ČKD Kutna Hora

a traditional producer of cast and fabricated parts for the railway industry since 1967
Complete services in manufacture and supply of Castings, Fabrications, Machining, and Painting.

- **.skill**
- **.tradition**
- **.experience**
- **.quality**
- In 1921 Českomoravská-Kolben, a.s. was founded (corporate consolidation of Kolben a spol. with První Českomoravská strojírna).
- In 1967 ČKD Kutna Hora started making parts for locomotives and trams
- For a long time the main final products of the group of companies ČKD were locomotives, compressors, tramways.
- In 1990 ČKD Kutná Hora became an independent joint-stock company, since 1995 fully privatised with no state share.
- In September 2000 ČKD Kutná Hora, a. s. bought the iron foundry in Chrudim.
- In March 2001 ČKD Kutná Hora, a.s. bought the machining shop in Chrudim.
- In June 2001 ČKD Kutná Hora, a.s. bought the steel foundry in České Budějovice.
- ČKD Kutná Hora, a.s. employs in 2011 in all its workshops about 890 employees.
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Production Plants in Kutna Hora, Chrudim

Production facilities

- Steel foundry
- Machining shop
- Welding shop
- Assembly shop
- Paint shop
- Pattern shop

Iron Foundry
Machining shop
Tooling shop
Production Overview

steel castings 10kg - 6 000kg
(carbon steel, alloyed steel)
cast iron 3kg - 2 000 kg
(ductile iron, grey iron)

welded fabrications 100kg - 20 000 kg
(S275, S355, S460, S690 steel plates - chassiss, frames, sideframes, underbodies)

machined and painted parts, ready for assembly
(milling, drilling, tapping, priming, final paint etc.)

Our main customers are within the railway sector, construction machines, energy, cargo handling, transmission and gears industry, marine, bridge building, components manufacture.
competency to do what others can't do
Foundry Kutna Hora produces steel castings

In four different moulding lines in automatic moulding, semi-automatic, alpha-set and hand moulding. Weight range 15 – 6000 kg

Material is melted in 8 tons furnaces.

Total capacity of the foundry is 20000 t and 5000 t. of steel shot yearly.
reliability
Welding shop

The welded constructions can be delivered machined and painted in weight up to 20 000 kg, dimensionally up to 16000 x 4500 x 2500 mm.

Welding methods include MAG, TIG, MMA and UP. Our fabrications can be delivered milled, turned, drilled etc.

Engineering shop

Delivers completely assembled bogies with stress test and all required quality documentation.
Welding
Mixed-gas shield welding (CO₂, Ar)
Welding with solid or tube wire
Coated electrode welding
Welding with preheating (WO1, WO2, WO3 acc. to EN 287)
Remelting of the welds by WIG method
Electro-vibration submerged-arc welding

Machining
Machining on NC horizontal milling up to 1500 x 2800 mm
Milling up to the dimension 16000 x 3500 x 1200 mm
Drilling up to the dimension 3150 x 2500 x 1250 mm
Turning on vertical lathes (carousel) up to the diameter 4000 mm
Turning on centre lathes up to the diameter 1250, length 4000 mm
Drilling up to the diameter 80 mm

Cold pressing
Up to the thickness 16 mm, the length of 3000 to 5000 mm (400 t)

Surface treatment
Steel blasting grit
Degreasing, spraying and drying box, the spraying equipment Wagner
Pattern shop

CKD produces patterns mostly in its own pattern shop, utilising state-of-the-art modern 3D software and CNC milling machine.
Tooling shop

Welding fixtures, machining tools/fixtures, positioners, press tools and special production tools we can produce inhouse.

Fixtures design

The design of the fixtures is made in 3D Varicad and Solid Edge. We are able to make complete documentation to fixtures, toolings and even complete workplaces.
.skills in iron castings
Iron foundry Chrudim

Chrudim foundry produces castings in nodular iron and grey iron. Quantities range from single pieces up to series of 10,000 pcs monthly. The castings can be supplied blasted, painted, final machined, heat treated. Two new induction furnaces, each has capacity of 4 ton.

We are using automatic moulding line, semi-automatic and hand-moulding. Frames 600x800x240/240 1200x800x300/300 up to sizes 2500x2000

Furan and bentonite sand are used in the foundry.

The castings weight may be 5 – 3300 kg

Capacity 10 000 ton yearly
Machining shop
Chrudim

About 80 machines, incl. 30 CNC&NC are at your disposal. We deliver a machined and painted ready-for assembly casting. Operations include milling, turning, balancing, teething, grinding etc.
Technical details are available online at www.ckdh.cz
the importance of quality
Quality system

ČKD Kutna Hora is concerned about the quality of the products it delivers to its customers. Therefore it employs strict quality system according to ISO 9001, environment acc.to ISO 14001, safety and health OHSAS 18001. Further ČKD is certified by Russian, Czech and Slovak Railways.

Our customers value our quality standard and always come back, placing new purchase orders. Producing parts for railway requires not only skills and experience, but also responsibility and competency.
Mechanical properties of the material
The mechanical properties are tested with the tensile testing machines, the hardness tester (Brinell, Vickers, Rockwell) and Charpy's impact test to the temperatures of -60° C. The metalographic structure including the microphotos is evaluated too.

Non destructive tests
The material is tested by RTG-TV Seifert system (X-ray) up to thickness of 40 mm, RTG classically Seifert (R-ray) and isotopes (Dr. Saurwein) up to the material thickness of 60 mm, by ultrasonic (Krauträmer) and the MPI and capillary method (TIEDE, HELLING)
Castings design

Our castings reach an excellent quality and fulfill all required properties. When preparing the technological design of the castings we use all accessible modern work methods.

We utilize the results gained by the computer simulation of the casting process by the MAGMA software programme for the solution of the internal quality. The results verify the technology solution and help us discover critical spots.
special processes
to create
special components
Castings for passenger transport
Bogie Assembly
Locomotive frame casting
Iron Castings
Chain wheels
Engine block
Welded and machined parts for construction machines
Welding, machining & painting
fabrications for wind energy
Castings for mining industry
Casted valve bodies
Main advantages of cooperation with CKD Kutna Hora

• Long time cooperation with well known EU and US companies
  • Delivered and proven quality, fast delivery times
    • Stable and reliable subcontractor
  • All standard quality checking available inhouse
  • CKD can deliver castings up to 8 tons in weight
• CKD is ISO 9001, ISO 14001, OHSAS 18001, DB, AAR etc. certified
• Easy communication by phone, email, EDI in Czech, German, English, Russian, Svenska
We continue the tradition in satisfying the needs of our customers. Thanks for your attention!