



THE MOST RELIABLE WELDING®

# HOFFMAN ARC CO., LTD

## QUALITY CERTIFICATE OF WELDING CONSUMABLE

| Type  | Norm               | Brand Name | Part #  | Diameter     | Lot No. | Manufactured Date | Date of Issue  |
|-------|--------------------|------------|---------|--------------|---------|-------------------|----------------|
| E6013 | A5.1 / A5.1 M-2004 | Stark      | 6001302 | 1/8" (3.2mm) | 181432  | Shown on Package  | 2018 / 02 / 05 |

| Mechanical Properties of Deposited Metal                                     |                         |             | Chemical Composition of Deposited Metal (%) |                                                                                       |             |                 |         |                                                                                       |               |           |
|------------------------------------------------------------------------------|-------------------------|-------------|---------------------------------------------|---------------------------------------------------------------------------------------|-------------|-----------------|---------|---------------------------------------------------------------------------------------|---------------|-----------|
| Item                                                                         |                         | Requirement | Actual Result                               | Element                                                                               | Requirement | Actual Result   | Element | Requirement                                                                           | Actual Result |           |
| Yield Strength Rel(MPa)                                                      |                         | ≥330        | 373                                         | C                                                                                     | ≤0.20       | 0.059           | Mo      | ≤0.30                                                                                 | 0.0045        |           |
| Tensile Strength Rm(MPa)                                                     |                         | ≥430        | 474                                         | Si                                                                                    | ≤1.0        | 0.17            | V       | ≤0.08                                                                                 | 0.0082        |           |
| Elongation A5 (%)                                                            |                         | ≥17         | 27.5                                        | Mn                                                                                    | ≤1.20       | 0.22            | Cu      | --                                                                                    | --            |           |
| Sharp V<br>noch                                                              | Impact Temp (°C)        | --          | --                                          | S                                                                                     | --          | 0.0072          | A1      | --                                                                                    | --            |           |
|                                                                              | Av. Absorbed Energy (J) | --          | --                                          | P                                                                                     | --          | 0.023           | Ti      | --                                                                                    | --            |           |
| X-Ray                                                                        |                         | II          | I                                           | Cr                                                                                    | ≤0.20       | 0.025           | --      | --                                                                                    | --            |           |
| Hydrogen Content (ml/130g)                                                   |                         | --          | --                                          | Ni                                                                                    | ≤0.3        | 0.017           | --      | --                                                                                    | --            |           |
| Approved Classification Grade                                                |                         | CCS (--)    | LR (--)                                     | GL (--)                                                                               | NK (--)     | ABS (--)        | BV (--) | DNV (--)                                                                              | KR (--)       | RINA (--) |
| 10050 NW 116TH Way, Suite 15.<br>Medley, Florida 33178.<br>Telf: 305-4205099 |                         |             |                                             | This is to certify that the welding consumable conform with the standard              |             |                 |         |                                                                                       |               |           |
|                                                                              |                         |             |                                             | Signature                                                                             |             | Inspection seal |         |  |               |           |
|                                                                              |                         |             |                                             |  |             |                 |         |                                                                                       |               |           |