



8018-C1 XLM

AWS E8018-C1 H4 (Ni2)

REPLACES: 060118

140-F, INDEX: 060515

DESCRIPTION:

Featuring exceptionally good low temperature impact properties, **McKay 8018-C1 XLM** is excellent for welding steels with tensile strengths greater than 80,000 psi. With a specially formulated coating designed to reduce moisture pick-up and minimize hydrogen cracking and starting porosity, McKay 8018-C1 XLM is also great for welding conditions of high heat or humidity.

Note: Actual certs are supplied with every shipment (one per master carton or pallet) at no charge.

APPLICATIONS:

Used in shipbuilding, piping and gas storage tanks, as well as in the welding of AR and T-1 steels. Ideal for low temperature applications where toughness of weld metal is important.

| FEATURES | BENEFITS |
|---|---|
| <ul style="list-style-type: none"> • Low hydrogen, less than 4 ml/100 g • Excellent arc characteristics • Low moisture reabsorption • Low spatter level • Quick and easy slag removal • Low smoke level | <ul style="list-style-type: none"> • Resistant to hydrogen-induced cracking • Stable, easy to control arc • Prevents starting porosity • Improves weld bead appearance, higher deposition • Reduces clean-up time • Welder safety and comfort |

TYPICAL WELD METAL PROPERTIES* (CHEM PAD):

| WELD METAL ANALYSIS | | AWS Spec |
|---------------------|------|--------------|
| Carbon (C) | 0.06 | 0.12 max |
| Manganese (Mn) | 0.90 | 1.25 max |
| Phosphorus (P) | 0.01 | 0.03 max |
| Sulphur (S) | 0.01 | 0.03 max |
| Silicon (Si) | 0.30 | 0.80 max |
| Nickel (Ni) | 2.30 | 2.00 to 2.75 |

TYPICAL MECHANICAL PROPERTIES*:

| | Stressed Relieved -1 Hour at 1275°F | AWS Spec |
|--------------------|-------------------------------------|-----------------|
| Tensile Strength | 98,900 psi (580 MPa) | 80,000 psi, min |
| Yield Strength | 87,600 psi (490 MPa) | 67,000 psi, min |
| Elongation % in 2" | 24% | 19% min |
| Reduction of Area | 71.5% | Not required |

TYPICAL CHARPY V-NOTCH IMPACT VALUES*:

| | Stressed Relieved -1 Hour at 1275°F | AWS Spec |
|----------------------|-------------------------------------|-----------|
| Avg. at 75°F (-60°C) | 50 ft•lbf (68 J) | 20 ft•lbf |

CONFORMANCES AND APPROVALS:

- AWS Spec A5.5, Class E8018-C1 H4 • ASME SFA5.5, F-4, A-10, E8018-C1 H4 • ABS

*The information contained or otherwise referenced herein is presented only as "typical" without guarantee or warranty, and McKay expressly disclaims any liability incurred from any reliance thereon. Typical data are obtained when welded and tested in accordance with AWS A5.5 specification. Other tests and procedures may produce different results. No data is to be construed as a recommendation for any welding condition or technique not controlled by McKay.



8018-C1 XLM

RECOMMENDED WELDING PROCEDURES:

- GENERAL:** DCEP (electrode positive, work negative) or AC
- ARC LENGTH:** Very short (less than half the diameter of the electrode)
- FLAT:** Angle electrode 10-15° from 90°
- VERTICAL-UP:** Use weaving technique
- VERTICAL DOWN:** Not recommended
- OVERHEAD:** Use slight whipping motion within the puddle
- STORAGE:** After opening, store in holding oven (250°F to 300°F) until used to ensure low hydrogen weld deposit
- RECONDITIONING:** If electrode has been exposed to the atmosphere for an extended period of time, place in 250°F oven and slowly increase temperature to 600°F; bake at 600°F for one (1) hour.

RECOMMENDED OPERATING PARAMETERS:

| DIAMETER | | TYPE OF POWER | MINIMUM AMPS | OPTIMUM AMPS | MAXIMUM AMPS |
|----------|-----|---------------|--------------|--------------|--------------|
| INCHES | MM | | | | |
| 3/32 | 2.4 | DCEP or AC | 70 | 100 | 110 |
| 1/8 | 3.2 | DCEP or AC | 90 | 135 | 160 |
| 5/32 | 4.0 | DCEP or AC | 130 | 170 | 220 |

*For out of position welding, reduce amperages shown by 15%.

TYPICAL DEPOSITION DATA (AT OPTIMUM):

| DIAMETER | | TYPE OF POWER | AMPS | DEPOSITION RATE LBS/HR |
|----------|-----|---------------|------|---------------------------|
| INCHES | MM | | | |
| 3/32 | 2.4 | DCEP | 100 | 2.4 |
| 1/8 | 3.2 | DCEP | 135 | 2.8 |
| 5/32 | 4.0 | DCEP | 170 | 3.9 |

AVAILABLE DIAMETERS AND PACKAGES:

| DIAMETER | | LENGTH | | 50-LB. CAN |
|----------|-----|--------|-----|---------------|
| INCHES | MM | INCHES | MM | |
| 3/32 | 2.4 | 14 | 355 | S125132-Z35 |
| 1/8 | 3.2 | 14 | 355 | S125144-Z35 |
| 5/32 | 4.0 | 14 | 355 | S125151-Z35 |

Material Safety Data Sheets on any McKay product may be obtained from McKay Customer Service.

Because McKay is constantly improving products, McKay reserves the right to change design and/or specifications without notice.