



Product catalogue



About the Company

Kuźnia Batory offers a wide range of products forged from over 100 steel grades, which are used in machining, energy, automotive and shipbuilding industries. Among the Clients there are such important companies as Alstom, ArcelorMittal, Schmolz + Bickenbach or Steinhoff.

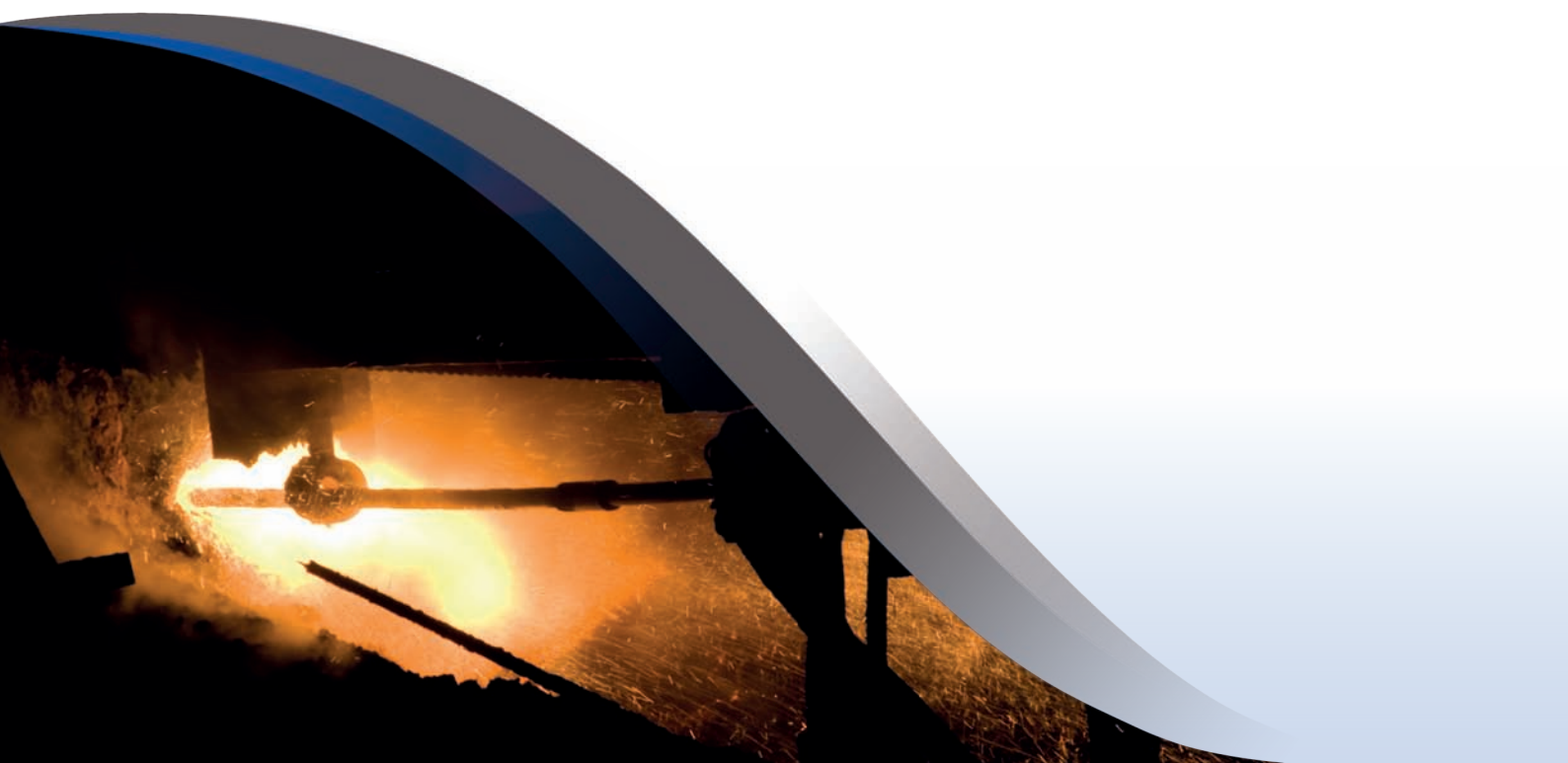
Kuźnia Batory is one of the key producers of rail and tram axes in Poland. Rail axes are produced in accordance with current standards of PN EN 13261 norm and technical requirements defined by the Rail Vehicle Institute in Poznań.

It is the only producer of electroslag-remelted steel, which is characterized by high purity and allows a smooth inner structure, eliminating irregularities typical for forged products. Another unique asset held by the company is a high-tech free forging press with a thrust of 20 MN as well as a swaging machine that is the only equipment of such kind in Poland.

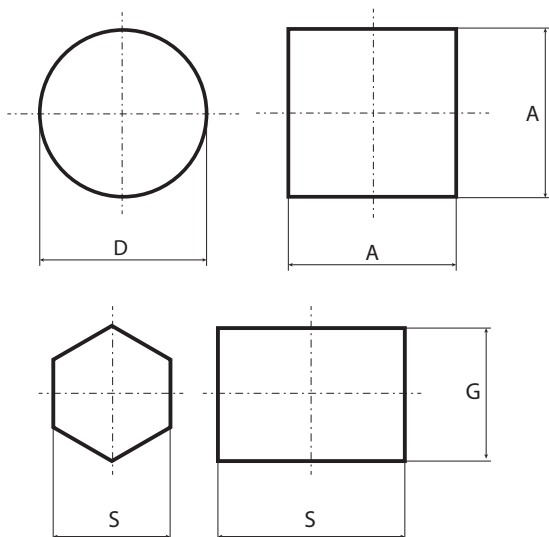
Kuźnia Batory is Poland's only plant processing high-alloy and specialty steels (nickel, niobium, titanium alloys) which are used in the aerospace and rocket industry.

More than half of the products are exported to e.g. Turkey, Germany, the USA, Slovenia, Austria, Great Britain, Norway, Sweden.

The company has a significant share in Polish 30-650 mm forged bars market as well as in shape forging market.



Swaging forged bars round, square, hexagonal and flat



Shape of bars	Dimensions D, A, S [mm]		Length [m]		Weight ¹ [kg]
	min.	max.	min.	max.	
Round ²	30	200 ³	1,5	4,0	max. 800
Square	40	150 ⁴	1,5	4,0	max. 800
Hexagonal ⁵	50	90	1,5	4,0	max. 220
Flat ⁶	S ⁷	G ⁸	1,5	4,0	max. 800
	40÷100	45÷100			
	101÷140	45÷140			
	141÷250	45÷140			

¹ Minimum weight: 300 kg/size

² Can be delivered as peeled within dia Ø30 ÷ 125mm with tolerance -0+0,5mm, and for dimensions over 125mm as turned with tolerance -0+1mm.

³ For tool steel, bearing steel, stainless steel up to dia Ø 165 mm, after ESR – up to dia Ø250 mm, for high speed steel bars – up to dia Ø210 mm

⁴ After agreement bars up to 150 mm with sharp or rounded corners, over 150 mm – with rounded corners

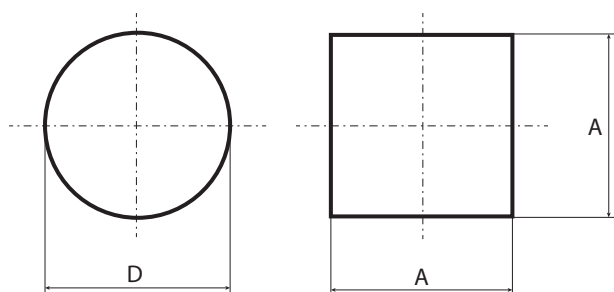
⁵ Without high speed steels

⁶ Max. cross-section 200 cm²

⁷ For high-speed steel max. 180 mm

⁸ For high-speed steel max. 80 mm, for other steels after agreement min. 30 mm

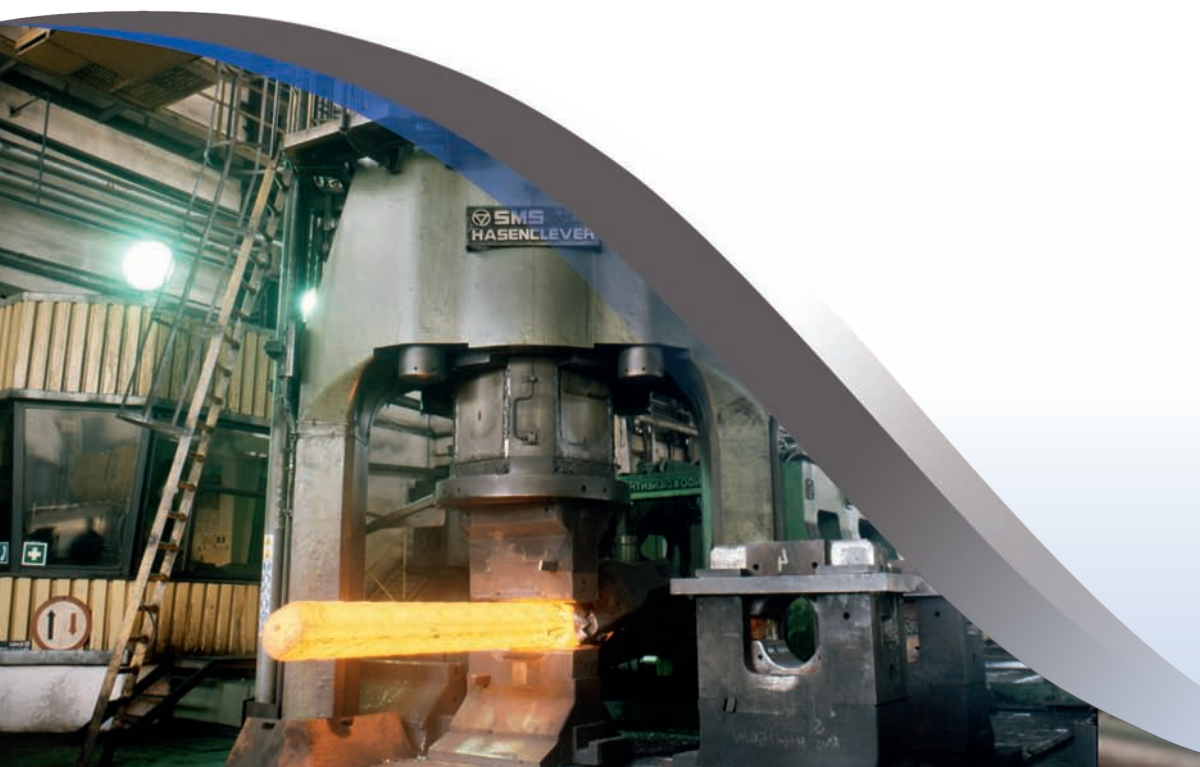
Press forged bars: round and square



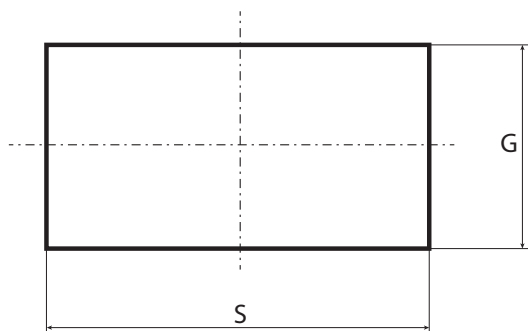
Type of steel	D [mm]		A [mm]		Max. length [m]	Weight [kg]
	min.	max.	max.	min.		
Carbon steel	150	650	150	570	8,0	100÷10500
Alloyed steel	150	650	150	570	6,0	100÷10500
Tool steels (for cold-work and hot-work) ¹	150	490	150	430	6,0	100÷6200
Special purpose steel ²	150	450	150	430	6,0	100÷4600

¹ Grade 1.2080, 1.2436, 1.2379 – after agreement and only machined

² Bearing steel, stainless steel, heat resisting steel – after agreement



Press forged flat bars and blocks



Type of steel	Dimensions [mm]		Ratio S/G max.	Length [m]	Weight [kg]
	S max.	G min.			
Carbon steel	1150	80	6	max. 8,0	100 ÷ 10500
Alloy steel	Cross-section 200 ÷ 3200 cm ²			max. 6,0	100 ÷ 10500
Tool steels (cold-work and hot-work) ¹	800	100	4 ²	max. 6,0	100 ÷ 6200
	Cross-section 200 ÷ 1850 cm ²				
Special purpose steel	600	100	4	max. 6,0	100 ÷ 4600
	Cross-section 200 ÷ 1600 cm ²				

¹ Blocks for tool steels (cold-work and hot-work) – after agreement max. cross-section 5400 cm²

² For steels as 1.2713, 1.2714 etc. after agreement 6

Press forged disks, pierced disks, forged rings and sleeves

Type of forgings ¹	Dimensions [mm]					Weight [kg]
	D		d		H/L ²	
	min.	max.	min.	max.	max.	
Disks	300	1200	-	-	1000	100÷8000 ³
Pierced disks ⁴	350	1200	100	250	1000	100÷6500 ³
Rings ⁵	350	1700	0,4 D	0,8 D	1000	100÷6000
	1701	2000	0,4 D	0,6 D		
Sleeves ⁵	450	900	250	0,65 D	2000	max. 6000

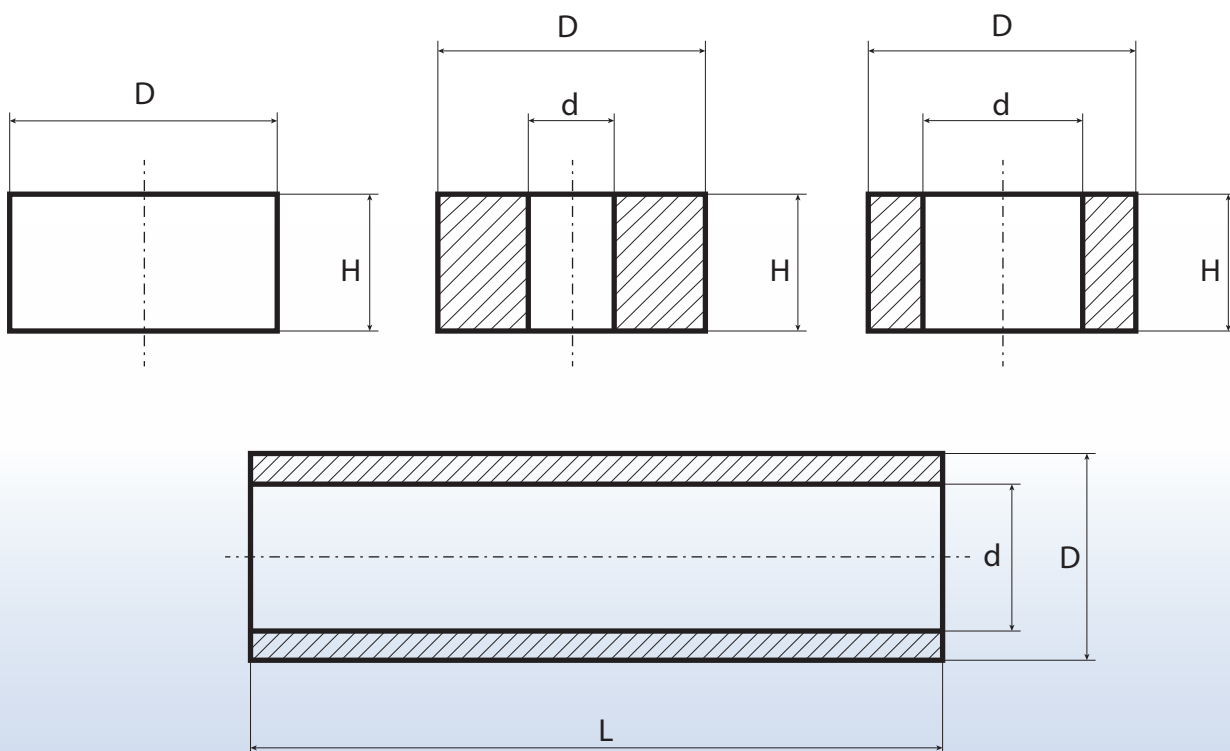
¹ Dimensions for tool steels after agreement

² $H \text{ min.} = 1/9 \times D$

³ After agreement max. 8500 kg

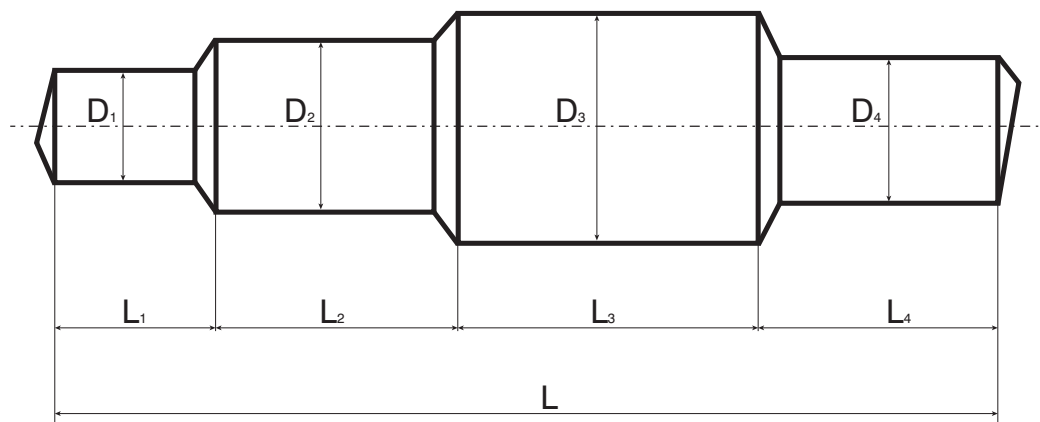
⁴ Piercing mandrels dia Ø100, Ø120, Ø150, Ø180, Ø200, Ø250mm

⁵ No offer steel as: 1.2080, 1.2346, 1.2379, and other high alloy tool steels



Open die forgings

- Minimum and maximum transverse dimensions depended on the shape of cross-section, and should contain the range for round, square, and flat bars.
- Drawings and method for making to agreement.
- No offer bending forgings.



Heat treatment

Depending on customer requirements we can make forgings in: soft annealing, normalizing and tempering, quenching and tempering, and solutioning condition.

Our technical possibilities for heat treatment are the following:

Type of heat treatment	Max. dimensions [mm]			Weight [Mg]
	Width max.	Thickness max.	Length max.	
Soft annealing	1000	2500	8500	20
Normalizing	1000	2500	8500	20
Quenching and tempering	1000	2500	8500	20
Solutioning	500	1200	6000	8

When agreed, it is possible to perform other types of heat treatment, whose usage does not results from the technological process.



Machining shop

Rough machining permits to obtain roughness about $Ra=2,50\text{ }\mu\text{m}$. The rough machining department offers realization the following services:

Turning:

1. bars – max. dia $\varnothing 900\text{ mm}$ and length max. 10000 mm ,
2. rings and disks – max. dia $\varnothing 3200\text{ mm}$.

Planing and milling:

- | | |
|-----------------------------|---------------------------------------|
| 1. medium planing machine | – table $600\times 2000\text{ mm}$, |
| 2. heavy planing machine | – table $1400\times 5500\text{ mm}$, |
| 3. planer mill | – table $750\times 2800\text{ mm}$, |
| 4. vertical milling machine | – table $300\times 1800\text{ mm}$. |

Peeling:

Forged and rolled round bar:

- dia $\varnothing 30 \div 125\text{ mm}$,
- length $2500 \div 5000\text{ mm}$.

Sawing on the bandsaws:

1. medium saw – max. cross-section $400\times 400\text{ mm}$,
2. heavy saw – max. cross-section $1200\times 1080\text{ mm}$.

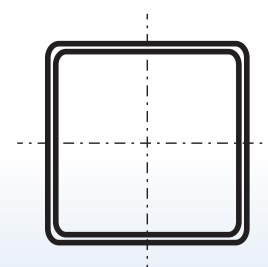
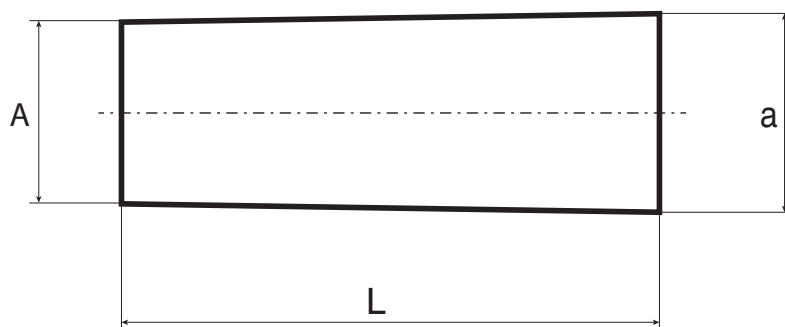
ESR – Electro Slag Remelting

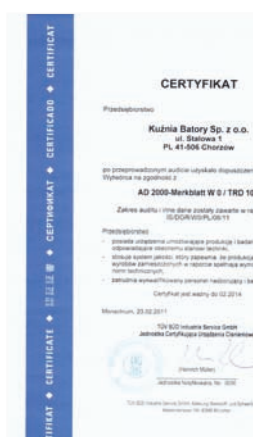
We offer the ingots after ESR.

Kuźnia Batory Sp.z o.o. produces forgings making on press and GFM from steel after ESR and we offer service of ESR.

For this service we can use e.g. forging, blooming or casting bars.

Type of ingot	Weight [kg]	Dimensions [mm]		
		A	a	L
K860	860	292	336	1410
OKZ	875	300	340	1100
2TEZ	1910	400	440	1450







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