

SECTIONS AND PROFILES





## ON THE RIGHT PATH

The enterprise Impol prides itself upon an outstanding business tradition which goes all the way back to the year 1825. Aluminum has been processed since 1950.

Activity of the business group Impol is the processing of aluminum into rolled, pressed, drawn, forged and other kinds of products which ensure the customer the optimum quality. In its environment Impol is considered as an enterprise which sets itself high goals and tends to achieve them even better. All this provides us with the following virtues: high-quality, flexibility and speed, reliability and confidence, affiliation toward the enterprise, teamwork and constant training. We fulfill our goals and expectations of our business partners by use of the integrated system for the quality assurance. The business excellence is the foundation of the company and of the group which ensures a proper realization of our company's goal projection - to become a successful international enterprise.

In the year 2003 and as an upgrade of the standard ISO 9001:2000 we took all the necessary measures for the acquisition of the quality standard ISO TS 16964 for automobile industry. We at Impol are conscious of the fact that our orientation plays an important role regarding the environment. By the environmental standard system ISO 14001 the harmful effect of the emissions on the environment is thus prevented. In accordance with the certificate OHSAS 18001 Impol maintains a high level of security regarding the health and general safety of its workers.

We at Impol are proud to be a part of "aluminium story". Aluminium is a metal without which one can only hardly imagine the everyday life, and which will stronger still shape the future of mankind.

We're now living the  
life that was once  
dreamed of. Welcome  
to the aluminium age!



## SECTIONS AND PROFILES

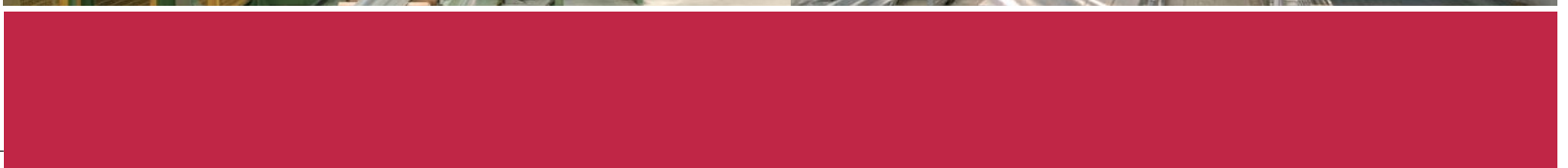
We have been  
 dreaming since time  
 immemorial of flying  
 like a bird, swimming  
 like a fish, of being  
 truly fast. With  
 aluminium we are first  
 in the air, on water  
 and on land, both now  
 and in the future.

Extruded products, i.e. profiles, sections, rods and bars from aluminium and aluminium alloys are extruded semi-products of specific shapes and lengths. Characteristics of aluminium are its lightness, decorative-ness, corrosion-resistance (anodising treatment), weldability, workability.

Based on production capacity, Impol ranks among medium-sized European manufacturers. The proof of its competitive ability is the fact that the majority of stronger competitors appear mainly in their domestic markets, while Impol exports the majority of its products to the most demanding European markets. Next to quality, partnership and satisfaction is our the most important offer to our customers. All the employees of the Impol Extrusion Plant care for the quality of our products.

According to their shape, extruded products are divided into full and hollow sections, and sections of standard shapes, full and semi-hollow sections, standard and shaped tubes, and tubes with external or internal profiling, respectively.

Recently the facility has been modernised with an installation of a direct extrusion press of 25/28 MN. Sections with external diameter or circumscribing circle, respectively, up to 250 mm are manufactured.



Minimum wall thickness is 1,2 mm, on agreement even 1 mm. Allowable cross section is  $A_{max} = 3700 \text{ mm}^2$ .

Impol manufactures sections for the following uses:

- in process industry,
- in transport (trailers),
- in civil engineering,
- furniture,
- sections for bicycle rims,
- manufacturing of building elements (doors, windows, etc.),
- interior design,
- heating (radiators).

The Profile Unit manufactures sections and rods of aluminium and AlMgSi (USA type 6xxx) alloys, with internal designations A30, A31, AC10, AC11, AC22, and AC 30. With regard to their purpose of use and further processing, the sections are manufactured in the following tempers: F, T1, T5 and T52. Their chemical compositions and tempers are described by Impol internal standard.

Remarkably light,  
firm and strong.

Loves to beat  
extreme challenges  
like the expanse of  
the sky and depths  
of the oceans.



Not all that shines is  
silver: there's also  
moonlight - and  
aluminium.

Impol's products are harmonized with international standards regarding their chemical composition, mechanical properties, dimension tolerances and surface standards: DIN, ASTM, NF, EN, etc. In agreement with the customer, sections can be made also according to other (internal) standards.

From the very beginning, we cooperate with the customer in developing a new product, i.e. in selection of alloy, determining temper, dimensions, packaging, and other details, according to customer's requests. When customer agrees with the quality of provisional production of a new profile, regular production can be started. Parallel to development of a new profile, the development of a new tool must be prepared. Tools are kept in store, with appropriate surface protection.

Production programme of Impol includes over 4,000 different profiles and sections, from standard ones to the most demanding sections in order to satisfy the needs of individual customers. Our orientation towards the production of sections that corresponds to the most specific requests of our customers for particular applications and further processing ensures our competitive advantage for a wide range of customers.



All sections being developed for individual customer become his industrial property, which means that they cannot be ordered by anyone else without his prior permission.

### Anodic oxidation

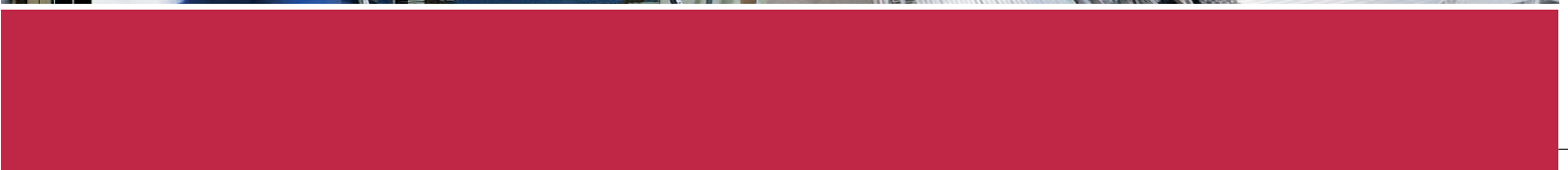
Our products can be anodised according to DIN 17611 or EN standards when requested by the customer. We offer following products in the anodised quality:

designation	pre-treatment
E0	pickled, without pretreatment
E1	ground
E2	brushed
E3	polished
E4	ground + brushed
E5	ground + polished
E6	chemically pretreated (satin finishing) + pickled

Anodising colours - codes:

- C0 - natural (only anodised)
- C31 - light
- C32 - light bronzed
- C33 - medium bronze
- C34 - dark bronze
- C35 - black

I shall make you an aluminium statue. If you don't like it, I can change it into anything you desire, as often as you wish.



## IMPOL'S PRODUCTION PROGRAMME

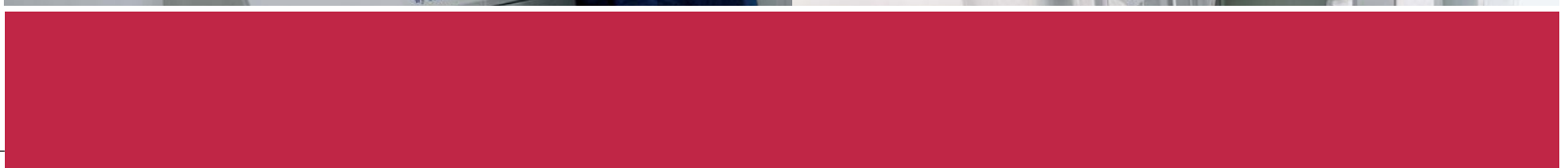
We take from nature  
while returning to it  
environment-friendly  
products.

Tubes (with seam) are manufactured in the following dimensions:

tubes external diameter - Ø mm	wall thickness mm
14-60	$S_{\min} = 1,5$
600-100	$S_{\max} = 2,0$
100-110	D:S = max. 50 (D = external diameter)
110-160	in agreement with customer

Tubes with the wall thickness of  $S_{\max} = 15$  mm can be manufactured to the maximum cross section of  $A_{\max} = 3700$  mm<sup>2</sup>.

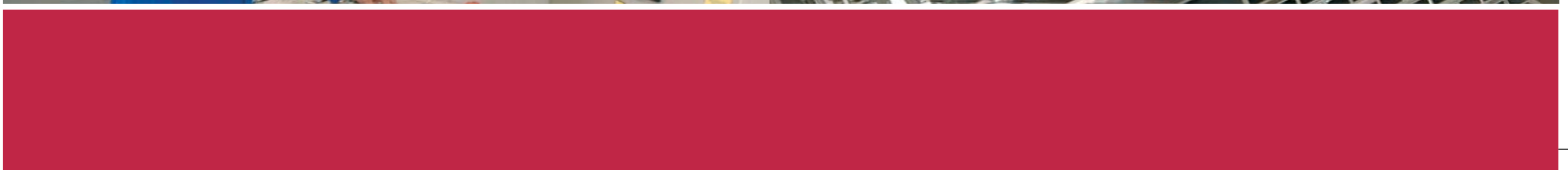
Quality inspection of our products and geometry control is made by **Romidot** scanning/measuring device that enables much more accurate inspection of dimensional tolerances in comparison with conventional, hand-operated measuring instruments



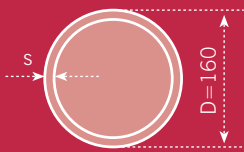
**Rods and bars are manufactured in the following shapes and dimensions:**

● Round:	from 8 to 68 mm
■ Square:	from 8x8 to 60x60 mm
⬠ Hexagonal:	from 8 to 65 mm distance across flats
▬ Flat:	Width: 10-250 mm Height: 2-50 mm Diagonal - max 250 mm

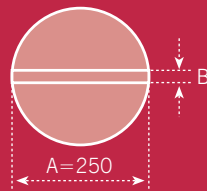
We can manufacture also other rods in the cross section range of 50-3700 mm<sup>2</sup>. Sections and rods can be manufactured in various lengths, e.g. from 3000 to 7000 mm, on agreement also other lengths can be offered: less than 3000 and up to 12000 mm.



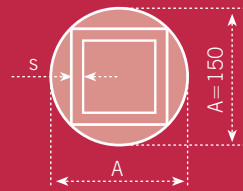
### DIMENSIONAL LIMITATIONS OF PROFILES AND SECTIONS



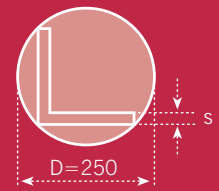
$D/s = \text{max } 50$



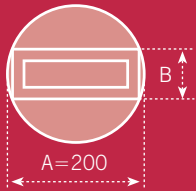
$A/B = \text{max } 25$



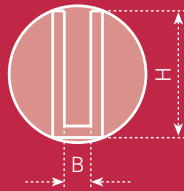
$A/s = \text{max } 50$



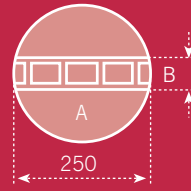
$D/s = \text{max } 50$



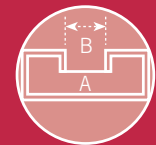
$A/B = \text{max } 10$



$H/B = \text{max } 4$



$A/B = \text{max } 10$



$A/B^2 = \text{max } 3$

Dimensional limitations of profiles or sections - values are only orientation ones!  
Every single inquiry will be treated individually.

### Dimensional limitations of extrusion presses and extrusion lines

EXTRUSION PRESS	12,5 MN	20 MN	28 MN
diameter of ingoing billet (mm)	152	203	228
possible cross-sections of sections (mm <sup>2</sup> )	180-550	400-1500	700-3700
possible section lengths (mm)	700-12000	1500-12000	1500-7700

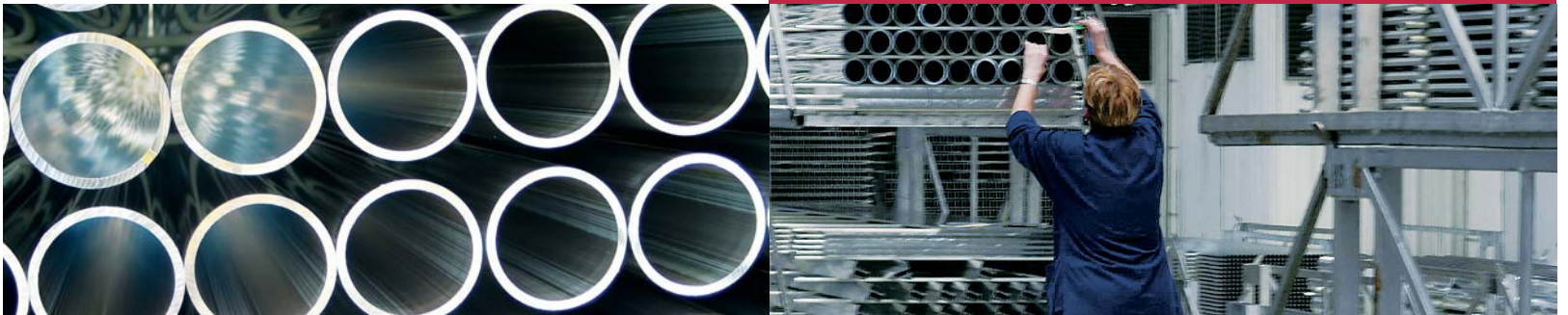
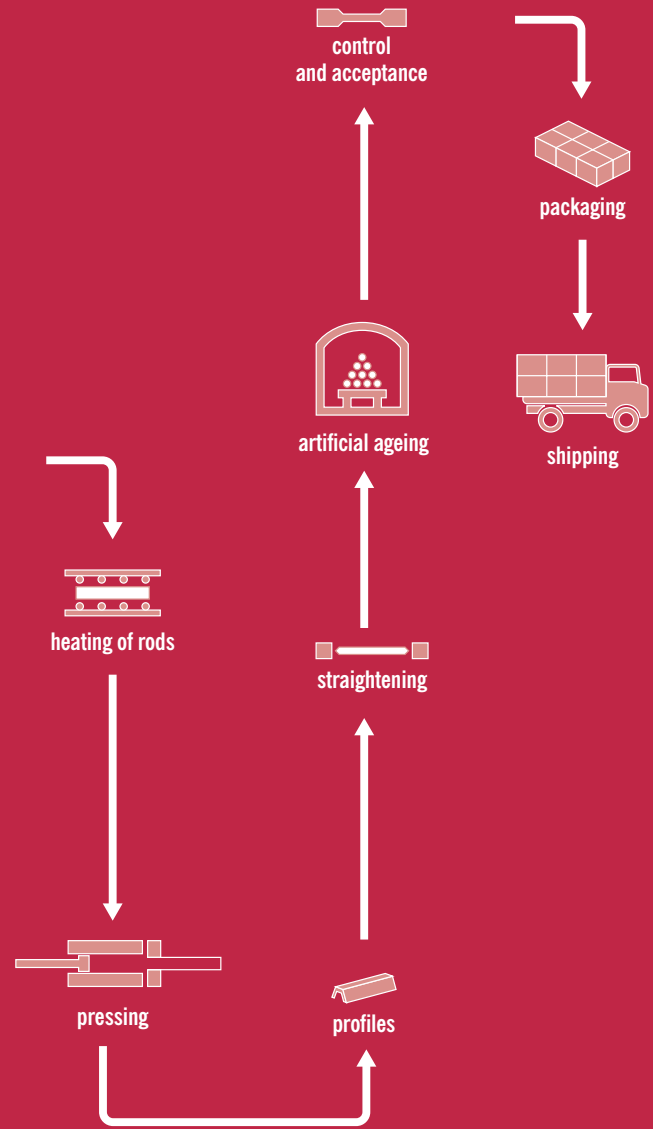
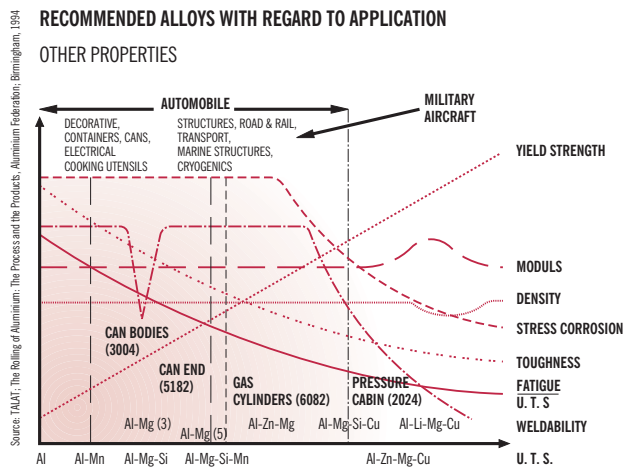
### Comparative table of materials

DIN (1712, 1725)	Temper	EN	Temper	Impol - internal	Temper
Al99.5	F7	AW-1050A	F	A30	F
E-Al	F7	AW-1350A	F	A30	F
AlMgSi0.5	F13, F17, F18, F22	AW-6060	T4, T5, T6, T64, T66	AC10	T1, T5, T52
AlMgSi0.5	F25	AW-6063	T4, T5, T6, T64, T66	AC11	T1, T5, T52
AlMgSi0.7	F26, F27	AW-6005A	T4, T6	AC22	T1, T5
AlMgSi1	F21, F28, F31	AW-6082	T4, T6	AC30	T1, T5

## PRODUCTION IN IMPOL

In order to prevent misunderstandings,  
please state the following in your order:

- quantity,
- material and its temper,
- dimensions,
- required standards,
- purpose of use.





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