BLUESHIELD™ MNR 4x4™

Mild Steel Specialty MNR Electrode

SMAW

Description & Applications

- General maintenance and adverse-condition mild steel electrode for “off-road 4x4” welding.
- Excels on rusty, greasy, misaligned parts and difficult-to-access components.
- MNR 4x4™ is ideal for difficult maintenance work in all positions.
- Easily welds galvanized, painted, rusted or contaminated steels in service.
- For maximum penetration and digging action on ornamental iron, steel furniture, heavy and farm machinery parts.

The BLUESHIELD™ Advantage

- MNR 4x4™ welds through heavy contamination without porosity.
- Bridges very large gaps.
- Special coating bends without flux chipping.
- Welds over slag without removal.

Typical Welding Parameters

- DCEP, DCEN or AC.
- Short to medium arc length at low amperage.
- Use a medium to long arc and favor high amperages when surface preparation is impractical.
- Multi-pass welds can be made without intermittent slag removal.
- Use any welding technique from stringer bead to wide weave.

DIAMETER		AMPERAGE		
mm	in	Minimum	Maximum	Optimum
2.5	3/32	25	75	50
3.2	1/8	35	125	80
4.0	5/32	50	160	105

Deposition Rates

DIAMETER mm (in)	LENGTH mm (in)	WELD METAL / ELECTRODE	ELECTRODE PER kg (lb) OF WELD METAL	DEPOSITION RATE kg/h (lb/h)
2.5 (3/32)	350 (14)	7 g (0.27 oz)	100 (45)	0.74 (1.6)
3.2 (1/8)		15 g (0.56 oz)	56 (25)	1.07 (2.4)
4.0 (5/32)		25 g (0.90 oz)	38 (17)	1.33 (3.0)

Typical Mechanical Properties*

TENSILE STRENGTH MPa (ksi)	YIELD STRENGTH MPa (ksi)	ELONGATION (%)	CHARPY V-NOTCH IMPACT ENERGY
630 (90)	570 (80)	28	70J @ -20°C 52 lb-ft @ -4°F

** Actual welding positions and procedures can impact results.*

Packaging

DIAMETER		PACKAGING			ITEM NUMBER
mm	in	kg	lb		
2.5 3.2	3/32 1/8	0.5	1.1	Tube	**A0274523** **A0274525**
2.5 3.2 4.0	3/32 1/8 5/32	5	11	Heavy plastic box	**A0274524** **A0274526** **A0274527**

Air Liquide creative oxygen | BLUESHIELD