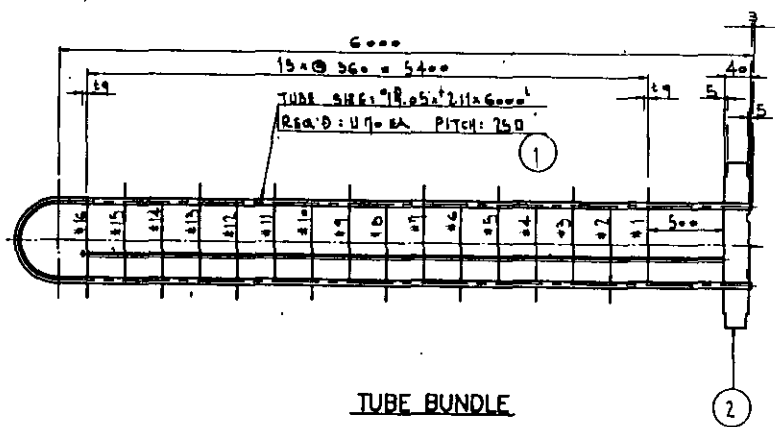
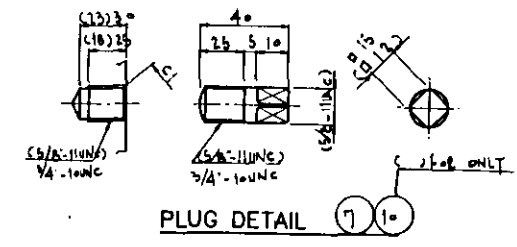
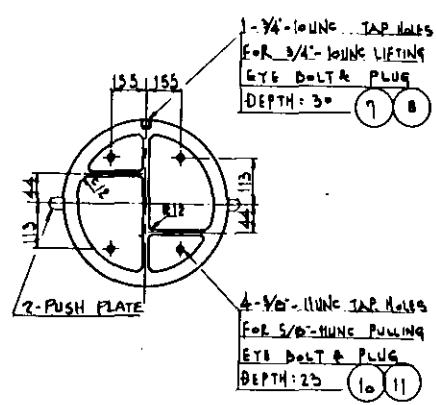


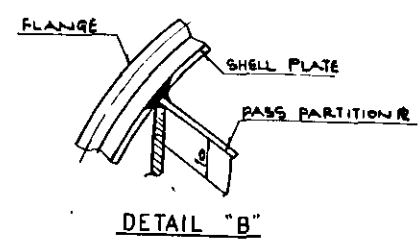
| | | | |
|--|--|-------------------------|--|
| JOB NO. 01011 | | SHARP EXPANSION PROJECT | |
| PO NO. SE0H1A0041 | | | |
| REQ NO. SE40-H1-MR-002 | | | |
| IDENT NO. 2E-4603-DW002 | | | |
| 1. NO COMMENTS 2. NO COMMENTS 3. NO COMMENTS 4. NO COMMENTS 5. NO COMMENTS 6. NO COMMENTS 7. NO COMMENTS 8. NO COMMENTS 9. NO COMMENTS 10. NO COMMENTS 11. NO COMMENTS 12. NO COMMENTS 13. NO COMMENTS 14. NO COMMENTS 15. NO COMMENTS 16. NO COMMENTS 17. NO COMMENTS 18. NO COMMENTS 19. NO COMMENTS 20. NO COMMENTS 21. NO COMMENTS 22. NO COMMENTS 23. NO COMMENTS 24. NO COMMENTS 25. NO COMMENTS 26. NO COMMENTS 27. NO COMMENTS 28. NO COMMENTS 29. NO COMMENTS 30. NO COMMENTS 31. NO COMMENTS 32. NO COMMENTS 33. NO COMMENTS 34. NO COMMENTS 35. NO COMMENTS 36. NO COMMENTS 37. NO COMMENTS 38. NO COMMENTS 39. NO COMMENTS 40. NO COMMENTS 41. NO COMMENTS 42. NO COMMENTS 43. NO COMMENTS 44. NO COMMENTS 45. NO COMMENTS 46. NO COMMENTS 47. NO COMMENTS 48. NO COMMENTS 49. NO COMMENTS 50. NO COMMENTS 51. NO COMMENTS 52. NO COMMENTS 53. NO COMMENTS 54. NO COMMENTS 55. NO COMMENTS 56. NO COMMENTS 57. NO COMMENTS 58. NO COMMENTS 59. NO COMMENTS 60. NO COMMENTS 61. NO COMMENTS 62. NO COMMENTS 63. NO COMMENTS 64. NO COMMENTS 65. NO COMMENTS 66. NO COMMENTS 67. NO COMMENTS 68. NO COMMENTS 69. NO COMMENTS 70. NO COMMENTS 71. NO COMMENTS 72. NO COMMENTS 73. NO COMMENTS 74. NO COMMENTS 75. NO COMMENTS 76. NO COMMENTS 77. NO COMMENTS 78. NO COMMENTS 79. NO COMMENTS 80. NO COMMENTS 81. NO COMMENTS 82. NO COMMENTS 83. NO COMMENTS 84. NO COMMENTS 85. NO COMMENTS 86. NO COMMENTS 87. NO COMMENTS 88. NO COMMENTS 89. NO COMMENTS 90. NO COMMENTS 91. NO COMMENTS 92. NO COMMENTS 93. NO COMMENTS 94. NO COMMENTS 95. NO COMMENTS 96. NO COMMENTS 97. NO COMMENTS 98. NO COMMENTS 99. NO COMMENTS 100. NO COMMENTS | | DATE | |
| PURCHASER'S PERMISSION TO PROCEED OR REVIEW TAKEN ON VENDOR PRINTS SHALL NOT RELIEVE VENDOR FROM ITS RESPONSIBILITIES OR OBLIGATIONS UNDER PURCHASE ORDER | | | |



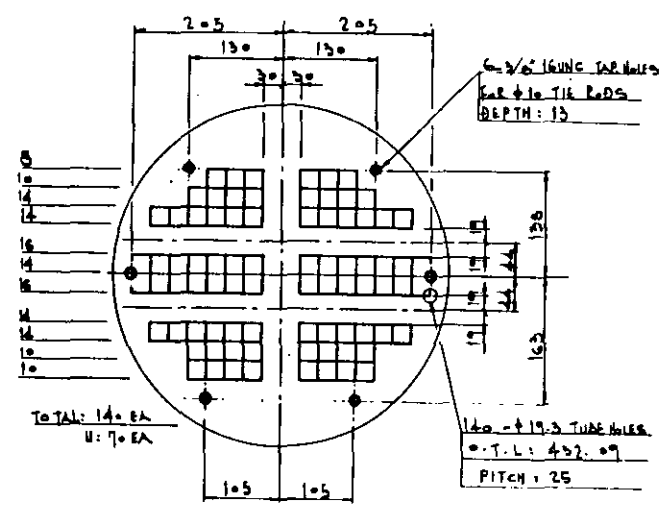
TUBE BUNDLE



PLUG DETAIL



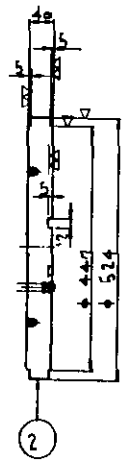
DETAIL "B"



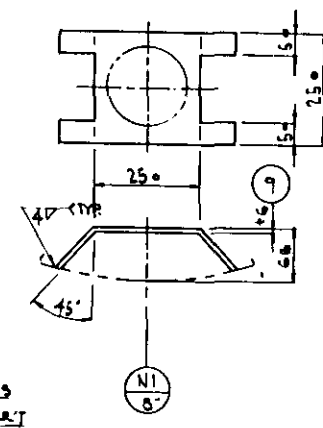
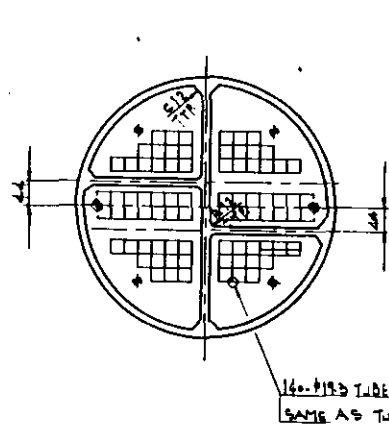
TUBE ARRANGEMENT

| NO | R | TOTAL LENGTH | REQ'D |
|-----|-----|--------------|-------|
| 1-1 | 30 | 12094.2 | 11 |
| 1-2 | 55 | 12112.0 | 11 |
| 1-3 | 80 | 12251.3 | 11 |
| 1-4 | 105 | 12327.7 | 11 |
| 1-5 | 130 | 12408.4 | 10 |
| 1-6 | 155 | 12486.9 | 7 |
| 1-7 | 180 | 12565.5 | 7 |
| 1-8 | 205 | 12644.0 | 2 |

U-TUBE



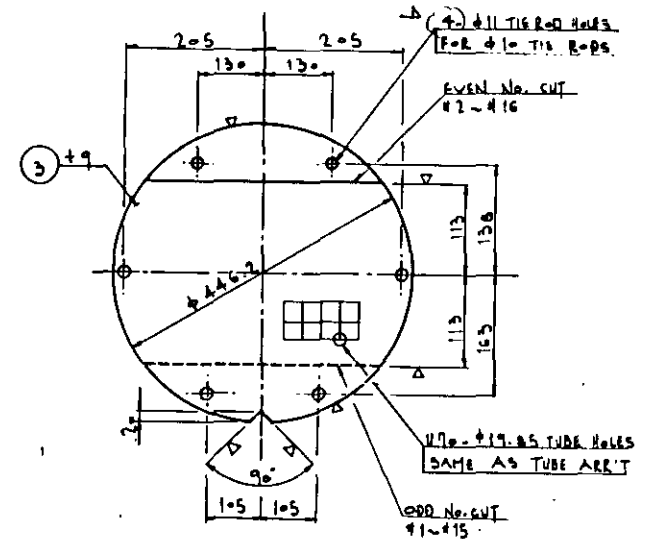
TUBE SHEET DETAIL



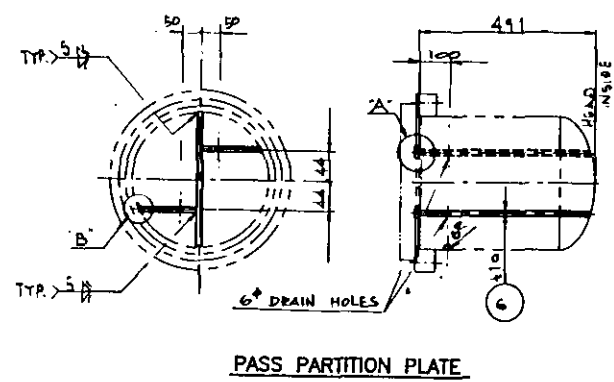
IMPINGEMENT BAFFLE

NOTE

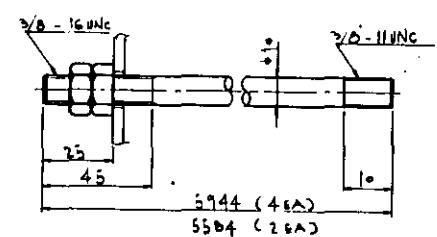
1. HEAT TREATMENT SHALL BE PERFORMED ON THE BENDS. PLUS AT LEAST 300 MM OF EACH STRAIGHT PORTION OF U-TUBES AS FOLLOWS AFTER COLD BENDING:
 : PART NO. : 1-1 (R=30)
 : 1-2 (R=55)
 : 1-3 (R=80).



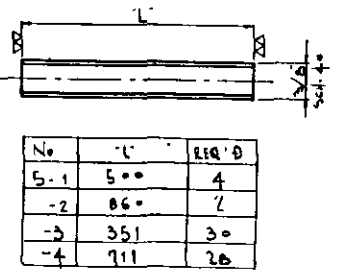
BAFFLE PLATE



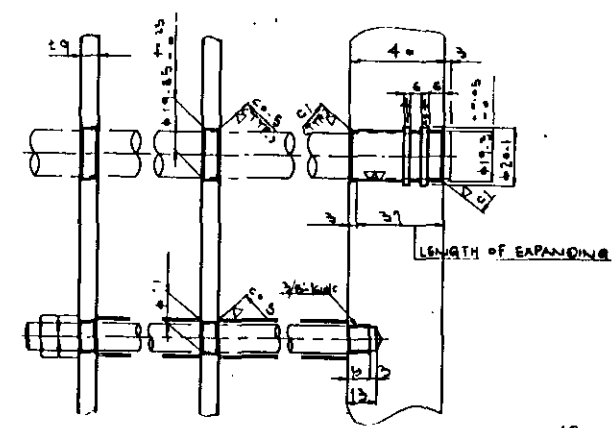
PASS PARTITION PLATE



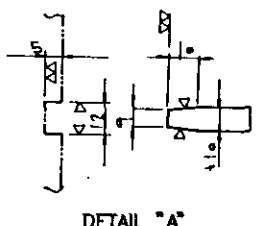
TIE ROD



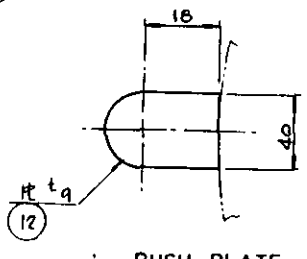
SPACER



TUBE & TIE ROD HOLE



DETAIL "A"



PUSH PLATE

| REV | DATE | DESCRIPTION | OWN | CHK'D | APP. |
|-----|------|-------------|-----|-------|------|
| 1 | | | | | |
| 2 | | | | | |
| 3 | | | | | |
| 4 | | | | | |
| 5 | | | | | |
| 6 | | | | | |
| 7 | | | | | |
| 8 | | | | | |
| 9 | | | | | |
| 10 | | | | | |
| 11 | | | | | |
| 12 | | | | | |

| NO | DESCRIPTION | SIZE | MATERIAL | QTY | W.T. (KG) | REMARKS |
|----|--------------------|------------|----------|-----|-----------|---------|
| 1 | TUBE | 1/4-10 UNC | A177 | 117 | 1170 | |
| 2 | TIE ROD | 1/4-10 UNC | A177 | 117 | 1170 | |
| 3 | BAFFLE PLATE | 1/4-10 UNC | A177 | 117 | 1170 | |
| 4 | IMPINGEMENT BAFFLE | 1/4-10 UNC | A177 | 117 | 1170 | |
| 5 | PLUG | 1/4-10 UNC | A177 | 117 | 1170 | |
| 6 | PLUG | 1/4-10 UNC | A177 | 117 | 1170 | |
| 7 | PLUG | 1/4-10 UNC | A177 | 117 | 1170 | |
| 8 | PLUG | 1/4-10 UNC | A177 | 117 | 1170 | |
| 9 | PLUG | 1/4-10 UNC | A177 | 117 | 1170 | |
| 10 | PLUG | 1/4-10 UNC | A177 | 117 | 1170 | |
| 11 | PLUG | 1/4-10 UNC | A177 | 117 | 1170 | |
| 12 | PLUG | 1/4-10 UNC | A177 | 117 | 1170 | |

| | | | |
|--------------------|----------------|---------------------------------------|----------|
| CLIENT | | EASTERN PETROCHEMICAL COMPANY (SHARQ) | |
| DRAWN BY | | HAE DONG IND. CO., LTD. | |
| CHECKED BY | | ULSAN KOREA | |
| REVIEW BY | | 2E-4603 | |
| APPROVED BY | | DUMP CONDENSATE COOLER | |
| APPROVED BY CLIENT | | DETAIL OF TUBE BUNDLE | |
| SCALE | N/A | DATE | '91.11.8 |
| DWG. NO. | 2E-4603-DW 002 | JOB NO. | 01011 |