

# CERTIFIED MATERIAL REPORT

CMR No. : 2003024000002

Date of Issue : 2020-03-02

|               |  |                       |            |
|---------------|--|-----------------------|------------|
| Customer      | Lascentrum Norge   |                       |            |
| Trade Name    | SC-71LHM Cored   | Size                  | 1.2mm*15kg |
| Lot No.       | 20003623AA20BE2  | Purchaser's Order No. | -          |
| Specification | AWS A5.36 E71T1-M21A2-CS1<br>EN ISO 17632-A T 46 3 P M21 1 |                       |            |

|                 |      |               |             |                                   |           |
|-----------------|------|---------------|-------------|-----------------------------------|-----------|
| Welding Current | DCEP | Shielding Gas | 80%Ar+20%CO | Post Weld Heat Treatment ( x hr.) | AS WELDED |
|-----------------|------|---------------|-------------|-----------------------------------|-----------|

|                       |              |         |       |                                    |    |    |    |      |
|-----------------------|--------------|---------|-------|------------------------------------|----|----|----|------|
| Mechanical Properties |              |         |       | * According to EN 10204-2004 : 3.1 |    |    |    |      |
| Weld Metal            | Tensile Test |         |       | Impact Test (CVN - Joule)          |    |    |    |      |
|                       | YS(MPa)      | TS(MPa) | EL(%) | Temp.( )                           | X1 | X2 | X3 | Avg. |
|                       | 536          | 589     | 29.0  | -30                                | 76 | 86 | 92 | 85   |
| AWS Spec.             | 400          | 490 660 | 22    | 27                                 |    |    |    |      |

|                          |      |      |      |       |       |      |      |      |      |      |                                    |  |
|--------------------------|------|------|------|-------|-------|------|------|------|------|------|------------------------------------|--|
| Chemical Composition (%) |      |      |      |       |       |      |      |      |      |      | * According to EN 10204-2004 : 3.1 |  |
| Weld Metal               | C    | Si   | Mn   | P     | S     | Ni   | Cr   | Mo   | V    | Cu   |                                    |  |
|                          | 0.07 | 0.58 | 1.25 | 0.009 | 0.007 | 0.02 | 0.03 | 0.01 | 0.03 | 0.01 |                                    |  |
| AWS Spec.                | 0.12 | 0.90 | 1.75 | 0.030 | 0.030 | 0.50 | 0.20 | 0.30 | 0.08 | 0.35 |                                    |  |

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*

QA Manager Park K. W.



**HYUNDAI WELDING CO., LTD.**

Head Office

#507, Teheran-ro, Gangnam-gu, Seoul, Republic of Korea

Pohang Plant

#100, Daesong-ro, Nam-gu, Pohang, Republic of Korea