

ZDAS

INGOTS
FORGINGS
CASTINGS
PATTERNS



PRODUCTION OF CASTINGS

Material: steel (all types inclusive of stainless steel), ductile cast iron

Weight category: 200 to 50 000 kg

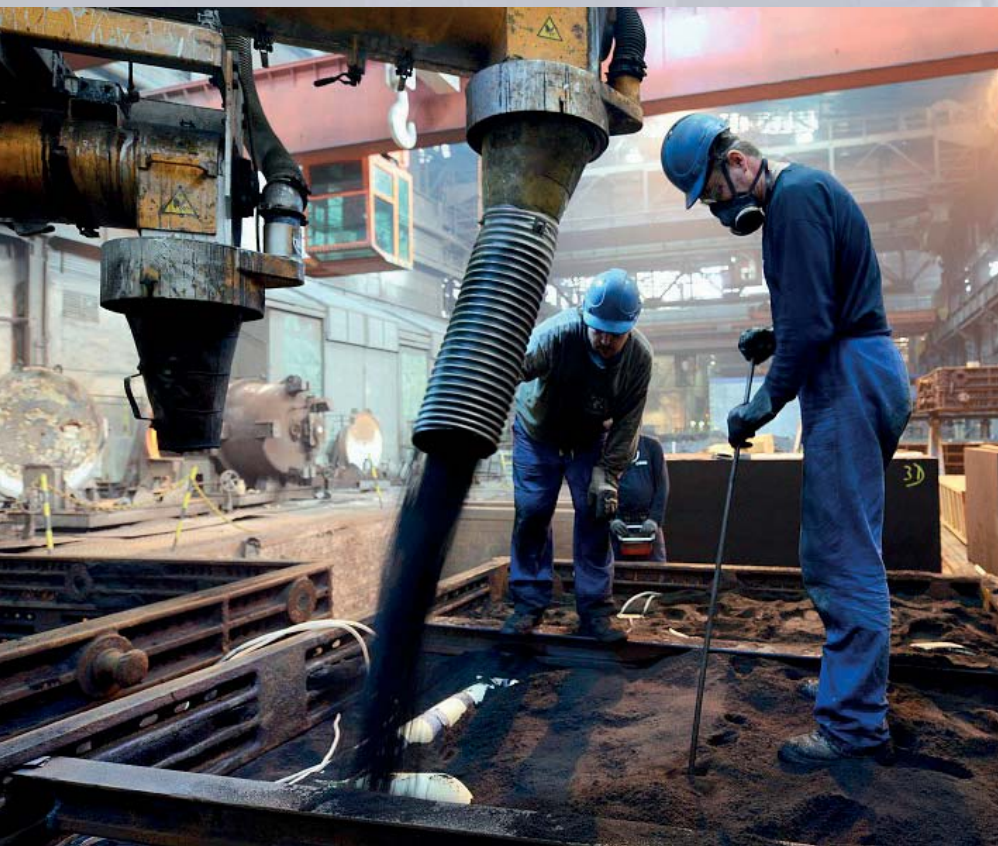
Maximum dimensions: 8 500 × 4 500 × 3 000 mm

Casting process simulation using the MAGMA software

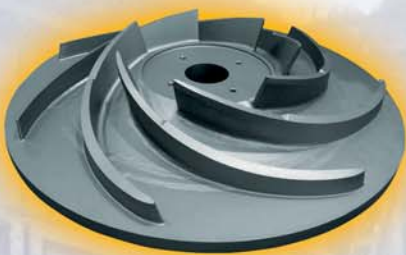
Moulding: hand moulding, in furan mixtures

Heat treatment: air-, water-, polymer bath-, oil-quenching and tempering

Delivery condition: rough, rough machined, and/or finish machined



EXAMPLES OF CASTINGS



PRODUCTION OF FORGINGS

Material: low- and medium-alloy steels, tool steels, high-alloy steels, ferritic, austenitic, duplex, martensitic steels

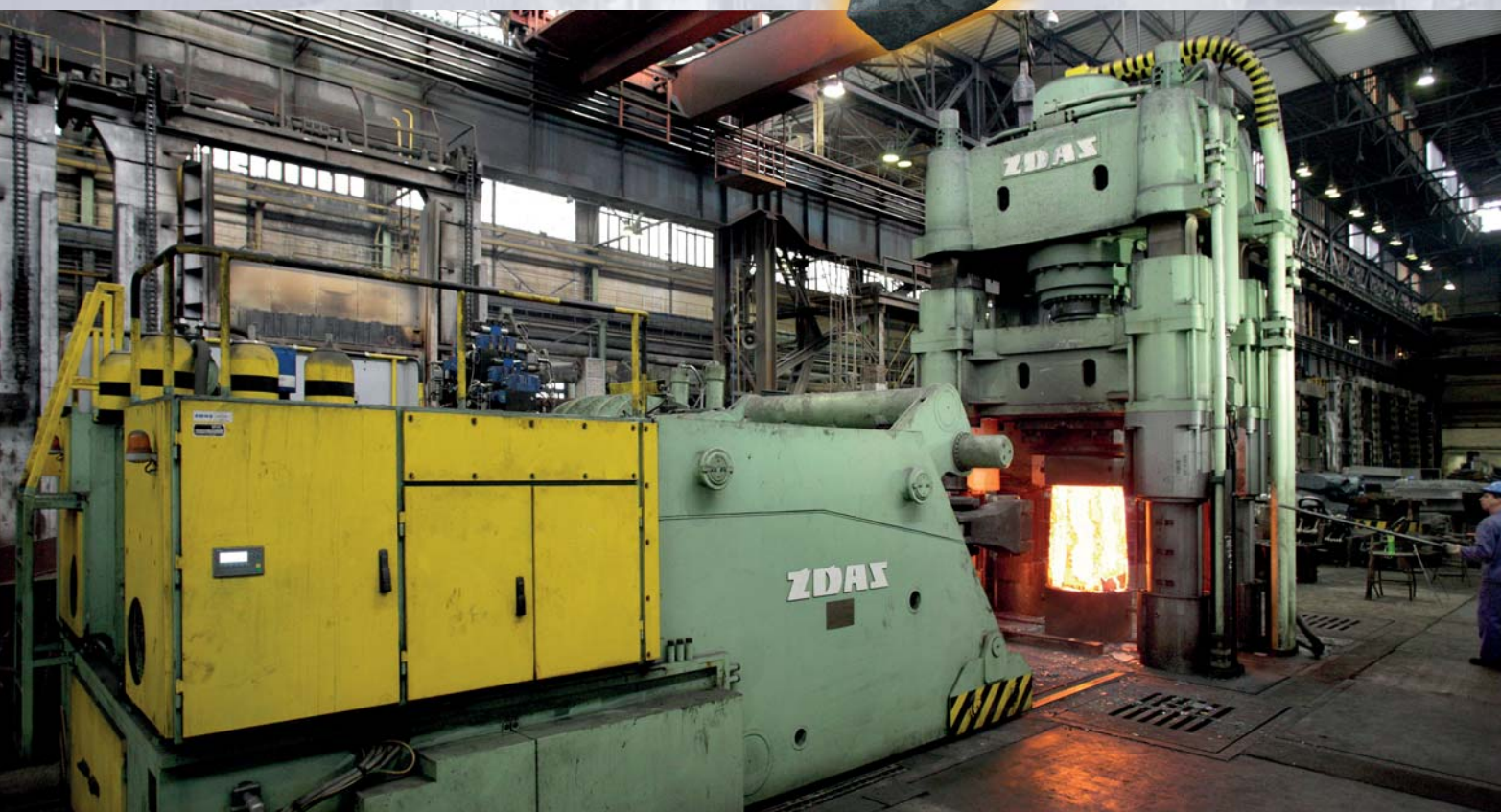
Weight category: 20 to 9 000 kg

Maximum dimensions: shafts (with a length up to 7 000 mm max.), rings (up to D 2 250 mm max.), discs (up to D 1 850 mm max.), blocks and shaped forgings

Forging equipment: CKV 630, CKV 1250/1600 and CKV 2250 with rail-bound manipulators.

Heat treatment: air-, water-, polymer bath-, oil-quenching and tempering

Delivery condition: rough, rough machined, and/or finish machined



EXAMPLES OF FORGINGS



PRODUCTION OF STEEL AND INGOTS

Materials:

- Low- and medium-alloy steels, tool steels, high-alloy steels, ferritic, austenitic, duplex, martensitic steels (more than 3500 material grades)
- Ductile cast iron.

Manufacturing equipment:

- Electric arc furnaces (EAF)
- Ladle furnaces (LF)
- Deep deoxidation and vacuum degassing facilities (VD) with the possibility of vacuum decarburisation of high-alloy chrome steels (VOD)
- System for electromagnetic stirring of smelt (EMS)

Types of ingots: Polygonal • Round • Slabs

40 types of ingots with a weight ranging from 500 to 20 000 kg

Production is intended for open die forging and rolling.



QUALITY MANAGEMENT

Quality system: EN ISO 9001, EN ISO 14001, OHSAS 18001

Accredited laboratory: ISO 17025

- Chemical
- Metallographic
- Mechanical
- Non-destructive testing (MT, PT, UT, RT)
- Dimensional check (3D camera)

Ultrasonic, magnetic particle and liquid penetrant testing for examination to CNS, DIN, EN and ASTM standards are standardly performed.



PRODUCTION OF PATTERNS

Material: wood, polystyrene, combinations, multiplex materials

Maximum dimensions: 10 000 x 5 000 x 4 000 mm

Manufacturing equipment: conventional equipment and milling five-axis CNC centre

Manufacturing acc. to 3D data (formats – step, igs, prt, cad)



MACHINING

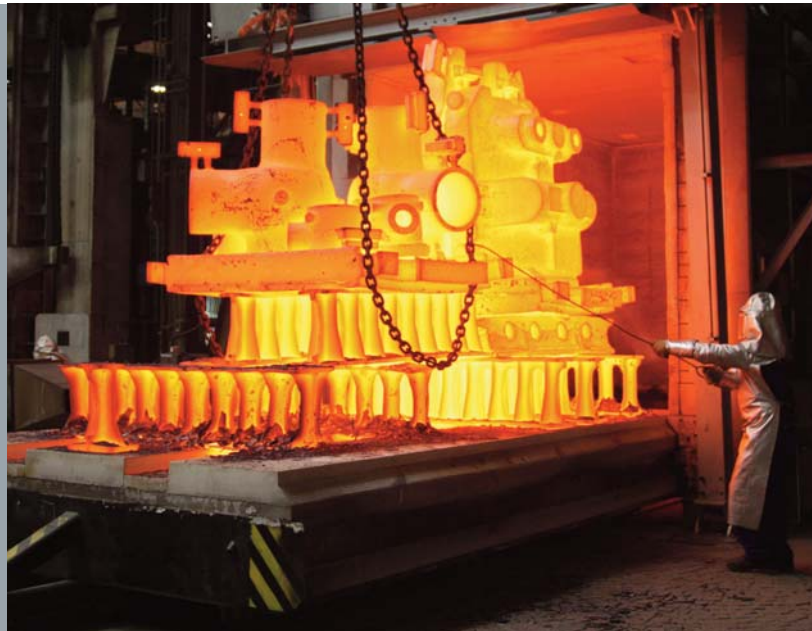
Manufacturing equipment: lathes, boring and turning mills, milling machines, portal-type cutter

Control of machines: conventional; CNC



HEAT TREATMENT

All standard heat treatment processes are available for production of castings and forgings, including annealing, stabilizing and hardening furnaces.



SOME DATES FROM THE PAST

- 1951** traditional bell was cast, thus commencing the metallurgical production at a new company ZDAS
- 1964** the new forge shop started its operation
- 1993** production system at Metallurgy was certified to ISO 9001 by TÜV NORD
- 1999** the VD/VOD/VIC (secondary metallurgy) facilities were put into operation
- 2002** a new strategic partner, the Slovak company Zeleziarne Podbrezova, became the majority owner of ZDAS
- 2009** the three-millionth ton of steel was poured
- 2009** castings production change-over to furan (no-bake) technology
- 2010** a casting with a rough weight of 50.2 ton was poured as the heaviest one in the existing ZDAS's history

ZDAS

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