

E+H

Qualified welding processes for thermowells



Our Temperature Production Centre can supply thermowells conform to the state of art welding processes quality. People at E+H know your problems and have the right qualification to support you with our capability. Since 1994, further the quality certification

ISO 9001-EN 29001 of E+H Temperature Production Centre, training and qualification activities concerning welding processes have been standardised. Today we are offering capabilities certified by Bureau Vertitas qualification.

Quality made by
Endress+Hauser



ISO 9001

Endress+Hauser

Nothing beats know-how



Welding methods

Under the reference standards ASME IX two welding methods are available

• PAW: PLASMA ARC WELDING

The E+ H process has been qualified for stainless steels as well as special materials listed in the table 1

• GTAW: GAS ARC TUNGSTEN WELDING

The E+ H process has been qualified for stainless steels and carbon steels listed in the table 1

Capability

Our experience enables our qualified technicians to provide welding solutions for thickness between 0.3 and 11 mm and diameters from 6 to 60 mm.

All welding processes, according to ASME IX, are provided of WPS (welding procedure specification) with homologation of Certification Institution

defined as PQR (Procedure Qualification Record).

The final documentation is declaring all results on the proper technical signification. All procedures in progress have high reliability with "WPS" as well as the specific qualification of Bureau Veritas, defined as "PQR".

Table 1

| WELDING MATERIALS | WELDING PROCESSES | | | |
|---------------------------|---------------------------------|---------------------------------|---|---|
| | PLASMA ARC | | GAS ARC TUNGSTENE | |
| | Manual (1) | Automatic (2) | Manual (1) | Automatic (1) |
| | Thickness T External Ø | Thickness T External Ø | Thickness T External Ø | Thickness T External Ø |
| AISI 304 | T=0.5 ÷ 1 mm Ø from 6mm over | T=0.5 ÷ 4 mm Ø from 6mm over | Not Available | T=1.58 ÷ 11.08 mm Ø from 21.3mm over |
| AISI 308 | T=0.5 ÷ 1 mm Ø from 6mm over | T=0.5 ÷ 4 mm Ø from 6mm over | Not Available | T=1.58 ÷ 11.08 mm Ø from 21.3mm over |
| AISI 316 / L | T=0.5 ÷ 1 mm Ø from 6mm over | T=0.5 ÷ 4 mm Ø from 6mm over | Not Available | T=1.58 ÷ 11.08 mm Ø from 21.3mm over |
| AISI 316 Ti | T=0.5 ÷ 1 mm Ø from 6mm over | T=0.5 ÷ 4 mm Ø from 6mm over | Not Available | T=1.58 ÷ 11.08 mm Ø from 21.3mm over |
| AISI 321 | T=0.5 ÷ 1 mm Ø from 6mm over | T=0.5 ÷ 4 mm Ø from 6mm over | Not Available | T=1.58 ÷ 11.08 mm Ø from 21.3mm over |
| AISI 347 | T=0.5 ÷ 1 mm Ø from 6mm over | T=0.5 ÷ 4 mm Ø from 6mm over | Not Available | T=1.58 ÷ 11.08 mm Ø from 21.3mm over |
| Carbon Steel | Not Available | Not Available | T=1.58 ÷ 11.08 mm Ø from 21.3mm over | Not Available |
| Carbon Steel* | Not Available | Not Available | Not Available | T=1.58 ÷ 11.08 mm Ø from 21.3mm over |
| Hastelloy C ASTM B 626 | Not Available | T=1 ÷ 4 mm Ø from 6mm over | Not Available | Not Available |
| Hastelloy C* | Not Available | T=1 ÷ 2 mm Ø from 9mm over | Not Available | Not Available |
| Inconel 600 ASTM B 167 | Not Available | T=0.3 ÷ 4 mm Ø from 6mm over | T=0.3 ÷ 4 mm Ø from 6mm over | Not Available |
| Inconel 600* | Not Available | T=1 ÷ 2 mm Ø from 9mm over | Not Available | Not Available |

Notes: (1) manual PAW and GTAW processes are intended with material addition

(2) automatic PAW process is intended without material addition

(*) welding coupling with inox steel

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