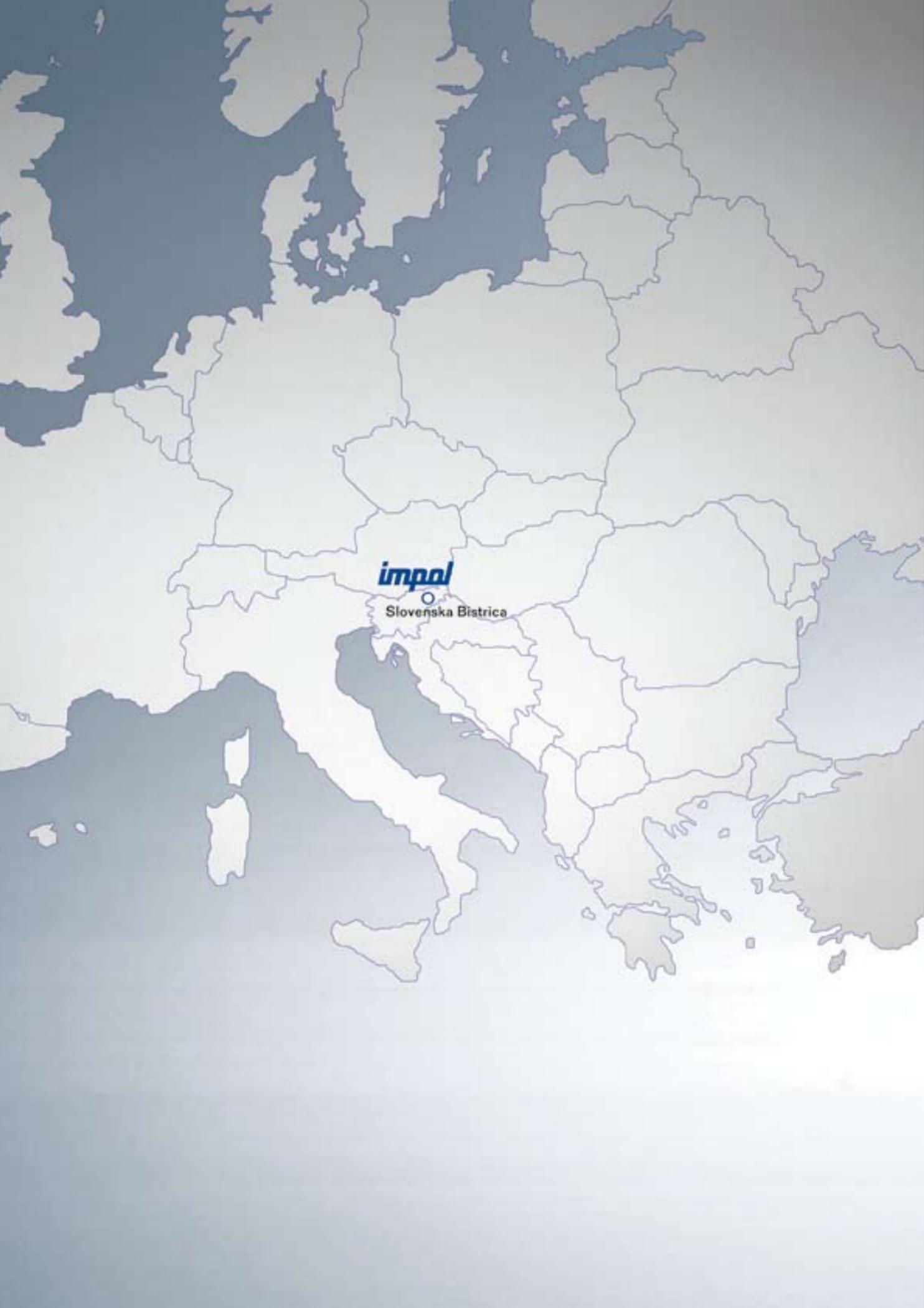




FOILS

impol
Aluminium Industry



ALUMINIUM FOILS AND THIN GAUGE STRIPS

The year 2010 has been celebrated as the 100th anniversary of aluminium foil. Ever since the beginning in 1910 the usage of foil has been growing and products developed have become more sophisticated and multi-functional. Thanks to its unique combination of properties aluminium foil and thin-gauge strips can be used in the most varied fields ranging from food packaging to technical applications. Due to its resource efficiency and recycling abilities aluminium is importantly contributing to sustainable development.

Aluminium foil properties:

Varied fields of use result from the excellent properties of aluminium foil: low density, high electrical conductivity, deadfold performance, corrosion-resistance, high reflectivity, light and air barrier, non-toxicity and hygiene, and the possibility of achieving very attractive effects through further processing.

The chemical compositions of alloys define their specific properties, but the following properties are common to all alloys:

- Aluminium does not react with the majority of organic substances.
- Aluminium is resistant to chemical reactions. It's resistance depends on individual compounds or its components.
- Aluminium has good corrosion resistance. Foils can be pre-treated or laminated to increase resistance in salt media.
- Aluminium does not react with alimentary products.
- Aluminium is opaque.

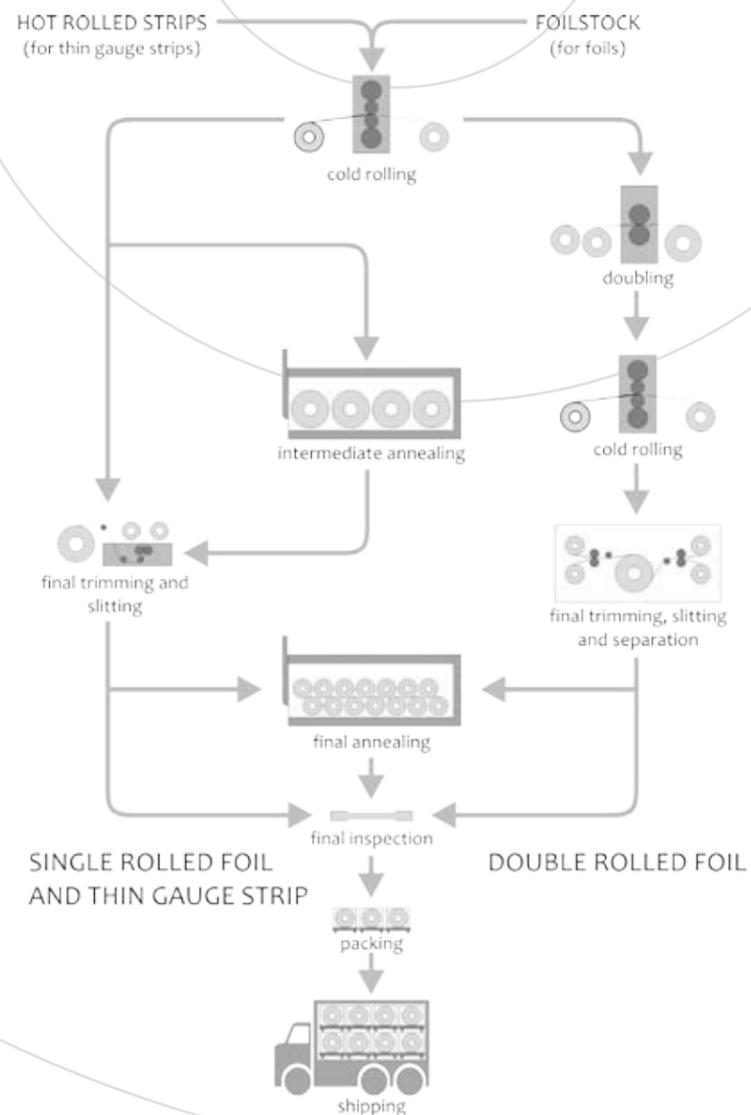
Applications of aluminium foils and thin gauge strips in thickness below 0,50 mm:

- Aluminium foil for food and beverage packaging
- Aluminium foil for pharmaceutical use
- Foil for technical use
- Container foil
- Household foil
- Finstock for heat exchangers
- Aluminium strip and foil for tubes
- Aluminium strip for profiling

MANUFACTURING PROCESS OF FOILS AND THIN GAUGE STRIPS

Hot rolled coils serve as the raw material for manufacturing thin gauge strips and finstock, while foilstock (hot rolled and continuous casted coils) is used for foils. Foils produced in this manner are single or doubled, which means that two foils are rolled simultaneously. The external sides that were in contact with working rolls are bright; while the internal side where the two foils are in contact have a matt finish. Doubling is used for all foils with final thickness equal or below 0,050 mm. Our production process is based on modern technological principles and most up-to date technology.

Aluminium foil coils are supplied on cores. After final trimming and cutting, foil is coiled to the desired external diameter or the desired length. Steel or aluminium cores are used for coiling and their dimensions depend on foil thickness and width, customer's requirements, shipping and other factors.



1 Aluminium foil for food and beverage packaging

Application

- lids
- bottle necks
- coffee packaging
- butter packaging
- cheese packaging
- wine capsules
- confectionery (chocolate, ...)



Alloy, temper and surface:

| | |
|----------------|---|
| Alloy | EN AW-1200, EN AW-8079 |
| Temper | Soft - O |
| Surface finish | Doubled foil: one side matt / one side bright |

Available dimensions:

| | |
|-----------------------|--|
| Thickness (mm) | 0,008 – 0,050 |
| Width (mm) | 250 – 1590 for thickness between 0,008 – 0,019mm 250 – 1610 for thickness between 0,020 – 0,050mm |
| Inside Diameter (mm) | 150 |
| Core | Fe |
| Outside Diameter (mm) | (see table – coil sizes) |
| Weight per width | (see table – coil sizes) |

Coil sizes:

| ID | OD | Min. – max. | weight |
|-----|-----|-------------|-----------------------|
| 150 | 600 | 550 – 630 | 0,564 – 0,754 kg / mm |
| 150 | 700 | 650 – 730 | 0,806 – 1,028 kg / mm |
| 150 | 800 | 700 – 800 | 0,991 – 1,309 kg / mm |
| 150 | 800 | 800 – 880 | 1,244 – 1,515 kg / mm |
| 150 | 950 | 930 – 1000 | 1,697 – 1,969 kg / mm |

2 Aluminium foil for pharmaceutical use

Application

- Blister
- Coldform

Blister: alloy, temper and surface:

| | |
|----------------|---|
| Alloy | EN AW-8079, EN AW-1200 |
| Temper | Hard – H18 |
| Surface finish | Doubled foil: one side matt / one side bright |

Blister: available dimensions:

| | |
|-----------------------|--------------------------|
| Thickness (mm) | 0,020 – 0,025 |
| Width (mm) | 250 – 1610 |
| Inside Diameter (mm) | 150 |
| Core | Fe |
| Outside Diameter (mm) | (see table – coil sizes) |
| Weight per width | (see table – coil sizes) |

Coldform: alloy, temper and surface:

| | |
|----------------|---|
| Alloy | EN AW8021B |
| Temper | Suitable for deep drawing DDQ |
| Surface finish | Doubled foil: one side matt / one side bright |

Coldform: available dimensions:

| | |
|-----------------------|--------------------------|
| Thickness (mm) | 0,045 – 0,050 |
| Width (mm) | 250 – 1610 |
| Inside Diameter (mm) | 150 |
| Core | Fe |
| Outside Diameter (mm) | (see table – coil sizes) |
| Weight per width | (see table – coil sizes) |

Coil sizes:

| ID | OD | Min. – max. | weight |
|-----|-----|-------------|-----------------------|
| 150 | 600 | 550 – 630 | 0,564 – 0,754 kg / mm |
| 150 | 700 | 650 – 730 | 0,806 – 1,028 kg / mm |
| 150 | 800 | 700 – 800 | 0,991 – 1,309 kg / mm |
| 150 | 800 | 800 – 880 | 1,244 – 1,515 kg / mm |
| 150 | 950 | 930 – 1000 | 1,697 – 1,969 kg / mm |

3 Aluminium foil for technical use

Application

- cable wrapping
- insulations
- adhesive tapes

Alloy, temper and available dimensions for doubled foil:

| | |
|----------------|---|
| Alloy | EN AW-1200, EN AW-8079 |
| Temper | Soft – O, hard – H18 |
| Surface finish | Doubled foil: one side matt / one side bright |

| | |
|-----------------------|--|
| Thickness (mm) | 0,008 – 0,050 |
| Width (mm) | 250 – 1590 for thickness between 0,008 – 0,019mm |
| | 250 – 1610 for thickness between 0,020 – 0,050mm |
| Inside Diameter (mm) | 150 |
| Core | Fe |
| Outside Diameter (mm) | (see coil sizes) |
| Weight per width | (see table – coil sizes) |

Alloy, temper and available dimensions for single foil:

| | |
|----------------|-------------------------------------|
| Alloy | EN AW-1200, EN AW-8079, EN AW-1050 |
| Temper | Soft – O, hard – H18 |
| Surface finish | Single foil: mill finish both sides |

| | |
|-----------------------|--------------------------|
| Thickness (mm) | 0,050 – 0,100 |
| Width (mm) | 150 – 1300 |
| Inside Diameter (mm) | 150 (76) |
| Core | Fe / Al |
| Outside Diameter (mm) | (see table – coil sizes) |
| Weight per width | (see table – coil sizes) |

Coil sizes:

| ID | OD | Min. – max. | weight | Surface finish |
|-----|-----|-------------|-----------------------|---------------------------|
| 150 | 400 | 400 – 450 | 0,277 – 0,363 kg / mm | Single foil |
| 150 | 450 | 450 – 500 | 0,363 – 0,458 kg / mm | Single foil |
| 150 | 500 | 500 – 550 | 0,458 – 0,564 kg / mm | Single foil |
| 150 | 600 | 550 – 630 | 0,564 – 0,754 kg / mm | Single foil; doubled foil |
| 150 | 700 | 650 – 730 | 0,806 – 1,028 kg / mm | Single foil; doubled foil |
| 150 | 800 | 700 – 800 | 0,991 – 1,309 kg / mm | Single foil; doubled foil |
| 150 | 800 | 800 – 880 | 1,244 – 1,515 kg / mm | Doubled foil |
| 150 | 950 | 930 – 1000 | 1,697 – 1,969 kg / mm | Doubled foil |

4 Container foil

Application

- smooth-wall containers
- catering containers
- pet-food containers
- candles

Alloy, temper and surface:

| | |
|----------------|-------------------------------------|
| Alloy | EN AW-3005, EN AW-8011 |
| Temper | Soft – O |
| Surface finish | Mill finish, degreased by annealing |

Available dimensions:

| | |
|-----------------------|--|
| Thickness (mm) | 0,050 – 0,150 |
| Width (mm) | 150 – 1300 for thickness between 0,050 – 0,100 |
| | 960 – 1300 for thickness between 0,100 – 0,150 |
| Inside Diameter (mm) | 150 |
| Core | Fe |
| Outside Diameter (mm) | (see table – coil sizes) |
| Weight per width | (see table – coil sizes) |

Coil sizes:

| ID | Min. – max. | weight |
|-----|-------------|-----------------------|
| 150 | 550 – 630 | 0,564 – 0,754 kg / mm |
| 150 | 650 – 730 | 0,806 – 1,028 kg / mm |
| 150 | 700 – 800 | 0,991 – 1,309 kg / mm |
| 150 | 800 – 880 | 1,244 – 1,515 kg / mm |
| 150 | 930 – 1000 | 1,697 – 1,969 kg / mm |

5 Aluminium household foil

Application

- household foil

Alloy, temper and surface:

| | |
|----------------|---|
| Alloy | EN AW-8011 |
| Temper | Soft – O |
| Surface finish | Doubled foil: one side matt / one side bright |

Available dimensions:

| | |
|-----------------------|--------------------------|
| Thickness (mm) | 0,009 – 0,020 |
| Width (mm) | Min. 250 |
| Inside Diameter (mm) | 150 |
| Core | Fe |
| Outside Diameter (mm) | (see table – coil sizes) |
| Weight per width | (see table – coil sizes) |

Coil sizes:

| ID | OD | Min. – max. | weight |
|-----|-----|-------------|-----------------------|
| 150 | 600 | 550 – 630 | 0,564 – 0,754 kg / mm |
| 150 | 700 | 650 – 730 | 0,806 – 1,028 kg / mm |
| 150 | 800 | 700 – 800 | 0,991 – 1,309 kg / mm |
| 150 | 800 | 800 – 880 | 1,244 – 1,515 kg / mm |
| 150 | 950 | 930 – 1000 | 1,697 – 1,969 kg / mm |

6 Aluminium finstock for heat exchangers

Application

- Heating, ventilation and air conditioning
- Refrigeration systems
- Heat exchangers for power plants

Alloy, temper and surface:

| | |
|----------------|--|
| Alloy | EN AW-1050, EN AW-8006, EN AW-8011, EN AW 5052 |
| Temper | Hard – H18, soft – O, quarter hard – H22, DDQ |
| Surface finish | Mill finish |

Available dimensions:

| | |
|-----------------------|--|
| Thickness (mm) | 0,100 – 0,499 |
| Width (mm) | 30 – 1130 thickness between 0,100 – 0,400 (for alloy 5052 max.0,300) |
| | 200 – 1250 thickness between 0,100 – 0,499 (for alloy 5052 max.0,300) |
| Inside Diameter (mm) | 150 |
| Core | Al |
| Outside Diameter (mm) | (see table – coil sizes) |
| Weight per width | (see table – coil sizes) |

Coil sizes:

| ID | Min. – max. | weight |
|-----|-------------|---------------------|
| 150 | 690 – 580 | 1,83 – 1,45 kg / mm |
| 150 | 780 – 670 | 1,21 – 0,90 kg / mm |
| 150 | 950 – 840 | 0,92 – 0,67 kg / mm |

7 Aluminium strip and foil for tubes

Application

- Multi layer pipes
- Flexible tubes

Alloy, temper and surface:

| | |
|----------------|------------------------------------|
| Alloy | EN AW-1050, EN AW-8006, EN AW-8011 |
| Temper | Soft – O, quarter hard – H22 |
| Surface finish | Mill finish |

Available dimensions:

| | |
|-----------------------|--------------------------|
| Thickness (mm) | 0,100 – 0,400 |
| Width (mm) | 30 – 1130 |
| Inside Diameter (mm) | 150, 400, 500 |
| Core | Al, cardboard |
| Outside Diameter (mm) | (see table – coil sizes) |
| Weight per width | (see table – coil sizes) |

Coil sizes:

| ID | OD | Min. – max. | weight |
|-----|------|-------------|---------------------|
| 150 | 680 | 690 – 580 | 0,92 – 0,67 kg / mm |
| 150 | 770 | 780 – 670 | 1,21 – 0,90 kg / mm |
| 150 | 940 | 950 – 840 | 1,83 – 1,45 kg / mm |
| 150 | 1330 | 1340 – 1230 | 3,70 – 3,16 kg / mm |
| 400 | 770 | 820 – 720 | 0,92 – 0,67 kg / mm |
| 400 | 860 | 910 – 810 | 1,21 – 0,90 kg / mm |
| 400 | 1010 | 1060 – 960 | 1,83 – 1,45 kg / mm |
| 500 | 830 | 880 – 780 | 0,92 – 0,67 kg / mm |
| 500 | 910 | 960 – 860 | 1,21 – 0,90 kg / mm |
| 500 | 1060 | 1110 – 1010 | 1,83 – 1,45 kg / mm |

8 Aluminium strip for profiling

Application

- Corner beads
- Spacers
- Household appliances

Alloy, temper and surface:

| | |
|----------------|--|
| Alloy | EN AW-1050, EN AW-3003; EN AW-3105 |
| Temper | Hard – H18, three quarters hard – H16, half hard – H14 |
| Surface finish | Mill finish |

Available dimensions:

| | |
|-----------------------|--|
| Thickness (mm) | 0,100 – 0,499 |
| Width (mm) | 30 – 1130 thickness between 0,100 – 0,400 |
| | 200 – 1250 thickness between 0,100 – 0,499 |
| Inside Diameter (mm) | 150, 400, 500 |
| Core | Al (150 mm), cardboard (400, 500 mm) |
| Outside Diameter (mm) | (see table – coil sizes) |
| Weight per width | (see table – coil sizes) |

Coil sizes:

| ID | OD | Min. – max. | weight |
|-----|------|-------------|---------------------|
| 150 | 680 | 690 – 580 | 0,92 – 0,67 kg / mm |
| 150 | 770 | 780 – 670 | 1,21 – 0,90 kg / mm |
| 150 | 940 | 950 – 840 | 1,83 – 1,45 kg / mm |
| 150 | 1330 | 1340 – 1230 | 3,70 – 3,16 kg / mm |
| 400 | 770 | 820 – 720 | 0,92 – 0,67 kg / mm |
| 400 | 860 | 910 – 810 | 1,21 – 0,90 kg / mm |
| 400 | 1010 | 1060 – 960 | 1,83 – 1,45 kg / mm |
| 500 | 830 | 880 – 780 | 0,92 – 0,67 kg / mm |
| 500 | 910 | 960 – 860 | 1,21 – 0,90 kg / mm |
| 500 | 1060 | 1110 – 1010 | 1,83 – 1,45 kg / mm |

STANDARDS AND CHEMICAL COMPOSITION

We produce foils and strips in different alloys according to international standards. The chemical composition, mechanical properties and tolerances are in compliance to EN standards for various products:

- EN 573-3, chemical composition, all aluminium products
- EN 602 chemical composition, aluminium for food contact,
- EN 546-2, mechanical properties, foils
- EN 683-2, mechanical properties, finstock
- EN 546-3, tolerances, foils
- EN 683-3, tolerances, finstock
- EN 546-4, other properties, foils

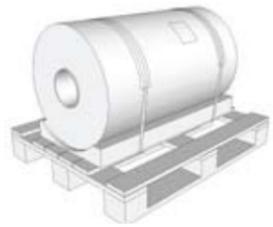
Our foils also follow Directive 94/62/EC, Regulation EC No. 1935/2004, FDA 21§178.3910, Directive 2002/94/EG (RoHS), Directive 200/53/EC (ELV), Commission Regulation EC No. 2023/2006 and others.

PACKING

Our products are packed according to customer's wishes and our capabilities. Impol's standard packing methods include packing into boxes, onto pallets or into crates. Special packing is also available on agreement. All packing is returnable.

Each shipment is accompanied with a certificate of quality that proves the suitability of materials.

Main packing types used for foils:



Coil on a pallet



Coil in a wooden crate



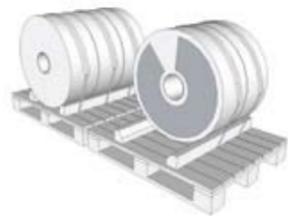
Coil in a wooden crate,
hanging



Coils in a box



Coil in a metal crate



Coils on a pallet,
axis horizontal,
cardboard sections
in between



Coils on a pallet,
axis vertical, separated
with cardboard



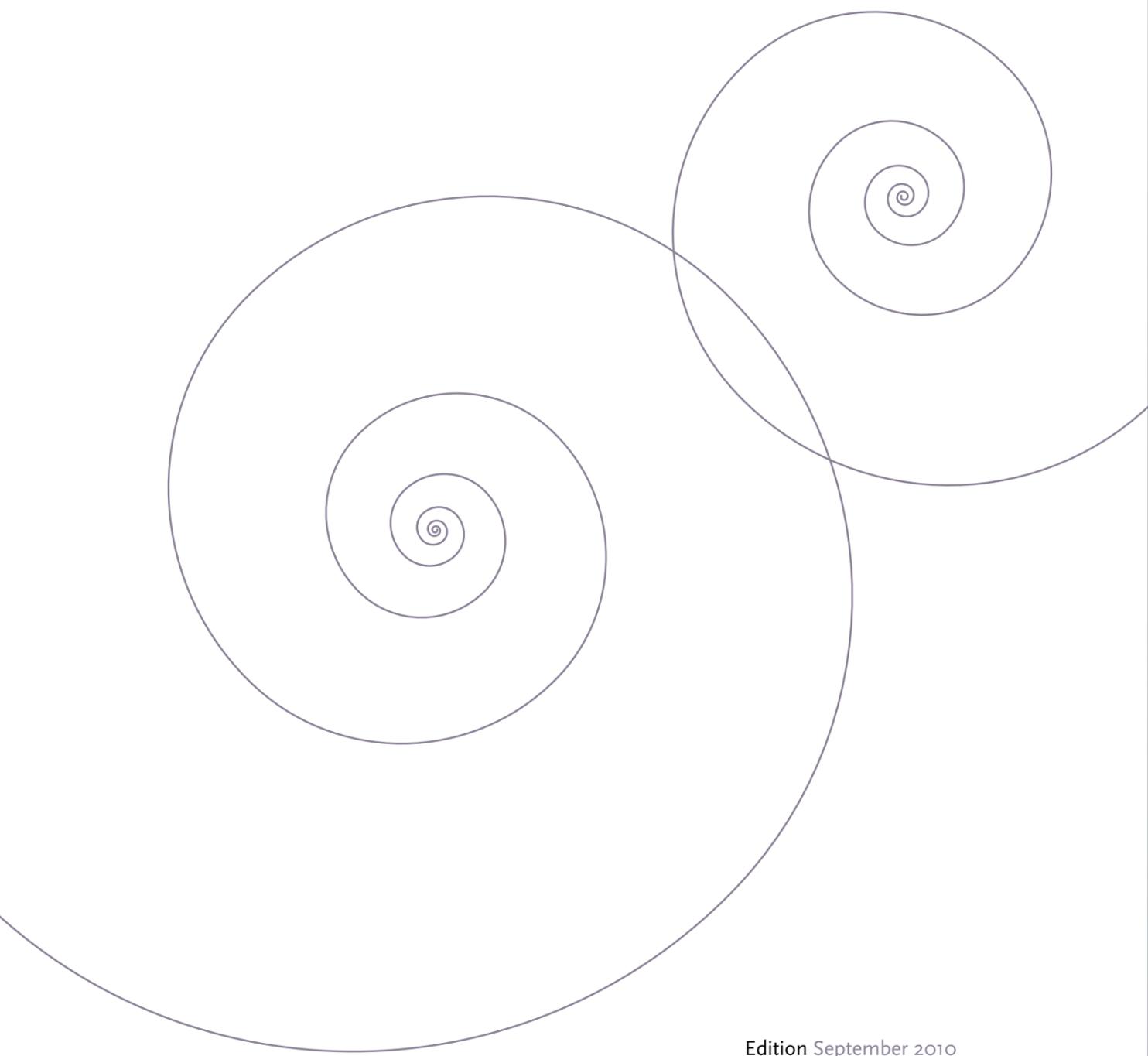
Coils on a pallet,
axis vertical, separated
with wooden slates

ORDERING

For a quicker response to your inquiry we kindly ask you to provide us the following data:

- Alloy and temper
- Dimensions and coil size (maximum weight)
- Inside and outside diameter or the desired length
- Purpose of use
- Quantity





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