

# CERTIFIED MATERIAL REPORT

CMR No. : OK3011352318

Date of Issue 2013/11/30

|                          |  |                       |                 |
|--------------------------|--|-----------------------|-----------------|
| Customer                 | M.BINDT TRADING  |                       |                 |
| Trade Name               | S-711  | Size                  | 3.2 mm * 400 mm |
| Lot No.                  | 31604  | Purchaser's Order No. | -               |
| Applicable Specification | JIS Z3251 DFCrA-600-BR * According to EN10204 3.1 : 2004 |                       |                 |

|                 |    |               |   |                                     |   |
|-----------------|----|---------------|---|-------------------------------------|---|
| Welding Current | AC | Shielding Gas | - | Post Weld Heat Treatment (°C × hr.) | - |
|-----------------|----|---------------|---|-------------------------------------|---|

|                       |              |          |        |                           |    |    |    |      |
|-----------------------|--------------|----------|--------|---------------------------|----|----|----|------|
| Mechanical Properties | Tensile Test |          |        | Impact Test (CVN - Joule) |    |    |    |      |
|                       | YS (MPa)     | TS (MPa) | EL (%) | Temp.(°C)                 | X1 | X2 | X3 | Avg. |
|                       |              |          |        |                           |    |    |    |      |
| Spec.                 |              |          |        |                           |    |    |    |      |

Chemical Composition (%)

|                |      |      |      |       |       |      |       |      |      |      |
|----------------|------|------|------|-------|-------|------|-------|------|------|------|
| ( Weld Metal ) | C    | Si   | Mn   | P     | S     | Ni   | Cr    | Mo   | W    | Co   |
|                | 3.32 | 0.71 | 1.00 | 0.016 | 0.002 | 0.02 | 34.81 | 0.01 | 0.01 | 0.01 |
|                | 2.5  |      |      |       |       |      | 20.0  |      |      |      |
| Spec.          | ~6.0 | ≤3.5 | ≤7.5 | ≤0.03 | ≤0.03 | ≤3.0 | ~35.0 | ≤6.0 | ≤6.5 | ≤5.0 |

\* Hardness Test (HRC) : 54

Others

\* Hardness Value : · Preheat Temp. : 150±20°C · Interpass Temp. : 150±20°C

\*CONTRACT NO.: 37821  
19,200KG

We hereby certifies that the material covered by this report has been inspected in accordance with and been found to meet the applicable requirements of specification and customer's requirements.

ORIGINAL

Approved by

*Sang Hee Lee*

QA Manager Lee, S. H.



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