

1. *Application:*

Application: Aluminium Foil

2. *Chemical Composition:*

Alloy	Si	Fe	Cu	Mn	Mg	Cr	Zn	Ti	Others		Al
									Each	Total	
1235	0.1-0.15	0.40-0.45	0.01-0.02	0.05	0.0035	<0.01	0.01	0.01-0.02	0.03	0.1	>99.35
8079	0.07~0.13	0.7~0.8	≤0.05	≤0.02	0.05	<0.01	≤0.05	0.01-0.03	≤0.05	≤0.15	REM
8011	0.5~0.9	0.6~1.0	≤1.0	≤0.2	≤0.05	<0.01	≤0.10	≤0.08	≤0.05	≤0.15	REM
1100	0.95 Si+ Fe		0.05~0.2	≤0.05	/	<0.01	0.1	/	≤0.05	≤0.15	≥99.00
1145	0.55 Si+ Fe		≤0.05	≤0.05	≤0.05	<0.01	≤0.05	≤0.03	≤0.03	/	≥99.45
8006	0.1-0.15	1.4-1.55	≤0.04	0.35-0.45	0.01	<0.01	≤0.05	0.015-0.025	≤0.05	≤0.15	REM
3003	0.6	0.7	0.05-0.2	1.0-1.5	-	-	0.1	-	≤0.05	≤0.15	REM

3. *Mechanical property:*

Application	Temper	Gauge (mm)	Tensile Strength (MPa)	Elongation (%)
PACKAGING	O	0.006-0.007	60-100	≥1.5
		>0.007-0.009	60-100	≥1.8
		>0.009-0.012	60-105	≥2
		>0.012-0.025	60-110	≥2
		>0.025-0.03	60-110	≥3
		>0.03-0.036	60-110	≥4
		>0.036-0.04	60-110	≥4
		>0.04-0.06	60-110	≥4
BLISTER FOIL	H18	0.02-0.025	160-190	≥2
CONTAINER FOIL	H24/H22	0.03-0.05	135-170	≥8
		>0.05-0.07	135-170	≥10
		≥0.07-0.1	135-170	≥12
		>0.1-0.15	135-170	≥15
		≥0.15-0.2	135-170	≥18
LIDDING FOIL	O	0.025-0.03	60-110	≥4
		≥0.03-0.036	60-110	≥5
		≥0.036-0.04	60-110	≥5
		≥0.04-0.06	60-110	≥5

#### 4. Specification

Gauge (mm)	Width (mm)	Inside Diameter (mm)	Outside Diameter (mm)	Core Material
0.006-0.2	200-1680	76.2,152.4,508	≤1400	Steel, Aluminium, Paper

#### 5. Thickness Tolerance

0.006mm-0.2mm	+/-5%
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#### 6. Width Tolerance

≤500	+/-0.5mm
>500	+/-1.0mm

#### 7. Surface quality:

Surface should be clean, flat, free of corrosion, crack, black spot, line mark, wrinkles and peculiar smell etc.

#### 8. Wettability: Grade A

#### 9. Pinhole:

Gauge (mm)	Pinholes/m <sup>2</sup>	Pinholes Gauge (mm)
0.006	≤500	<0.1
>0.006-0.0065	≤400	<0.1
>0.0065-0.007	≤150	<0.1
>0.007-0.009	≤100	<0.1
>0.009-0.012	≤20	<0.1
>0.012-0.015	≤10	<0.1
0.015-0.2	0	<0.1

#### 10. Splicing&Joint:

Spliced with high tempered tape /ultrasonic

#### 11. Surface Treatment:

O Joint

bright side outside or bright inside

#### 12. Package:

Standard seaworthy wooden packaging

The rolls must be packed in wooden case in such a way that they are protected from damage and Contamination during transport and storage

#### 13. Label:

Product name

Thickness (mm)

Width (mm)

Coil No: (Year) (Month) (Date) (Batch No.) (Mother Roll No.) (Small Roll No.)

Net weight

Gross weight

Production date

#### 14. Test method

Test method is as below Table - 7 (Table – 7)

Thickness	Test by weighing
Width.	Test with a tape measure
Length	Test with counter meter.
Chemical composition	Substitute strip maker's inspection certificate

Tensile strength	Machines used for Tensile strength testing shall conform to the Requirements of practice
Elongation	
Wettability	Test should be done according to ASTM standard
Porosity	Test should be done according to ASTM standard

# Technical Data Sheet of Aluminium Foil

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## 1. Subject content and application scope

This inspection standard stipulate the aluminum foil with the thickness of 0.006-0.009&0.01-0.05mm products.

## 2. Product classification

2.1 Aluminium alloy and temper see table 1

Table 1

Alloy	Temper
1235、8079、8011、1060、1100、8006、8021、8111	O/H

Note : Through negotiation between the seller and buyer, we can offer other alloy and temper of aluminum foil.

2.2 The chemical component of aluminium foil see table 2

Table 2

Alloy	Chemical component/%									
	Si	Fe	Cu	Mn	Mg	Zn	Ti	others		Al
								each	total	
1235	<0.65		0.05	0.05	0.05	0.1	0.06	0.03	--	99.35
8079	0.05-0.3	0.7-1.3	0.05	--	--	0.1	--	0.05	0.15	remainder
8011	0.5-0.9	0.6-1.0	0.1	0.2	0.05	0.10	0.08	0.05	0.15	98
1100	<0.95		0.05-0.20	0.05	--	0.10	--	0.15	0.15	99.0

## 3. Technology requirements

The basic requirements of aluminum foil see table 3

Table 3

Alloy	Thickness (mm)	Temper	Width (mm)	Coil OD (mm)	Core ID (mm)	Thickness tolerance (%)	Width tolerance (mm)
1235、8079、8011 1060、1100、8111	0.006-0.009	O	≤1720	≤450	76.2	+/-4	+/- 1
				≤830	150&152.4		
1235、8079、8011 1060、1100、8006 8021、8111	0.01-0.05	O		≤450	76.2		
		H18		≤830	150&152.4		

note:

- ① If the customer have any other special requirements, we can negotiate with each other and specify it in the contract.
- ② The core is made of high precision steel or aluminum. The length should be greater than the width of the foil, and the roll should be centered. Each side of the core should be 3mm longer than the foil.
- ③ The OD tolerance is +/-15mm according to customer's requirement; the length tolerance for each roll is  $\pm 200$ m as the specified length.

### 3.1 Splices

The no. of splices see table 4

Table 4

Roll diameter	≤450mm	450mm < OD ≤ 700mm	> 700mm
No. of Splices	Max. 1	Max. 2	Max. 3

Ultrasonic welding, folding place of the splice is less than 5mm , splices should be steady, smooth and marked with aluminium flags.

### 3.2 Pinhole

The surface of aluminum foil allow pinhole with the size 0.02-0.2mm visible to light, but not allow cluster together or holes greater than 0.3mm.

### 3.3 The number of pinholes should accord with table 5

Table 5

Thickness (mm)	pinhole/m	Thickness (mm)	pinhole/m
≤0.006	< 300	≤0.012	≤30
0.006-0.0065	< 200	0.012-0.016	≤20
0.0065-0.007	< 150	0.016-0.020	≤10
0.007-0.009	< 100	> 0.020	≤5

### 3.4 Mechanical properties

Mechanical properties see table 6

Table 6

Property Alloy	Thickness (mm)	Temper	Tensile strength (Mpa)	Elongation (%)
1235 、 1060 、 1100	0.006 - 0.009	O	65-95	≥1.0
8011 、 8079 、 8111			65-105	≥1.5
1235 、 1060 、 1100		H18	≥115	≥1.0
1235 、 8079 、 8011 、 1060 、 1100 、 8006 、 8021 、 8111	0.01 - 0.05	O	65-95	≥1.5
			75 -105	≥2.0
		H18	≥135	≥1.0
			≥150	≥1.0

Note: For any other requirements of mechanical properties of aluminum foil, the both side can negotiate with it.

### 3.5 The surface quality of aluminum foil

The surface quality of aluminum foil should be tidy, smooth, not allow corrosion, oil spot, wave, wrinkle, slots, scratch and bright spot and so on.

The surface of aluminum foil not allow yellow oil spot, adhesion, blister and tear after annealing furnace.

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### 3.6 Appearance quality of foil

The foil needs to be plain, free from streaks, wrinkles, cracks and any other defects.

### 3.7 Unwinding

Length of foil necessary to cause it to unwind max. 1.5m.

### 3.8 End edge

The end edge of foil should be smooth, telescoping less than 2mm, arrows less than 5mm, free from scratch.

### 3.9 Wettability

For temper O: Grade A.