# Ultramet® 316H

## TOP FEATURES

- Increased carbon content heat resistant qualities
- Greater tensile strength and yield strength
- Greater short and long term creep strength

## TYPICAL APPLICATIONS

- Steam piping, superheater headers, furnace parts
- Gas and steam engine turbine components

## CLASSIFICATION

| | |
|---|---|
| AWS A5.4 | E316H-16 |
| EN ISO 3581-A | E 19 12 2 R 3 2 |

## CURRENT TYPE

DC+

## WELDING POSITIONS

All position, except vertical down

## CHEMICAL COMPOSITION (WEIGHT %), TYPICAL, ALL WELD METAL

| | C | Mn | Si | S | P | Cr | Ni | Mo | Cu | FN |
|---|---|---|---|---|---|---|---|---|---|---|
| Min. | 0.04 | 0.5 | not specified | not specified | not specified | 17.0 | 11.0 | 2.0 | not specified | 3 |
| Max. | 0.08 | 2.0 | 0.90 | 0.025 | 0.030 | 20.0 | 13.0 | 3.0 | 0.5 | 8 |
| Typical | 0.05 | 1 | 0.6 | 0.01 | 0.02 | 18 | 12 | 2.2 | 0.1 | 5 |

## MECHANICAL PROPERTIES, TYPICAL, ALL WELD METAL

| As welded | | Room temperature Min. | Room temperature Typical | High Temperature 650°C | High Temperature 732°C | High Temperature 815°C |
|---|---|---|---|---|---|---|
| Tensile strength | (MPa) | 550 | 570 | 352 | 268 | 197 |
| 0.2% Proof strength | (MPa) | 350 | 450 | 264 | 204 | 152 |
| Elongation (%) | 4d | 30 | 35 | - | - | - |
| | 5d | 25 | 33 | 32 | 43 | 54 |
| Reduction of area (%) | | not specified | 50 | 58 | 53 | 60 |
| Impact ISO-V (J) | +20°C | not specified | 70 | - | - | - |
| Hardness (HV) | | not specified | 210 | - | - | - |

## OUTPUT RANGE

| Diameter x Length (mm) | Current range (A) |
|---|---|
| 3.2 x 350 | 75-120 |

## PACKAGING AND AVAILABLE SIZES

| Diameter x Length (mm) | Packaging | Electrodes/pack | Net weight/pack (kg) | Item number |
|---|---|---|---|---|
| 3.2 x 350 | VPMD | 57 | 2.1 | UM316H-32-2 |

TEST RESULTS

Test results for mechanical properties, deposit or electrode composition and diffusible hydrogen levels were obtained from a weld produced and tested according to prescribed standards, and should not be assumed to be the expected results in a particular application or weldment. Actual results will vary depending on many factors, including, but not limited to, weld procedure, plate chemistry and temperature, weldment design and fabrication methods. Users are cautioned to confirm by qualification testing, or other appropriate means, the suitability of any welding consumable and procedure before use in the intended application

Safety Data Sheets (SDS) are available here:

Subject to Change – The information is accurate to the best of our knowledge at the time of printing.
Please refer to www.lincolnelectric.eu for any updated information.