# CERTIFIED MATERIAL REPORT

CMR No. : 1612063700024 Date of Issue : 2016-12-06

| | | | |
|---|---|---|---|
| Customer | M.BINDT TRADING | | |
| Trade Name | S-7018.G | Size | 4.0mm*450mm |
| Lot No. | 636070 | Purchaser's Order No. | - |
| Specification | AWS A5.1 E7018 * According to EN 10204-2004 : 3.1<br>EN ISO 2560-A E 42 3 B 1 2 | | |

| | | | | | |
|---|---|---|---|---|---|
| Welding Current | DCEP | Shielding Gas | - | Post Weld Heat Treatment (℃ × hr.) | AS WELDED |

| Mechanical Properties | Tensile Test | | | Impact Test (CVN - Joule) | | | | |
|---|---|---|---|---|---|---|---|---|
| | YS(MPa) | TS(MPa) | EL(%) | Temp.(℃) | X1 | X2 | X3 | Avg. |
| | 499 | 588 | 27.8 | -30 | 62 | 72 | 75 | 70 |
| AWS Spec. | ≥400 | ≥490 | ≥22 | ≥27 | | | | |

Chemical Composition (%)

| | C | Si | Mn | P | S | Ni | Cr | Mo | V | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| (Weld Metal) | 0.08 | 0.40 | 1.24 | 0.014 | 0.009 | 0.04 | 0.04 | 0.01 | 0.01 | | |
| AWS Spec. | ≤0.15 | ≤0.75 | ≤1.60 | ≤0.035 | ≤0.035 | ≤0.30 | ≤0.20 | ≤0.30 | ≤0.08 | | |

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

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