Advanced foundry technology

Parts or components for:
- Construction machinery
- Housings
- Gear manufacture
- Plastics processing machinery
- Agricultural machinery
- Impellers, rollers
- Mechanical engineering
- Machine bases and beds
- Measurement and control technology
- Pulleys
- Textile machinery
- Gear cutting machines
- Machine tools
- Sprockets
- Gears, etc.
We are experts in ferrous-based casting, producing high quality castings for customers in a wide range of industries for over 200 years. We'll cast anything from single pieces to small production runs and we can offer you the expertise and all-round support of 60 highly skilled employees committed to delivering quality for our customers.

Demand for the technically challenging castings produced in the KOLBUS foundry comes mainly from the engineering and heavy engineering industries. We apply our in-depth experience and wide know-how to developing custom solutions for our customers. Production capacity of good castings is 3,500 t per year. 20% of foundry production is used in our own KOLBUS machines; 80% are custom castings for other industrial customers.

We maintain a stock of 11,500 moulds available immediately on demand.

**CASTING MATERIALS**

**Cast iron with lamellar graphite**
- GJL-200
- GJL-250
- GJL-300
- GJL, alloyed
- Special alloys for traction sheaves and rope pulleys (eg, lifts)

**Cast iron with spheroidal graphite**
- GJS-400-15
- GJS-500-7
- GJS-600-3
- GJS-700-2
- GJS, alloyed

**Melt facilities**
- Induction furnaces/mid-frequency electric furnaces capacity 2 t/h

Castings from the KOLBUS. Foundry

Castings from prototypes
Services offered by KOLBUS. Foundry

- Consultancy on choice of materials and processes for product designs
- Heat treatment/colouring
- Further value-added processing in the KOLBUS. Mechanical Production unit

Customer segments/industries: Food industry/filling and packaging machines | Construction industry/machinery and cement plants | Balancing machines | Bakery machines | Mining/general gear manufacturing | Wire industry | Braiding machines | Flexographic and gravure printing presses, paper-bag and film-blowing machines | Conveyors/lifts | Wood processing machinery | Smelting and roller mills/pipe manufacture | Plastics industry/blow-moulding machines and extruders | Other engineering industries | Paper processing | Grinding machines | Textile industry | Environmental technology | Gear cutting machines | Machine tools | Cigar-rolling machines, etc.

Hand moulding
- 21 t/h continuous mixer
- Furan resin sand

Machine moulding
- BMD Dynapulse moulding machine
- Bentonite/quartz sand

Dimensional limits for castings

<table>
<thead>
<tr>
<th>Dimensional limits for castings</th>
<th>Max. width</th>
<th>2500 x 2700 mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max. length</td>
<td>4000 mm</td>
<td></td>
</tr>
<tr>
<td>Max. volume</td>
<td>1500 x 3000 x 500 mm</td>
<td></td>
</tr>
<tr>
<td>Part weight</td>
<td>EN-GJL (GG)</td>
<td>0.5 – 2300 kg</td>
</tr>
<tr>
<td>- EN-GJS (GGG)</td>
<td>0.5 – 1400 kg</td>
<td></td>
</tr>
</tbody>
</table>

Dimensional limits for castings

<table>
<thead>
<tr>
<th>Dimensional limits for castings</th>
<th>Max. size</th>
<th>max. 600 x 600 x 200 mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max. part weight</td>
<td>max. 100 kg</td>
<td></td>
</tr>
</tbody>
</table>

Lab facilities
- Dye penetrant testing
- Brinell hardness testing
- Magnetic particle method
- Dimensional testing
- Metallographic testing
- Spectral analysis
- Ultrasonic testing
- Tensile tests
- X-ray
- Coordinate measuring machine

Other services
- Model construction, model repair
- Model storage
- Online data exchange
- Simulation (mould filling/solidification)
- 3D sand printing
- Heat treatment
- Priming, spraying
- Machining

to single pieces – to small production runs
### Cast iron with spheroidal graphite

*Designation according to DIN 1691*
*European standard DIN EN 1561*

<table>
<thead>
<tr>
<th>Property</th>
<th>GG-20 EN-GJL-200</th>
<th>GG-25 EN-GJL-250</th>
<th>GG-30 EN-GJL-300</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tensile strength</td>
<td>$R_{m}^\min$ N/mm²</td>
<td>$R_{p0.1}^\min$ N/mm²</td>
<td>$R_{p0.2}^\min$ N/mm²</td>
</tr>
<tr>
<td>$R_{m}^\min$ N/mm²</td>
<td>200 – 300</td>
<td>250 – 350</td>
<td>300 – 400</td>
</tr>
<tr>
<td>$R_{p0.1}^\min$ N/mm²</td>
<td>130 – 195</td>
<td>165 – 228</td>
<td>195 – 260</td>
</tr>
<tr>
<td>$R_{p0.2}^\min$ N/mm²</td>
<td>200 – 300</td>
<td>250 – 350</td>
<td>300 – 400</td>
</tr>
<tr>
<td>Elongation at fracture</td>
<td>$A_{5}^\text{min}$%</td>
<td>$A_{5}^\text{min}$%</td>
<td>$A_{5}^\text{min}$%</td>
</tr>
<tr>
<td>$A_{5}^\text{min}$%</td>
<td>0.3 – 0.8</td>
<td>0.3 – 0.8</td>
<td>0.3 – 0.8</td>
</tr>
<tr>
<td>Brinell hardness</td>
<td>HB30</td>
<td>160 – 220</td>
<td>170 – 230</td>
</tr>
<tr>
<td>Modulus of elasticity</td>
<td>$E$ kN/mm²</td>
<td>88 – 113</td>
<td>103 – 116</td>
</tr>
<tr>
<td>$0.1\text{-compressive strength}$</td>
<td>$s_{0.1}^\min$ N/mm²</td>
<td>$s_{0.2}^\min$ N/mm²</td>
<td>$s_{0.3}^\min$ N/mm²</td>
</tr>
<tr>
<td>$s_{0.1}^\min$ N/mm²</td>
<td>260</td>
<td>325</td>
<td>390</td>
</tr>
<tr>
<td>$s_{0.2}^\min$ N/mm²</td>
<td>290</td>
<td>340</td>
<td>390</td>
</tr>
<tr>
<td>$s_{0.3}^\min$ N/mm²</td>
<td>230</td>
<td>290</td>
<td>345</td>
</tr>
<tr>
<td>Shear strength</td>
<td>$s_{d}$ N/mm²</td>
<td>230</td>
<td>290</td>
</tr>
<tr>
<td>Torsional strength</td>
<td>$s_{t}^\min$ N/mm²</td>
<td>230</td>
<td>290</td>
</tr>
<tr>
<td>Density (20°C)</td>
<td>$\rho$ g/cm³</td>
<td>7.16</td>
<td>7.20</td>
</tr>
</tbody>
</table>

### Cast iron with spheroidal graphite

*Designation according to DIN 1693*
*European standard DIN EN 1563*

<table>
<thead>
<tr>
<th>Property</th>
<th>GGG-40 EN-GJS-400-15</th>
<th>GGG-50 EN-GJS-500-7</th>
<th>GGG-60 EN-GJS-600-3</th>
<th>GGG-70 EN-GJS-700-2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tensile strength</td>
<td>$R_{m}^\min$ N/mm²</td>
<td>400</td>
<td>500</td>
<td>600</td>
</tr>
<tr>
<td>$R_{p0.2}^\min$ N/mm²</td>
<td>250</td>
<td>320</td>
<td>380</td>
<td>440</td>
</tr>
<tr>
<td>Elongation at fracture</td>
<td>$A_{s}^\text{min}$%</td>
<td>15</td>
<td>7</td>
<td>3</td>
</tr>
</tbody>
</table>

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**KOLBUS. Foundry**

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