

Exaton Ni59

Exaton Ni59 is nickel chromium molybdenum alloy of the type UNS N065059. It is a versatile alloy with excellent wet corrosion resistance for the most demanding applications. It combines excellent corrosion resistance in oxidizing and reducing media, has excellent resistance in chloride containing media and to localized corrosion environments. The grade has excellent thermal stability compared to other nickel alloys, and has therefore outstanding resistance to intermetallic precipitation during welding. The microstructure is fully austenitic. Exaton Ni59 is used for joining matching alloys or dissimilar joining to other nickel alloys such as UNS N10276 (2.4819), type UNS N06022 (2.4602), UNS N06625 (2.4856) and N08825 (2.4858). It provides strong, tough, Nb free weld metal for dissimilar welds in super austenitic and super duplex stainless steel joints or combinations of these with nickel alloys. Typical applications are: contaminated mineral acid environments such as sulfuric acid, hydrochloric acid, phosphoric acid, nitric acid etc, components in sulphuric acid coolers, digesters and bleachers, chemical, petrochemical, marine, pharmaceutical, energy production and pollution control.

Specifications

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|------------------------|---|
| Classifications | SFA/AWS A5.11 : ENiCrMo-13 EN ISO 14172 : E Ni 6059 (NiCr23Mo16) |
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|------------------------|---------------|
| Welding Current | DC+ |
| Alloy Type | Ni-based CrMo |
| Coating Type | Basic |

Typical Tensile Properties

| Condition | Yield Strength | Tensile Strength | Elongation |
|------------|----------------|------------------|------------|
| ISO | | | |
| As Welded | 500 MPa | 790 MPa | 35 % |

Typical Charpy V-Notch Properties

| Condition | Testing Temperature | Impact Value |
|------------|---------------------|--------------|
| ISO | | |
| As Welded | 20 °C | 60 J |
| As Welded | -196 °C | 40 J |

Typical Weld Metal Analysis %

| C | Mn | Si | S | P | Ni | Cr | Mo | Fe |
|------|-----|------|-------|-------|----|----|----|----|
| 0.01 | 0.2 | 0.15 | 0.006 | 0.006 | 60 | 23 | 16 | 1 |

Deposition Data

| Diameter | Current | Voltage | Efficiency (%) | Fusion time per electrode at 90% I max | Deposition Rate |
|----------------|----------|---------|----------------|--|-----------------|
| 2.5 x 300.0 mm | 50-70 A | 25 V | 60 % | 50 sec | 0.8 kg/h |
| 3.2 x 350.0 mm | 60-90 A | 25 V | 62 % | 63 sec | 1.2 kg/h |
| 4.0 x 350.0 mm | 80-120 A | 27 V | 62 % | 81 sec | 1.4 kg/h |