# Arosta® 304H

## CLASSIFICATION

| | | | | | |
|---|---|---|---|---|---|
| **AWS A5.4** | E308H-16 | **A-Nr** | 8 | **Mat-Nr** | 1.4829 |
| **ISO 3581-A** | E 19 9 H R 12 | **F-Nr** | 5 | | |
| | | **9606 FM** | 5 | | |

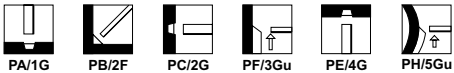
## TEMPERATURE RANGE

**Pressurized parts :** -20...+730°C
**Oxidation resistance :** to 800°C

## GENERAL DESCRIPTION

**A rutile-basic all position stainless steel electrode**
**Specially developed for high temperature applications (up to 730°C) - e.g. AISI 304H or Mat. Nr 1.4948**
**Low sensitivity to precipitation of intermetallic phases**
**Weldable on AC and DC**
**Petrochemical and chemical industry**

## WELDING POSITIONS (ISO/ASME)




## CURRENT TYPE

AC/DC + / -

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

| C | Mn | Si | Cr | Ni | FN (acc.WRC 1992) |
|---|---|---|---|---|---|
| 0.05 | 0.75 | 0.85 | 18.5 | 9.5 | 3-7 |

## MECHANICAL PROPERTIES, TYPICAL, ALL WELD METAL

| | Condition | 0.2% Proof strength (N/mm²) | Tensile strength (N/mm²) | Elongation (%) | Impact ISO-V(J) +20°C | Impact ISO-V(J) -20°C |
|---|---|---|---|---|---|---|
| Required: AWS A5.4 | | not required | min. 550 | min. 35 | not required | |
| ISO 3581-A | | min. 350 | min. 550 | min. 30 | not required | |
| Typical values | AW | 450 | 600 | 44 | 85 | 50 |

## PACKAGING AND AVAILABLE SIZES

| | | | | |
|---|---|---|---|---|
| | **Diameter (mm)** | 2.5 | 3.2 | 4.0 |
| | **Length (mm)** | 350 | 350 | 350 |
| **Carton + PE foil** | **Pieces / unit** | 145 | 150 | 100 |
| | **Net weight/unit (kg)** | 2.8 | 4.8 | 4.9 |

**Identification** Imprint: 308H-16 / AROSTA 304 H Tip Color: green

Arosta® 304H: rev. C-EN25-01/02/16

All information in this data sheet is accurate to the best of our knowledge at the time of printing. Please refer to www.lincolnelectric.eu for any updated information.
Fumes: Material Safety Data Sheets (MSDS) are available on our website.

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## EXAMPLES OF MATERIALS TO BE WELDED

| Steel grades | EN 10088-1/-2 | EN 10213-4 | Mat. Nr | ASTM/ACI | UNS |
|---|---|---|---|---|---|
| **Medium carbon (C >0.03%)** | | | | | 302 |
| | X4CrNi18-10 | | 1.4301 | (TP)304 | S30400 |
| | | | | (TP)304H | S30409 |
| | | GX5CrNi19-10 | 1.4308 | CF8 | J92600 |
| | | | 1.4948 | | |
| **Ti-, Nb stabilized** | | | | | |
| | X6CrNiTi18-10 | | 1.4541 | (TP)321 | S32100 |
| | | | | (TP)321H | S32109 |
| | X6CrNiNb18-10 | | 1.4550 | (TP)347 | S34700 |
| | | | | (TP)347H | S34709 |
| | | GX5CrNiNb19-10 | 1.4552 | CF-8C | J92710 |

## CALCULATION DATA

| Sizes Diam. x length (mm) | Current range (A) | Current type | Arc time (S)* | Energy E(kJ) | Dep. rate H(kg/h) | Weight/ 1000 pcs (kg) | Electrodes/ kg weldmetal B | kg electrodes/ kg weldmetal 1/N |
|---|---|---|---|---|---|---|---|---|
| | | | - per electrode at max. current - | | | | | |
| 2.5 x 350 | 40 - 75 | DC+ | 51 | 89 | 0.99 | 19.4 | 79 | 1.54 |
| 3.2 x 350 | 60 - 110 | DC+ | 58 | 121 | 1.3 | 31.5 | 48 | 1.52 |
| 4.0 x 350 | 80 - 150 | DC+ | 64 | 258 | 1.8 | 48.0 | 32 | 1.54 |

*Stub end 35mm

## WELDING PARAMETERS, OPTIMUM FILL PASSES

| Diameter (mm) | Welding positions PA/1G | PB/2F | PC/2G | PF/3Gup | PE/4G | PH/5Gup |
|---|---|---|---|---|---|---|
| 2.5 | 70A | 70A | 70A | 60A | 60A | 60A |
| 3.2 | 100A | 100A | 100A | 70A | 70A | 70A |
| 4.0 | 140A | 140A | 140A | 80A | | |