

Oxford Alloy[®] 4043 AWS ER4043 • Aluminum



Key Features

- ❖ A 5% silicon aluminum recommended for welding 3003, 3004, 5052, 6061, 6063 and casting alloys 43, 355, 356 and 214.
- ❖ Has a melting range of 1065 - 1170°F and a density of .097 lbs./cu. in. The post-anodizing color tint of the weld area is gray.

Conformances

AWS/ASME SFA 5.10
ER4043
UNS A94043

Chemical Composition - As required per AWS 5.10

| Si | Fe | Cu | Mn | Mg | Zn | Ti |
|----------|----------|----------|----------|----------|----------|----------|
| 4.5-6.0 | 0.8 max | 0.30 max | 0.05 max | 0.05 max | 0.10 max | 0.20 max |
| OEE | OET | Al | | | | |
| 0.05 max | 0.15 max | Bal | | | | |

Mechanical Properties - As required by AWS 5.10

| | Tensile Strength MPa (ksi) | Yield Strength MPa (ksi) | Elongation % |
|-----------------------------|-------------------------------|-----------------------------|-----------------|
| AWS Requirements | Not Specified | | |
| Typical Results - As welded | 190 (27) | 125 (18) | 8 |

Typical Welding Parameters

| Diameter | | Process | Volt | Amps | Shielding Gas |
|----------|------|---------|-------|---------|---|
| in | (mm) | | | | |
| .035 | 0.9 | GMAW | 22-28 | 100-175 | Spray Transfer 100% Argon |
| .045 | 1.2 | GMAW | 22-28 | 120-210 | |
| 1/16 | 1.6 | GMAW | 24-30 | 160-300 | |
| .035 | 0.9 | GMAW | 17-19 | 50-150 | Short Circuiting Transfer 100% Argon |
| .045 | 1.2 | GMAW | 16-20 | 60-175 | |
| 1/16 | 1.6 | GMAW | 16-20 | 60-175 | |
| 1/16 | 1.6 | GTAW | | 60-100 | 100% Argon |
| 3/32 | 2.4 | GTAW | | 125-160 | 100% Argon |
| 1/8 | 3.2 | GTAW | | 180-240 | 100% Argon |

Diameters & Packaging

| Oxford Alloys USA | | | | Oxford Alloys Asia Pacific | | | |
|-------------------|------|----------------|-----------------|----------------------------|------|----------------|-----------------|
| Diameter (in) | Form | Quantity (lbs) | Spool Dimension | Diameter (mm) | Form | Quantity (kgs) | Spool Dimension |
| .035 | GMAW | 16 lb | 12 inch | 0.9 | GMAW | 7 kg | 300mm |
| .045 | GMAW | 16 lb | 12 inch | 1.2 | GMAW | 7 kg | 300mm |
| 1/16 | GMAW | 16 lb | 12 inch | 1.6 | GMAW | 7 kg | 300mm |
| .035 | GMAW | 1 lb | 4 inch | 0.9 | GMAW | 0.5 kg | 100mm |
| .045 | GMAW | 1 lb | 4 inch | 1.2 | GMAW | 0.5 kg | 100mm |
| 1/16 | GMAW | 1 lb | 4 inch | 1.6 | GMAW | 0.5 kg | 100mm |
| 1/16 | GTAW | 10 lb tube | | 1.6 | GTAW | 5 kg tube | |
| 3/32 | GTAW | 10 lb tube | | 2.4 | GTAW | 5 kg tube | |
| 1/8 | GTAW | 10 lb tube | | 3.2 | GTAW | 5 kg tube | |

Actual test results may vary. Refer test result disclaimer on page 160.