portal, port cranes – used for handling goods in trans-shipment centres
- assembling jib cranes – used for assembling and disassembling equipment, devices, machine chambers, power stations etc.
- special cranes – key-ready cranes at the customer's request

Apart from cranes, we also manufacture lift trucks parts.



STEEL STRUCTURES

We offer machined and surface-treated welded frame and box structures up to a weight of 120 tons and a maximum length of 40 m. We manufacture all parts based on our own or supplied documentation.

Our product range includes:

- base frames of machines and equipment,
- heavy weldments for pressing equipment,
- stationary parts for gas turbines,
- frames for centrifugal compressors,
- frames for gas turbines,
- suspension of water turbines,
- steel structures for transformer housings,
- base frames for turbo-generators set on FPSO vessels,
- cranes parts,
- road and railway bridges,
- and others.



CUT PARTS

We offer high quality shaped cut parts and thanks to the large volume of processed sheets and maximum efficiency in the use of these sheets we can offer very attractive prices. We produce parts from standard construction steels, but also from special materials as steels with higher yield strength, wear resistant steel, high-strength fine-grain steel and other.

Our burning centres offer the most modern burning technologies, including bevel burning with 3D head. We are ready to provide further processing of the cut parts including drilling, milling, planing, welding of

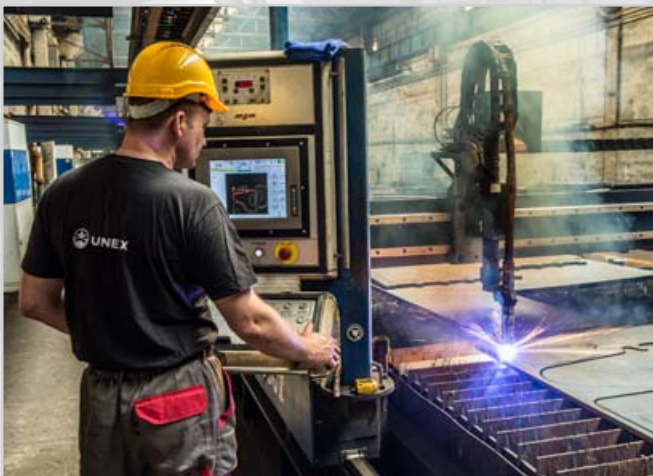
simple subassemblies, surface finishing and other activities. Most of the orders are dispatched within 2 weeks after the receipt of technical specifications of the respective order.

- **Thickness: 2–250 mm**
- **Width up to 3,500 mm**
- **Length up to 14,000 mm**
- **Weight of individual cut parts up to 12.5 tons**

COOPERATION

Cooperation product group offer comprises spare capacity of all company plants which are located in Central Moravia and eastern Slovakia. Offered services include machining, heat treatment, surface treatment, 3D measurement or vibration.

Machinery includes centre lathes, turn tables, horizontal boring and milling machines, drilling machines, edgers, blasting machines, annealing furnaces or electric furnaces.



We check the quality of our production throughout the entire production cycle. We perform destructive and non-destructive testing.

NON-DESTRUCTIVE TESTING OF MATERIALS

During non-destructive testing of materials (NDT), all tests are carried out in a manner which does not allow even the smallest breach or damage the tested piece.

NDT tests:

- Ultrasonic testing of sheets, cut parts, welds, castings and special components,
- X-ray testing up to a material thickness of 65 mm,
- magnetic control,
- penetration test,
- measuring of wall thickness with an ultrasonic detector.

DESTRUCTIVE METHODS

Our certified laboratories and test-rooms are fully equipped to help us monitor, test, analyze and evaluate the quality of all produced materials and final products.

**QUALIFICATIONS OF NDT PERSONNEL ARE REGULARLY
VERIFIED BY AN INDEPENDENT CERTIFICATION
ORGANIZATION IN ACCORDANCE WITH EN 473 AT LEVEL II.**

PRODUCTION CERTIFICATES

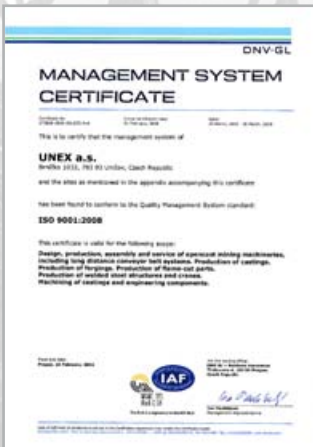
We own all necessary certificates and production permits i. a. of companies ABS, BV, ČD, DNV, DB, GL,...

QUALITY ACCORDING TO:

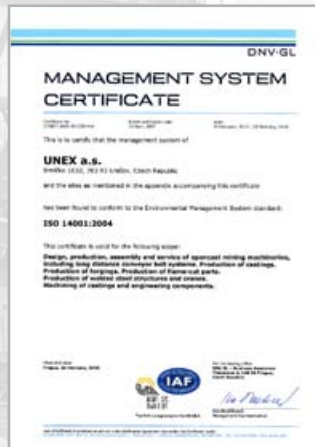
- ISO 9001:2008
- ČSN ISO 9013
- EN 10029
- ČSN EN 10163

COMPANY'S BASIC WELDING CERTIFICATION:

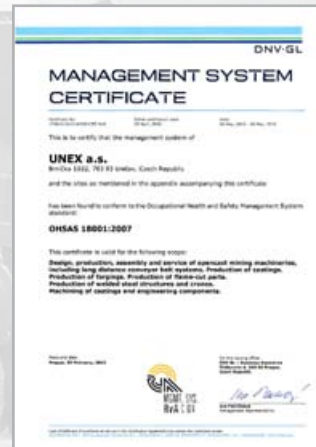
- DIN EN 15085-2
- ČSN EN ISO 3834-2
- EN 1090-2
- ČSN EN 15085-2, CL 1



EN ISO 9001:2008



EN ISO 14001:2004



OHSAS 18001:2007

CONTACTS



UNEX a.s.

Brničko 1032, 783 91 Uničov
Czech Republic

phone: +420 585 071 111
fax: +420 585 071 001
e-mail: marketing@unex.cz



UNEX a.s. – Olomouc plant

Řepčinská 35/86, 779 11 Olomouc
Czech Republic

phone: +420 585 712 147
e-mail: olomouc@unex.cz



UNEX a.s. – Snina plant

Strojárska 4426, 069 23 Snina
Slovakia

phone: +421 577 862 601
e-mail: snina@unex.cz



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WWW.UNEX.CZ