

# ER5183

## Product Description

ER5183 is aluminium alloy welding filler metal used primarily for welding aluminium alloy 5083, 5086, 5052, 5454, and cast alloys A206 and A356. It is composed of aluminium with small additions of magnesium and manganese, which improve its strength, corrosion resistance, and suitability for various welding applications in industries where aluminium welding is prevalent.

## Specifications

SFA/AWS A5.10 ER5183 ; ISO 18273 - S Al 5183 (AlMg4.5Mn)

## Chemical Composition (weld metal wt %)

|     | Si   | Mn   | Cr   | Cu   | Ti   | Zn    | Fe   | Be     | Mg   | Al  | Other |
|-----|------|------|------|------|------|-------|------|--------|------|-----|-------|
| min | -    | 0.50 | 0.05 | -    | -    | -     | -    | -      | 4.30 | BAL | -     |
| Max | 0.40 | 1.00 | 0.25 | 0.10 | 0.15 | 0.25  | 0.40 | 0.0003 | 5.20 | BAL | -     |
| Typ | 0.08 | 0.80 | 0.10 | 0.01 | 0.10 | 0.001 | 0.15 | 0.0001 | 4.80 | BAL | -     |

## All Welded Mechanical Properties

| As welded              |     | Min | Typical |
|------------------------|-----|-----|---------|
| Tensile Strength       | Mpa | 275 | 290     |
| 0.2% Proof Stress      | Mpa | 125 | 140     |
| Elongation A4-A5       | %   | 17  | 25      |
| Impact Energy at 20 °C | J   | 20  | 30      |

## Operating Parameters

| Welding process | Diameter | Amperage | Volts    | Shielding Gas   |
|-----------------|----------|----------|----------|-----------------|
| GTAW            | 1.6mm    | 60-80    | Variable | 100% Ar (AC-HF) |
|                 | 2.4mm    | 125-160  | Variable |                 |
|                 | 3.2mm    | 190-220  | Variable |                 |
|                 | 4.0mm    | 200-300  | Variable |                 |
| GMAW            | 0.8mm    | 60-175   | 15-24    | 100% Ar (DCEP)  |
|                 | 1.0mm    | 70-185   | 15-27    |                 |
|                 | 1.2mm    | 125-260  | 20-29    |                 |
|                 | 1.6mm    | 170-300  | 24-30    |                 |

## Packaging Data

| Diameter | TIG       | MIG       |
|----------|-----------|-----------|
| 0.8mm    | -         | 7kgs/Coil |
| 1.0mm    | -         | 7kgs/Coil |
| 1.2mm    | -         | 7kgs/Coil |
| 1.6mm    | 5kgs/tube | 7kgs/Coil |
| 2.4mm    | 5kgs/tube | -         |
| 3.2mm    | 5kgs/tube | -         |
| 4.0mm    | 5kgs/tube | -         |