

RODS, BARS, AND TUBES

Lupo has a tradition of several decades in the production and processing of aluminium, especially in the field of extruded and drawn rods, bars, tubes and profiles. Lupo's own casting house with a capacity of 60,000 tons of ingots, its electric and gas furnaces and a continuous homogenising furnace enable to produce rods, bars, tubes and profiles from over 40 alloys. The foundry supplies cast homogenised billets of all standard qualities or a quality to customer's demand. After homogenization, billets are 100% ultrasonic controlled in order to ensure the quality of our products even for the most demanding customers (forging, automotive and aircraft industry, etc.)

Fields of use of rods, bars, tubes and profiles include:

- the automotive and aircraft industries,
- machine building,
- transport,
- interior design,
- electrical industry,
- civil engineering.

LUPO'S PRODUCTION PROGRAMME INCLUDES

- round, hexagonal, square and flat rods and bars,
- full sections,
- pipes and tubes: seamless,
- oval-shaped pipes/tubes - ferrules,
- shapes to customer demand.

For sectional rods and bars (square, hexagonal or flat), max. dimensions depend on the type or group of the aluminium alloys.

The following products of aluminium alloys are manufactured in Impol, being generally grouped as:

Free-cutting alloys:

Lupo	EN	ASTM
D50	AlCuPbBi	2011
AC41	AlMgSiPbBi	6262
AC42	AlMgSiPb	6012
D60	AlCuMgPb	2030
D80 with Sn		
AC60	AlMgSiSn	6012





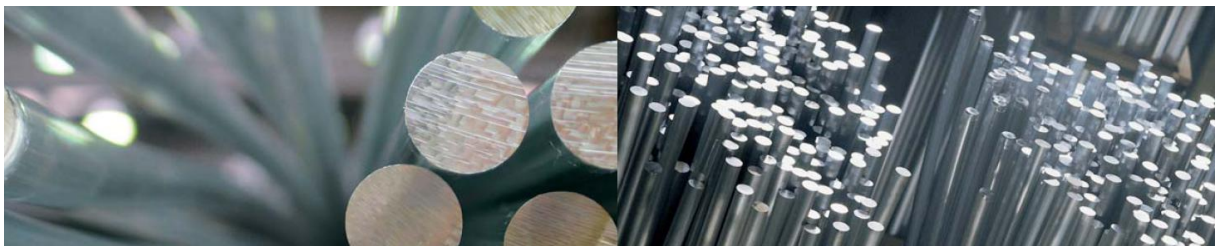
Groups of other Al alloys:

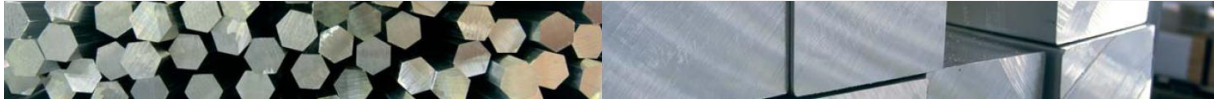
group 1 - aluminium	"A"	(ASTM - 1xxx)
group 2 – alumans	"M"	(ASTM - 3xxx)
group 3 - perals	"P"	(ASTM - 5xxx)
group 4 – anticorodals	"AC"	(ASTM - 6xxx)
group 5 - durals	"D"	(ASTM - 2xxx)
group 6 - perdurals	"PD"	(ASTM - 7xxx)
group 7 - silumins	"AS"	(ASTM - 4xxx)

All rods, bars, tubes and profiles are harmonized with **AA-ASTM, DIN, EN, BS, NF and UNI** standards in their chemical composition, mechanical properties, tolerances and surface qualities. We can produce products according to other standards or in agreement with the customer. Products are manufactured, with regard to the purpose of their use, by extrusion, drawing, and can be heat-treated. The above listed standards also apply to all these treatments. Maximalum product dimensions depend on the shape of the group of products, and on the temper of aluminium alloy.

Production programme includes only extruded full sections with external diameter up to 160 mm, lengths from 2000 to max. 6000 mm (depending on dimension). If customer requires rods, pipes and sections outside the above standards, they can be made only if our technology and machine equipment allows it.

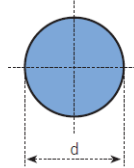
Forging alloy 6082 can be produced in dimensions from 20 to 180 mm and in the length from 2000-6000 mm where the length depends on the dimension of the product.





ROUND RODS

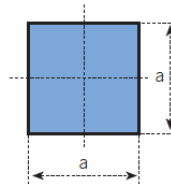
<i>Extruded</i>	DIN	ASTM	EN
• Indirect extrusion			
d = 20-127 mm	1799	B221	755/3
• Direct extrusion			
d = 20-180 mm	1799	B221	755/3
Drawn			
d = 7-76,20 mm	1798	B211	754/3



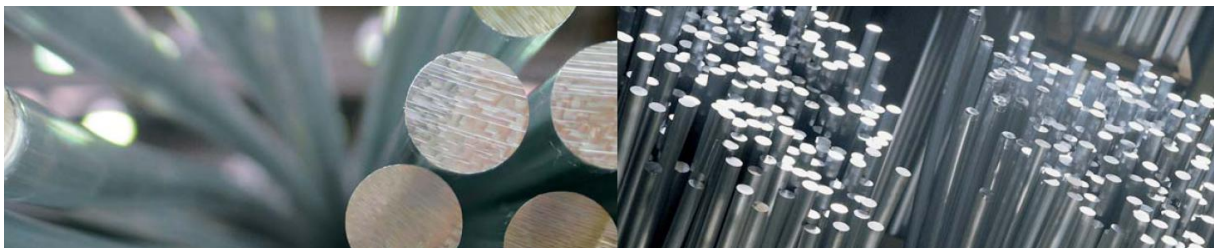
Standard production length: 2-6 m (depending on the dimension or alloy) or in agreement with the customer. Minimum drawing dimensions for 6xxx and 2011 alloys: 5,00 mm.

SQUARE RODS AND BARS

<i>Extruded</i>	DIN	ASTM	EN
• Indirect extrusion			
a = 20-90 mm	59700	B221	755/4
• Direct extrusion			
a = 20-115 mm	59700	B221	755/4
a = 20-140 mm	59700	B221	755/4
<i>only alloys 2011 in 6082</i>			
Drawn			
a = 7-60 mm	1796	B211	755/4



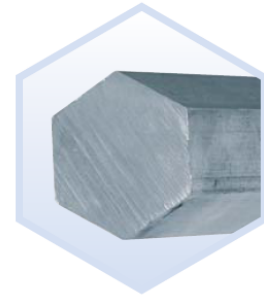
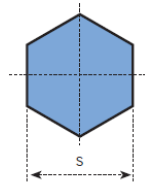
Standard production length: 2-6 m (dependent on the dimension or alloy) or in agreement with the customer. Minimum drawing dimensions for 6xxx and 2011 alloys: 5,00 mm.





HEXAGONAL RODS AND BARS

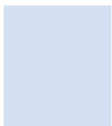
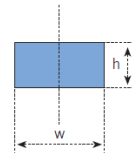
<i>Extruded</i>	DIN	ASTM	EN
• Indirect extrusion			
s = 20-90 mm	59701	B221	755/6
• Direct extrusion			
s = 20-120 mm	59701	B221	755/6
Drawn			
s = 7-60 mm	1797	B211	754/6



Standard production length: 2-6 m (depending on the dimension or alloy) or in agreement with the customer. Minimum drawing dimensions for 6xxx and 2011 alloys: 5,00 mm.

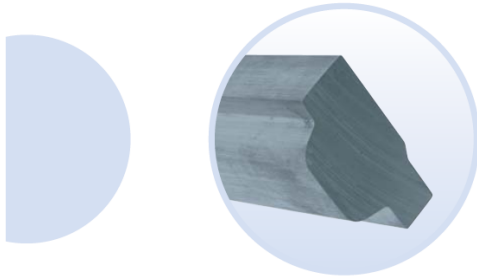
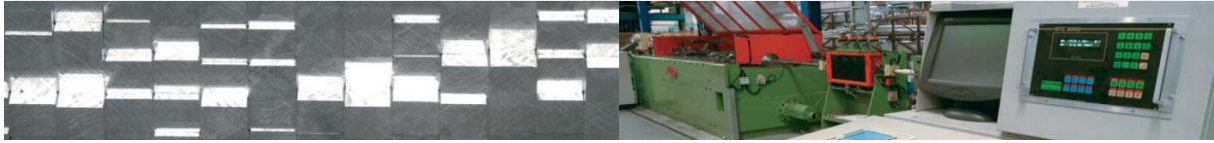
FLAT RODS AND BARS

<i>Extruded</i>	DIN	ASTM	EN
• Indirect extrusion			
h = 10-50 mm / w = 20 -100 mm	1770	B221	755/5
• Direct extrusion			
h = 10-100 mm / w = 20 -113 mm	1770	B221	755/5
<i>only alloys 2011 in 6082:</i>			
h = min. 10-100 mm / w = 20 -140 mm	1770	B221	755/5
Drawn			
h = 10,0-38,10 mm / w = 12,70 -76,20 mm	1769	B221	754/5



Standard production length: 2-6 m (dependent on the dimension or alloy) or in agreement with the customer. The maximum height and width of extruded flat rods is conditioned by the circumscribed diameter - max. 160 mm.





FULL SECTIONS

Extruded	EN
• Indirect extrusion	755/9
circumscribed diameter - max. 160 mm	
• Direct extrusion	755/9
circumscribed diameter - max. 100 mm	

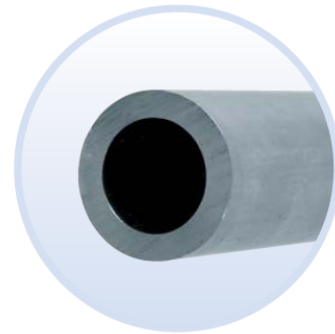
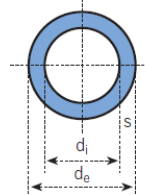
Full sections are manufactured in various shapes and dimensions, according to customer's requests. Standard production length: 2-4,5 m or in agreement with the customer.

TUBES

1. Seamless tubes - standard extrusion process

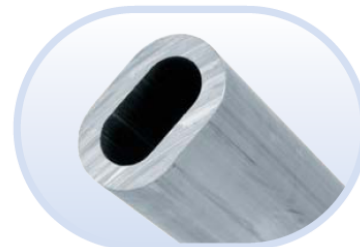
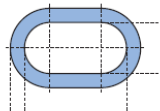
	DIN	ASTM	EN
• Extruded - Direct extrusion	9107	B210	755/7
external diameter	$d_e = 25-90$ mm		
internal diameter	$d_i = 16-74$ mm		
wall thickness	$s = 3-25$ mm		

Standard production length: 2-4,5 m or in agreement with the customer.



• Drawn	1795	B210	754/7
external diameter	$d_e = 25-76,20$ mm		
internal diameter	$d_i = 16-74$ mm		
wall thickness	$s = 2-25$ mm		

Standard production length: 1-4,5 m or to agreement with the customer. The above dimensions are limited by minimum and maximum weight of tube per meter (min. 1,5 kg/m and max. 9 kg/m).



2. Ferrules - oval pipes

DIN

According to DIN 3093 Standard - from No. 16 to 32

3093