

# CERTIFIED MATERIAL REPORT

CMR No. : 2401244300508

Date of Issue : 2024-01-24

|               |  |                       |             |
|---------------|--|-----------------------|-------------|
| Customer      | SPECIALISED WELDING PRODUCTS LIMITE                          |                       |             |
| Trade Name    | S-309L.17  | Size                  | 4.0mm*350mm |
| Lot No.       | 232202   | Purchaser's Order No. |             |
| Specification | AWS A5.4 E309L-17<br>Equivalent to EN ISO 3581-A E 23 12 L R |                       |             |

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

**Mechanical Properties**

| Weld Metal | Tensile Test |         |       | Impact Test (CVN - Joule) |    |    |    |      |
|------------|--------------|---------|-------|---------------------------|----|----|----|------|
|            | YS(MPa)      | TS(MPa) | EL(%) | Temp.(°C)                 | X1 | X2 | X3 | Avg. |
|            | 450          | 570     | 44.0  |                           | -  | -  | -  | -    |
| AWS Spec.  | -            | ≥ 520   | ≥ 30  |                           | -  |    |    |      |

**Chemical Composition (%)**

\* According to EN 10204-2004 : 3.1

| Weld Metal | C      | Si     | Mn        | P      | S      | Cu     | Ni          | Cr          | Mo     |  |  |
|------------|--------|--------|-----------|--------|--------|--------|-------------|-------------|--------|--|--|
|            | 0.03   | 0.77   | 1.30      | 0.019  | 0.012  | 0.01   | 12.73       | 24.39       | 0.05   |  |  |
| AWS Spec.  | ≤ 0.04 | ≤ 1.00 | 0.5 ~ 2.5 | ≤ 0.04 | ≤ 0.03 | ≤ 0.75 | 12.0 ~ 14.0 | 22.0 ~ 25.0 | ≤ 0.75 |  |  |

**Others**

We hereby certify 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.

Approved by

*K.W. Park*

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