

Innershield® NR®-211-MP

Self-shielded cored wire

Classification

AWS A5.20/A5.20M : E71T-11

General description

Self shielding: easiest equipment arrangement

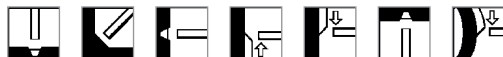
General purpose welding

Easy handling and welding versatility

Recommended for sheets from 2.5 to 12mm

With electrode diameter 0.9mm: excellent for sheets from 1.2mm

Welding positions



ISO/ASME PA/1G PB/2F PC/2G PF/3G up PG/3G down PE/4G PG/5G down

Current type

DC -

Approvals

| BV | FORCE | LR |
|----|-------|-----|
| + | + | AWS |

Chemical composition (w%), typical, all weld metal

| C | Mn | Si | P | S | Al |
|------|------|------|-------|-------|------|
| 0.21 | 0.60 | 0.18 | 0.008 | 0.007 | 1.50 |

Mechanical properties, all weld metal

| | Condition | Yield strength (N/mm ²) | Tensile strength (N/mm ²) | Elongation % | Impact ISO-V(J) |
|----------------|-----------|--|--|-----------------|-----------------|
| Required: | AWS A5.20 | min. 400 | 480 | 20 | not required |
| Typical values | AW | 450 | 580 | 23 | |

Packaging and available sizes

| Unit type | Net weight/unit (kg) | Diameter (mm) | | | |
|-----------|-------------------------|---------------|-----|-----|-----|
| | | 0.9 | 1.2 | 1.7 | 2.0 |
| Coils 14C | 4.54 | X | X | | |
| Coils 14C | 6.35 | | | X | X |
| | 11.34 | X | X | | |
| Coils 50C | 22.68 | | | X | X |

Innershield® NR®-211-MP: rev. EN 20

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Suggestions for use

Fabricating and repair of machinery parts, truck bodies, saddles, tanks, hoppers, etc.
Racks, scaffolding, light angle structurals, joints, small roundabouts, etc.
Short assembly welds on brackets, dips, etc.
Galvanized steel

Materials to be welded

| Steel | Code | Type |
|--------------------------------|---------------------------|---|
| General structural steel | EN 10025 | S185, S235, S275, S355 |
| Ship plates | ASTM A131 | Grade A, B, D, AH32 to DH36 |
| Cast steel | EN 10213-2 | GP240R |
| Pipe material | EN 10208-1 | L210, L240, L290, L360 |
| | EN 10208-2 | L240, L290, L360 |
| | API 5LX | X42, X46, X52 |
| | EN 10216-1/ EN 10217-1 | P235T1, P235T2, P275T1 P275T2, P355N |
| | EN 10028-2 | P235GH, P265GH, P295GH, P355GH |
| Boiler & pressure vessel steel | EN 10113-2 | S275, S355 |
| Fine grained steel | EN 10113-2 | S275, S355 |
| | EN 10113-3 | S275, S355 |

Calculation data at normal setting

| Diameter (mm) | Electrical Stick-out (mm) | Wire feed speed cm/min | Current (approx. A) | Arc Voltage (V) | Deposition Rate (kg/h) | kg Wire/kg Weldmetal |
|---------------|---------------------------|------------------------|---------------------|-----------------|------------------------|----------------------|
| 0.9 | 10 | 125 | 30 | 14 | 0.3 | 1.22 |
| | | 230 | 90 | 16 | 0.6 | 1.22 |
| | | 280 | 120 | 16.5 | 0.8 | 1.22 |
| 1.1 | 14 | 180 | 120 | 15 | 0.5 | 1.22 |
| | | 280 | 160 | 17 | 1.0 | 1.22 |
| | | 330 | 170 | 18 | 1.2 | 1.22 |
| 1.7 | 19 | 100 | 120 | 15 | 0.8 | 1.22 |
| | | 190 | 190 | 18 | 1.5 | 1.22 |
| | | 440 | 320 | 23 | 3.5 | 1.22 |
| 2.0 | 19 | 130 | 180 | 16 | 1.4 | 1.09 |
| | | 190 | 250 | 18 | 2.2 | 1.09 |
| | | 380 | 350 | 22 | 4.3 | 1.09 |
| 2.4 | 19 | 130 | 235 | 16 | 2.0 | 1.10 |
| | | 140 | 250 | 18 | 2.3 | 1.10 |
| | | 250 | 370 | 20 | 4.2 | 1.10 |

Welding parameters, optimum fill passes

| Diameter (mm) | Wire feed speed/ Current/ Voltage | Welding position | | | | |
|---------------|---|------------------|-------|----------|--------------------------|-------|
| | | PA/1G PB/2F | PC/2G | PF/3G up | PG/3G down PG/5G down | PE/4G |
| 0.9 | (cm/min.) | 180 | 180 | 150 | 230 | 230 |
| | (A) | 65 | 65 | 50 | 85 | 85 |
| | (V) | 15 | 15 | 14.5 | 16 | 16 |
| 1.1 | (cm/min.) | 230 | 230 | 200 | 280 | 280 |
| | (A) | 140 | 140 | 130 | 160 | 160 |
| | (V) | 16 | 16 | 16 | 17 | 17 |
| 1.7 | (cm/min.) | 440 | 250 | 190 | 300 | 300 |
| | (A) | 320 | 230 | 190 | 280 | 280 |
| | (V) | 23 | 19.5 | 18 | 21 | 21 |
| 2.0 | (cm/min.) | 330 | 190 | | 230 | 190 |
| | (A) | 320 | 250 | | 320 | 250 |
| | (V) | 21 | 18 | | 19.5 | 18 |
| 2.4 | (cm/min.) | 230 | 180 | | 230 | 140 |
| | (A) | 350 | 275 | | 350 | 250 |
| | (V) | 19.5 | 19 | | 19.5 | 18 |