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

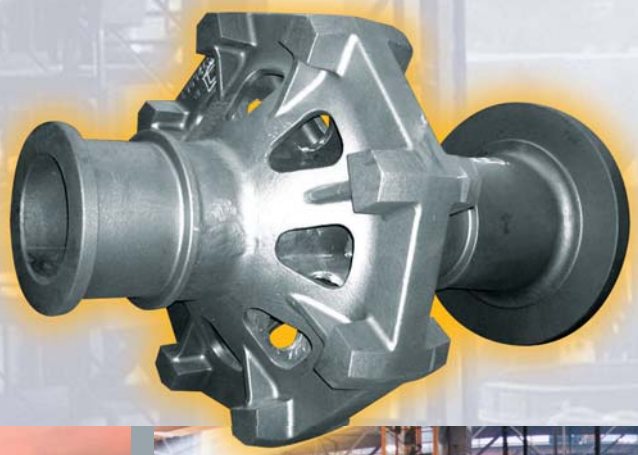
Maximum dimensions: 8 500 × 4 500 × 3 000 mm

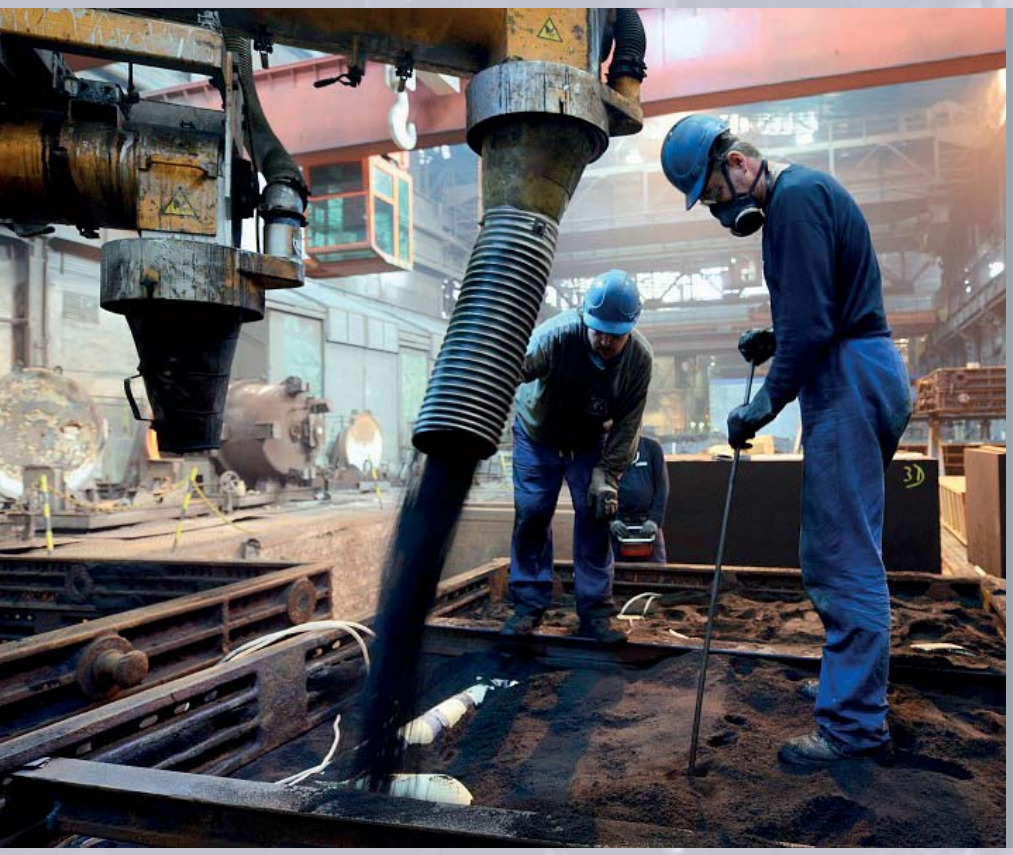
Casting process simulation using the MAGMA software

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

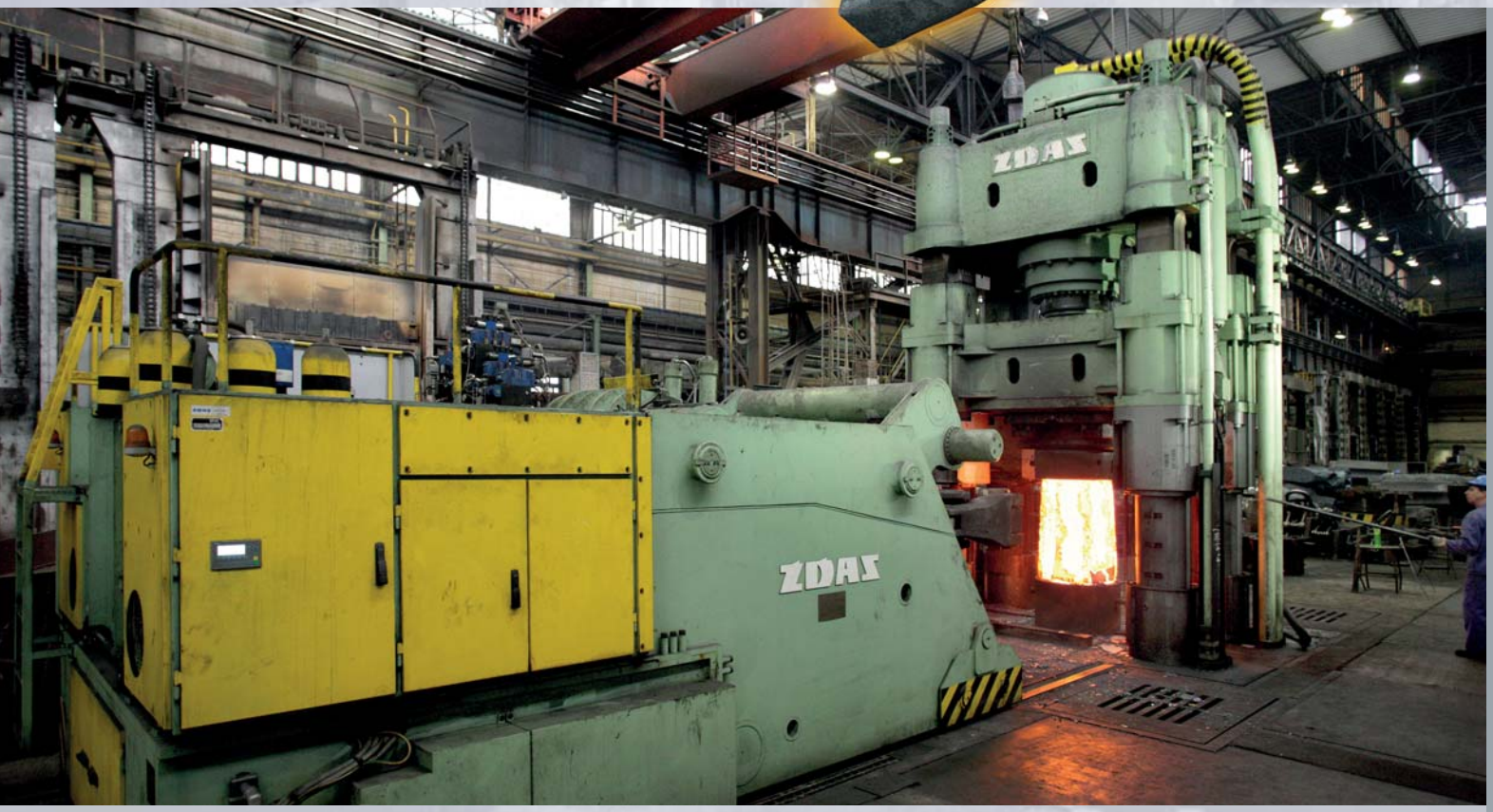
Weight category: 20 to 9 000 kg

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

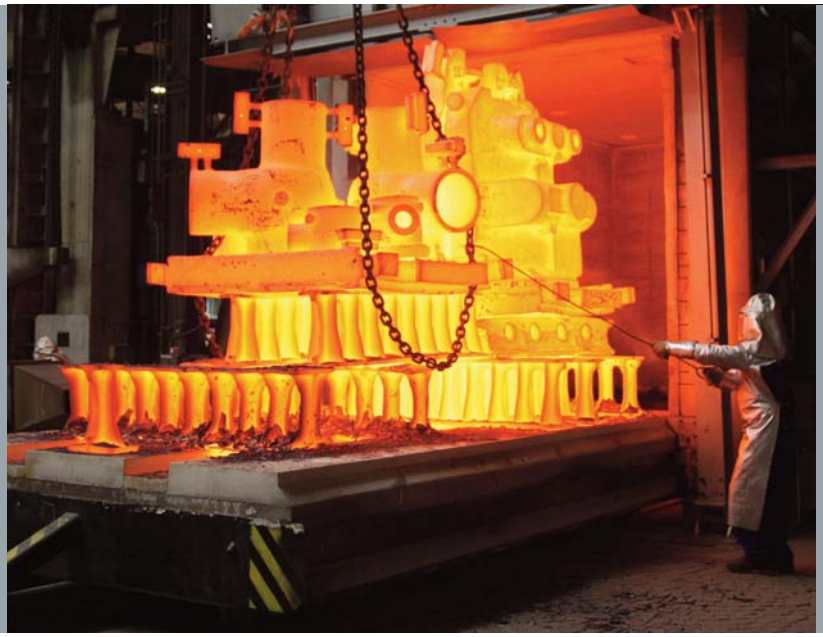
Material: wood, polystyrene, combinations, multiplex materials
Maximum dimensions: 10 000 x 5 000 x 4 000 mm
Manufacturing equipment: conventional equipment and milling five-axis CNC centre
Manufacturing acc. to 3D data (formats – step, igs, prt, cad)

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

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