

Bearbeiter / Issued by
QMS/Schön Johann

Referenz / Reference
QMS222/08

Zur Erledigung / To be handled by

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Zur Kenntnis / As Info to
WRt / A. Gatter

**Visit Company SSIS / Ambernath / Indien (week 31) -
Potential Supplier for material preparation 316L – reactor acc. to drawing 0 CK 54248 – and
welding the reactor at site.**

Target of the visit at SSIS was to evaluate the workmanship of three welders respectively approval the welders for site – assembling the reactor.

Welders

Three welders have been introduced:

Mr. Vijay T. Birje

Mr. R.R. Vadav

Mr. Rajkumar Yadav

Welded Samples

Fife samples – listed below - have been welded:

Sample 1:

Material: Plate 316L

Thickness: 8 mm

Welding edge preparation: v- butt weld

Welding Process: TIG (root + 1 filler pass), SMAW (filler and cover passes)

Welding position: 2G (ASME IX)

Filler material: ER 316L dia. 2 mm (TIG), E 316L 16 dia 3,15 mm(SMAW)

Welder: Mr. Vijay T. Birje

Welding Parameters:

TIG – root: 80 – 90 A, Gas – Argon – Torch 8l / min – Backing Gas 15 l / min

TIG – 1st filler pass 100 – 110 A

SMAW – 2nd filler pass 95 – 100 A

SMAW – cover pass – 3 string beads 95 – 100 A

Interpass temperature: < 150 °C

Sample 2:

Material: Plate 316L
Thickness: 8 mm
Welding edge preparation: v- butt weld
Welding Process: SMAW (filler and cover passes)
Welding position: 3G (ASME IX)
Filler material: E 316L 16 dia. 3,15 mm
Mr. R.R. Vadav

Welding Parameters:

Root – 50 A
Filler and cover passes 60 – 65 A
Interpass temperature: < 150 °C

Sample 3:

Material: Plate 316L – 1.4876
Thickness: 8 mm
Welding edge preparation: v- butt weld
Welding Process: TIG (root + 1 filler pass), SMAW (filler and cover passes)
Welding position: 2G (ASME IX)
Filler material: ER 625 dia. 1,6 mm (TIG), Böhler Fox Nibas 70/20 dia. 2,5 and 3,2 mm(SMAW)
Welder: Mr. Rajkumar Yadav

Welding Parameters:

Root and 1st filler TIG 90 A = 2 Layers, Gas – Argon – Torch 8l / min – Backing Gas 15 l / min
Filler and cover passes 60 – 85 A – Filler 2,5 and 3,2 mm (2 Layers – stringer beads)
Interpass temperature: < 150 °C

Sample 4:

Material: Plate 316L – 1.4876
Thickness: 8 mm
Welding edge preparation: v- butt weld

Welding Process: SMAW – welded from one side !
Welding position: 3G (ASME IX)
Filler material: Böhler Fox Nibas 70/20 dia. 2,5 and 3,2 mm
Welder: Mr. Vijay T. Birje
Welding Parameters:

Root: 50 – 55 A electrode dia 2,5 mm
Filler (one): 65 – 75 A electrode dia 2,5 mm

Cover: 75 – 95 A electrode dia 3,2 mm
Interpass temperature: < 150 °C

Sample 5:

Material: Plate 316L – 1.4876
Thickness: 8 mm
Welding edge preparation: v- butt weld

Welding Process: SMAW – welded from one side !
Welding position: 3G (ASME IX)
Filler material: Böhler Fox Nibas 70/20 dia. 2,5 and 3,2 mm
Welder: Mr. R.R. Vadav

Welding Parameters:

Root: 40 – 55 A electrode dia 2,5 mm
Filler (one): 55 – 65 A electrode dia 2,5 mm
Cover: 55 – 65 A electrode dia 2,5 mm
Interpass temperature: < 150 °C

Conclusion

The welding seams of all 5 test plates are carried out with good workmanship (visual) and meet the requirements of the standard ISO 5817 / C.

- all three welders can be employed for the welding work at site for erection the reactor.
- a site supervisor is recommended.
- weld quality acc. to ISO 5817 to be defined in P.O. (class C recommended).
- NDT spot checks (RT) at site are recommended.

Welding electrodes

After the test plates have been welded – 3 boxes electrodes Böhler Fox Nibas 70 / 20 – 1x dia. 2,5 and 2 x dia. 3,2 – owned by AAG - (originally packed and closed) have been stored in the shop of SSIS by Mr. J.G. Nayak.

Signed:

J. Schön