

Technical specification

| (For Custon | ners) |
|-----------------------------------|---------------------------------|
| Made by: $\underline{\mathbf{M}}$ | Iusen Group |
| Checked by | : Annie Liu |
| Approved by | y: |
| SHENZHEN MUSEN | INDUSTRY CO.,LTD |
| <u>:</u> | MUSEN: |
| | Shenzhen Musen Industry Co.,Ltd |
| Signature | Signature |
| Name: | Name: Annie Liu |
| Title: | Title: Sales Manager |



Specification

1 Application

Aluminium foil supplied by MUSEN GROUP is suitable for food wraps . closure lids and insulations materials.(except for retort materials)

2 Alloy and temper

Alloy: A1235 /A8011

Temper: "O"(soft)

3 Chemical composition Wt (%)

| Alloy | Si | Fe | Cu | Mn | Mg | Zn | V | Ti | others | Al |
|-------|---------|---------|-------|-------|-------|-------|-------|-------|--------|-----------|
| A1235 | ≤(|).65 | ≤0.05 | ≤0.05 | ≤0.05 | ≤0.10 | ≤0.05 | ≤0.06 | ≤0.03 | ≥99.35 |
| A8011 | 0.5-0.9 | 0.6-1.0 | ≤0.10 | ≤0.20 | ≤0.05 | ≤0.10 | - | ≤0.08 | ≤0.15 | Remainder |

4 Size and tolerance

4.1 size

| Thickness (um) | width (mm) | length (mm) | Core ID (mm) |
|----------------|---------------------|---------------------|--------------|
| 8mic-200um | As per requirements | As per requirements | 76/152 |

4.2 Tolerance

| thickness | Width | length | Steel core |
|-----------|-------|--------|--|
| ±5% | ±1mm | 0~+1% | ID: -0.0 +1.0mm width: -0.0 +10.0mm |

4.3 Core size and tolerance

| Items | size | tolerance | |
|-----------------|----------------|-------------|--|
| Core ID | 76mm/152MM | -0.0 +1.0mm | |
| Core width | foilwidth+10mm | -2 +0.0mm | |
| Wall- thickness | 2-5mm | ±0.2mm | |



5 Appearance and surface

- 5.1 As per requirements (Bright Side Out / Dull Side Out)
- 5.2 Clean, no impurity, scratch, wrinkles, cracks, telescope, Slack and blocking etc.
- 5.3 Aluminium Foil shall not repel pure water within 3 seconds after applying in a transverse direction by cotton wool soaked in pure water.
- 5.4 Even foil end, overlapping:≤1mm.

6 Joints

| OD/mm | | Thickne | ess/mm | | Joint |
|----------|--------------------|--------------------|----------------|---------|-----------|
| | >0.0080- 0.0120 | >0.0120- 0.0200 | >0.0200-0.0400 | >0.0400 | Spacing/m |
| <200 | 0 | 0 | 0 | 0 | / |
| ≥200-390 | 1 | 1 | 0 | 0 | / |
| >390-450 | 1 | 1 | 0 | 0 | / |
| >450 | 2 | 2 | 1 | 0 | ≥2000 |

- 6.1 When the thickness is not more than 0.02 mm, over 2 joints per roll shall not be accepted, and if the thickness over 0.02mm, over 1 joins per roll shall not be accepted
- 6.2 Ultrasonic welded
- 6.3 Joints mark as per MS requirement.

7 Pinholes

| Thickness(um) | Pinholes(≤1/m²) |
|---------------|-----------------|
| 8.0-12 | ≦50 |
| 12-18 | ≦30 |
| >18 | 0 |



- 7.1 Pinhole diameter shall be less 0.25mm.
- 7.2 Pinholes shall exist on the average across 1 m² (Not come together in cluster).
- 7.3 Aluminium foil shall be applicable as material for package.
- 7.4 Pinhole control as per Musen pinhole standard (attachment A).

8 Physical specification

| Alloy | Temper | Thickness (um) | Tensile Strength (N/m m²) | Elongation % |
|-------|--------|----------------|---------------------------|--------------|
| | | 8-9 | 35-100 | ≥0.5 |
| 1235 | O | 10-24 | 40-100 | ≥1 |
| 1233 | U | 24-40 | 45-100 | ≥2 |
| | | 41-80 | 45-100 | ≥4 |
| | | 8-9 | 45-100 | ≥0.5 |
| 9011 | 0 | 10-24 | 50-105 | ≥1 |
| 8011 | О | 24-40 | 55-110 | ≥4 |
| | | 41-80 | 60-110 | ≥8 |

9 Testing method

| Thickness | Counting system and Weighing |
|--------------------|---|
| Width | Steel Measure |
| Length | Length counters installed in separator slitters |
| Chemical component | As per GB/T3198-2010 |
| Wettability | As per GB/T |
| Pinholes | As per GB/T |
| Density | Weighing |

10 Packing

Seaworthy, Export Standard Wooden Package.



11.1 Outer Label:

| Marks: | | | |
|---------------|----------------|--------------------|--|
| Product: | Aluminium Fiol | Alloy/ Temper: | |
| No. of Case : | | Specification(mm): | |
| N.W. (KG): | | G.W. (KG): | |
| ID(mm) | | Joint: | |
| PI NO.: | | Packing Date: | |

Box label should indicate:

Alloy, Temper, Customer PI, Coil/Case, Joints, ID/OD, Gross weight, Net weight, Packing date, Specification.

11.2 Coil Label:

| ALUMIN | NIUM FOIL |
|---------------|-----------|
| ALLOY/ TEMPER | |
| LOT NO. | |
| SPECIFICATION | |
| NET WEIGHT | |
| Coil No. | |

Coil label should indicate:

Alloy, Temper, Lot No., Coil No., Net weight, Specification.