Advanced Material Specialists, Inc.

# HA 596

**TECHNICAL DATA SHEET**

Product Code: 22596

Revision # 004
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HA 596 is a Proprietary Iron Based High Chrome Alloy wire material designed for Twin Wire Arc Spraying (TWAS). The unique feature of this material is that during the Arc Spraying process the material undergoes a Solid -> Molten -> Re-solidification process within fraction of seconds producing a very dense, hard coating with no internal cracking. Due to this rapid solidification process, along with the unique material formulation, HA 596 coatings have metallic glass-like characteristics, excellent high temperature corrosion and low stress abrasion resistance.

## CHEMICAL PROPERTIES

**Typical Chemical Properties:** Compositions are nominal (typical) values of the mix of this cored wire product

| Element | Typical |
|---|---|
| Iron | Balance |
| Chromium | 22.00 |
| Carbon (Total) | 0.07 max |
| Nickel | 6.25 |
| Molybdenum | 3.50 |
| Boron | 2.60 |
| Copper | 1.90 |
| Silicon | 1.00 |
| Manganese | 0.90 |

## PHYSICAL PROPERTIES

| | |
|---|---|
| Wire Diameter | 1/16" or 16 mm |
| Spool | 25 lb each |
| Melting Point | 2,200°F or 1,204°C |
| As-Sprayed Microhardness, $H_V300$ | 550 – 650 |
| After abrasive load Microhardness, $H_V300$ | 800 – 1020 |
| Porosity | <2% As-Sprayed |