

Specification of Aluminium Foil

This specification is applicable for aluminium foil in gauges from 0,006 mm to 0,020mm.

1. Appearance and general conditions

The material must be suitable for lamination purposes. The foil needs to be plain, free from streaks, unevenness and/or wrinkles, scratches, cracks, rust residuals, oil spots, oxidation and stains or from any other defects.

Surface of the foil will be one side bright and one side dull, winding of the coils with bright side wound to the outside.

2. Chemical Composition (%)

Alloy	Cu	Si	Fe	Mn	Mg	Zn	Ti	others each	others total	Rest
1235	< 0,05	< 0,65		< 0,05	< 0,05	< 0,10	< 0,06	< 0,03	-	Al
8079	< 0,05	0,05 - 0,3	0,7 - 1,3	-	-	< 0,10	-	< 0,05	< 0,15	Al
8011	0.1	0.5	0.6	0.2	0.05	0.10	0.08	0.05	0.15	AL

3. Mechanical Properties

Alloy	Gauge	Temper	Tensile Strength	Elongation
1235	0,006 – 0,011 mm	O (soft)	min. 50 N/mm ²	min. 1 %
8079	0,006 – 0,011mm	O (soft)	min. 70 N/mm ²	min. 2%
8011	0.011 – 0.020mm	O (soft)	min. 80 N/mm ²	min. 3%

4. Wettability

The foil must have a wettability A or A-B, whereas the surface of the fully annealed foil is assessed according to its ability to be wetted by liquids, applied under clearly defined conditions.

The wettability index is shown by the shape of the trace given on the surface taken from the worst area of the foil. The wettability indices are defined from A to E in below figure 1.



5. Porosity

Pinholes are randomly distributed voids in foil of gauge 6 to 12 micron of normally round or oval shape with a max. dimension up to and including 0,012 mm.

Gauge	mic	6	6.5	7	8	9	10 ↑
Pinholes	/m ²	< 600	< 400	< 300	< 150	< 100	0

6. Foil Splices

Splices will be ultrasonically welded and well visible marked by colour at the flange a couple of layers before the joint. Strength of the weld at the seam to be min. 80 % of the foil strength.

Thickness	Max. Splices per reel
0,006 – 0,009 mm	max. 2
0,009 – 0,020 mm	max. 1

7. Tolerances for gauge and width of the foil

Thickness: +/- 4 % for 0,006 to 0,009 mm
 +/- 3 % for 0,012 mm and above
 Width: +/- 1,0 mm

8. Cores

Core material: **Steel** or Aluminium

Core Inner Diam.: 76.2/152,4 mm - concrete I.D subject to individual agreement

Core wall thickness: 6 mm

Core Straightness: max. 2,5 mm/m length deviation from straightness

Core Length: foil length plus 0-5 mm on each side

9. O.D

Thickness	Maximum
0,006 – 0,020mm	1000mm

Other Reel Diameters are subject to individual agreement.

10. Packaging

Each foil should be seaworthy packed in crates or cases, wrapped in kraft paper, PP film and PE foil. A sufficient quantity of drying agent shall be placed inside of the packaging in order to prevent condensation.

Foil of a thickness below 10 micron shall be supplied in a hanging condition. Detailed packaging shall be in line with the appendices no. 1 to this foil specification.

Foil of a thickness above 10 micron shall be supplied either in hanging condition (then please refer to the appendices no. 1 to this foil specification) or in crates and sitting on soft underground, whereas in this case the packaging shall be in line with appendix no. 2 to this foil specification.

11. Labelling

Each coil shall be labelled with gross weight, net weight, coil and batch no. plus production date, producer, order number.

12. Industrial standard

All details, which are not explicitly stated in this Material Specification shall be as per EN 546 respectively if not covered herein as per EN/DIN standard.