

PRODUCT SPECIFICATION

ALUMINIUM ALLOY RODS GRADE AL 59

1.0 SCOPE:

This specification is main to Aluminium Alloy Rods Grade Al 59 produced by Press Metal Aluminium Rods Sdn Bhd.

2.0 REFERENCED SPECIFICATIONS:

SS 424 08 13 Aluminium Alloy Wire for Stranded Conductor for Overhead Lines -Al 59-wire
 SS 424 08 14 Aluminium Alloy Wire for Stranded Conductor for Overhead Lines -Al 59-conductor

3.0 TECHNICAL SPECIFICATION:

3.1 DIAMETER

Specified diameter (mm)	Deviation of mean diameter from specified diameter (mm)	Deviation at any point from specified diameter (mm)
9.52	± 0.51	± 0.76

3.2 TENSILE & ELONGATION

Description (Temper)	Tensile Strength kgf/mm ²	Tensile Strength Mpa	Elongation % at 250mm GL (Min)
Al 59	16.3 ~ 19.4	160 ~ 190	4.0

3.3 CONDUCTIVITY & RESISTIVITY

Description (Temper)	Minimum Conductivity % IACS, Min	Volume electrical resistivity at 20°C ohm.mm ² /m, Max
Al 59	54.00	0.031928

3.4 CHARACTERISTIC

Description	Unit	
Specific gravity	g/cm	2.70
Temperature coefficient at 20 °C	per °C	0.00390

3.5 CHEMICAL COMPOSITION

Element	Composition (%)
Silicon	0.35 ~ 0.45
Iron	0.06 ~ 0.18
Copper	0.005 ~ 0.015
Manganese	Max: 0.01
Magnesium	0.33 ~ 0.43
Zinc	Max: 0.05
Vanadium & Titanium	Max: 0.02
Other elements, each	Max: 0.03
Other elements, total	Max: 0.10
Aluminium	Min: 98.5

4.0 FINISHING & APPEARANCE

The Aluminum Rod is supplied in the form of a continuous coil without any joints. The Rod shall be clean, without any excessive oil & grease, of uniform lustre, smooth and free from flakes, cracks, kinks, dents, twists, and other injury or defects.

5.0 PACKAGING

The coil shall be supplied with following dimension:

Inner diameter	Approximately 500mm
Outer diameter	1500mm maximum
Height	850mm to 950mm

The nominal weight for each coil approximately 2000 ± 200 kg.

Each coil shall be securely strapped to a timber pallet. The pallet shall be dry or free from moisture to prevent insect or fungal attack.

Adequate protection shall be provided to prevent corrosion or physical damage to the coil.

Each coil shall be wrapped with a blank polyethylene in order to be protected from damage and prevent contamination to the rods surface which might cause from the environment.

6.0 MARKING

Each coil shall be attached with waterproof label on the outside of the coil with following information:

- 1) Customer name
- 2) Material type and grade
- 3) Nominal finished rod diameter
- 4) Tested mechanical properties (Tensile and Elongation)
- 5) Conductivity
- 6) Net and gross weight
- 7) Coil identification number
- 8) Manufacturing date

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7.0 TEST CERTIFICATES

Test certificate shall be provided to customer upon or precede delivery. The contents inside the Test Certificate shall be as follows:

- 1) Customer's name
- 2) Material type and grade
- 3) Delivery Order number
- 4) Net weight
- 5) Testing result for Clause 3.0

*Requisition for additional information inside the Test Certificate shall be considered.

8.0 QUALITY ASSURANCE

All products are manufactured to meet the standard specification that been agreed between Press Metal Aluminium Rods Sdn Bhd and customer. Each of our product been tested with reliable testing equipment. Manufacturing of this product has considered the restriction of hazardous element usage stated in REACH and ROSH directive.