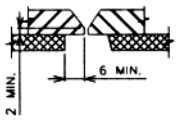


WELDING DETAILS

NOZZLE DETAILS

PROCEDURE "A" (SEE NOTE D 3).



1. BEVEL STEEL SIDES LEAVING A STEEL LIP ON ROOTFACE OF 2 mm, MIN. BETWEEN THE BEVEL AND CLADDING. CUT CLADDING BACK FROM EDGE OF JOINT A MIN. DISTANCE OF 6mm. VERIFY COMPLETE REMOVAL OF CLADDING BY SUITABLE ACID ETCH INSPECTION.



2. TACK WELD STEEL SIDE USING STEEL ELECTRODE (ELECTRODE ① NOTE C2)



3. COMPLETE WELD ON STEEL SIDE USING STEEL ELECTRODE. AVOID PENETRATION INTO ALLOY CLADDING.



4. CHIP OUT OR GRIND CLAD SIDE TO REACH SOUND WELD METAL AND PROVIDE GROOVE FOR A GOOD WELDING CONDITION.



5. IF DEPTH OF GROOVE IS MORE THAN 2 mm. WELD WITH STEEL ELECTRODE ① UP TO 2 mm.



6. PLACE FIRST PASS ON CLAD SIDE USING INTERMEDIATE ALLOY ELECTRODE (ELECTRODE ② NOTE C2). PASS SHALL BE MADE THIN ENOUGH TO ENABLE STEP 7 TO BE ACCOMPLISHED WITHOUT UNDUE CROWN WEIGHT.



7. FINISH WELDING CLAD SIDE USING ALLOY ELECTRODE. (ELECTRODE ③ NOTE C2). AT LEAST TWO PASSES ARE REQUIRED TO MINIMIZE DILUTION OF ALLOY AT THE SURFACE EXPOSED TO CORROSION. (SEE NOTE C 3)

PROCEDURE "B"

(FOR STAINLESS CLAD ONLY. SEE NOTE D3) (MAY ONLY BE USED WHEN STRENGTH OF VESSEL IS NOT AFFECTED BY THE USE OF INTERM. ALLOY ELECTRODE ②.)



1. PREPARE JOINTS FOR WELDING TACK AND WELD FROM STEEL SIDE USING INTERMEDIATE ALLOY ELECTRODE (ELECTRODE ② NOTE C2).



2. CHIP OR GRIND CLAD SIDE TO REACH SOUND WELD METAL.

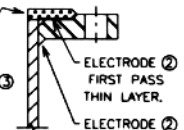
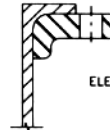
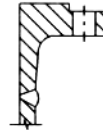
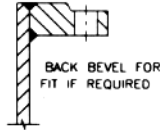


3. BACK WELD WITH SAME ELECTRODE TO FORM EVEN REINFORCEMENT ON INSIDE OF TANK.

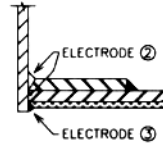
SOLID ALLOY NOZZLE NECK "C"

(MAY ONLY BE USED IN SPECIAL CASES WITH APPROVAL)

ALLOY SLIP ON OR PLATE FLANGE R.F. T&G AND R.J. | ALLOY WELDING NECK FLANGE R.F. T&G AND R.J. | CARBON STEEL LAP JOINT FLANGE R.F. ONLY. | CARBON STEEL SLIP ON OR PLATE FLANGE R.F. T&G AND R.J.



SHELL CONNECTION

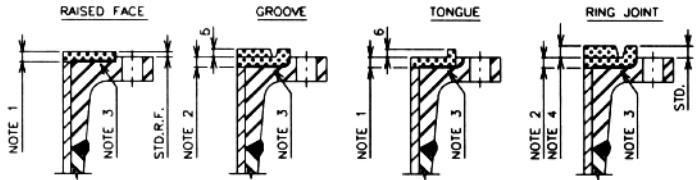


NOTES:

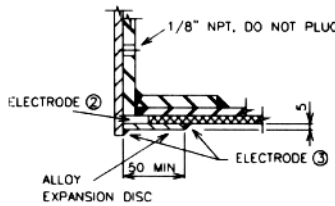
- 1. THIS CONSTRUCTION NOT TO BE USED IN VESSELS DESIGNED FOR OPERATION OVER 232°C. OR IF STRESS RELIEVED.
- 2. DO NOT USE FOR ASME SA240 TYPE 410 S.S.
- 3. DO NOT USE FOR ALLOY 20 Cb. (CARPENTER 20 Cb.)

ALLOY LINER IN STEEL NOZZLE NECK "D"

(MAY ALSO BE MADE WITH SLIP ON FLANGES AS PER DETAIL "E")



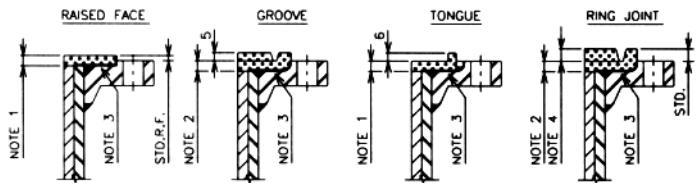
SHELL CONNECTION



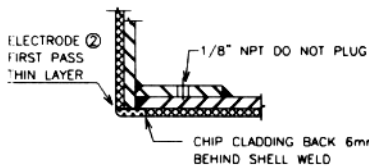
NOTES:

- 1. MIN. THICKNESS OF ALLOY DEPOSIT EQUALS LINER THICKNESS.
- 2. MIN. THICKNESS OF ALLOY DEPOSIT UNDER GROOVE EQUALS LINER THK'S
- 3. ELECTRODE ② FIRST PASS THIN LAYER.
- 4. DEPTH OF RING GROOVE PER ANSI STANDARD.
- 5. AIR TEST FOR WELD TIGHTNESS USING 25 lb. AIR AND SOAP SUDS.

ALLOY CLAD STEEL NOZZLE NECK "E"



SHELL CONNECTION



NOTES:

- 1. MIN. THICKNESS OF ALLOY DEPOSIT EQUALS CLADDING THICKNESS.
- 2. MIN. THICKNESS OF ALLOY DEPOSIT UNDER GROOVE EQUALS CLADDING THICKNESS.
- 3. ELECTRODE ② FIRST PASS THIN LAYER
- 4. DEPTH OF RING GROOVE PER ANSI STANDARD.

FOR LEGEND AND GENERAL NOTES SEE SHEET 2.

STANDARD CONNECTIONS AND WELDING DETAILS FOR CLAD STEEL VESSELS

ISSUE 4 | DATE 1 DEC'00 | SHEET 1 OF 2

BN-DS-A 7