

## AI-1635

### Description and Applications

**AI-1635** is a special IRON-CHROMIUM-COBALT-MOLYBDENUM ALLOY designed to resist metal-to-metal wear, fatigue, oxidation, cavitation and corrosion at high temperatures. The deposit is crack-free and typical hardness is achieved in the first layer.

**Applications include:** Continuous casting drive rolls, dies, mandrels, punching tools, forming tools, pump elements etc.

### Typical Weldmetal Analysis

| C    | Mn   | Si   | Cr    | Mo   | Co    |
|------|------|------|-------|------|-------|
| 0.15 | 0.26 | 0.52 | 14.60 | 2.40 | 13.80 |

### Mechanical Properties of Weldmetal

|                      | As Welded                                  |
|----------------------|--|
| Microstructure       | Martensite, +15 ferrite in the First Layer |
| Machineability       | Good with carbide tipped tools             |
| Oxyacetylene Cutting | Cannot be flame cut                        |
| Deposit Thickness    | Depends upon application and procedure     |
| Welding Flux         | AI-16 Record 605                           |
| Hardness             | HRC 50 HRC as welded                       |
| Wear Index           | 0.97                                       |

### Welding Parameters

| Diameter (mm) | Current type | Amps    | Stick-out | Welding Speed (cm/min) | Flux Consumption (kg/kg wire) |
|---------------|--------------|---------|-----------|------------------------|-------------------------------|
| 2.4           | DC +ve       | 250-450 | 30-35     | 35-45                  | 1.1                           |
| 3.2           | DC +ve       | 325-500 | 30-25     | 35-45                  | 1.1                           |

15Kg Spools, 25Kg & 50Kg Reels and 150Kg & 250Kg auto-packs

### Disclaimer

All figures in this datasheet should be considered indicative only. No guarantee is made as to their accuracy.

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