



Inomaxx[®] Plus

Maximum performance for welding stainless steel

The Inomaxx[®] gases have been developed to give optimum weld quality and ease of use without compromise on material performance. Inomaxx[®] gases also provide a high-grade surface finish with low reject rates and superb environmental performance.

The best gas for stainless steel

Inomaxx[®] Plus is a mixture of argon, helium and CO₂ used to weld stainless steel:

- Improves weld quality and reduces rejects, with excellent penetration characteristics and a greater tolerance to variations in weld parameter settings
- More productive, up to 17% increase in manual weld speeds when compared with conventional mixtures
- Particularly suitable for welding thick materials and suitable for all modes of metal transfer
- Protects the work environment, minimal ozone generation



Approved welding procedure Inomaxx® Plus

| | |
|-----------------------|--|
| Manufacturer: | Air Products PLC Air Products Ireland Ltd |
| Welding process: | MAG 135 |
| Root welding process: | MAG 135 |
| Joint type: | Butt |

Joint design

| | |
|------------------------------------|--|
| Preparation of parts | Sandblasting and solvent cleaning |
| Parent material and specifications | Stainless steel EN 10088-2 X2CrNi 19-11 |
| Composition | C - 0.030% max. Si - 1.0% max. Mn - 2.0% max. P - 0.045% max. S - 0.030% max. Cr - 17.0 / 19.0% Ni - 9.0 / 12.5% |
| Material thickness | 12.5 mm |
| Outside diameter | n/a |
| Welding position | Flat (PA) |

Welding details

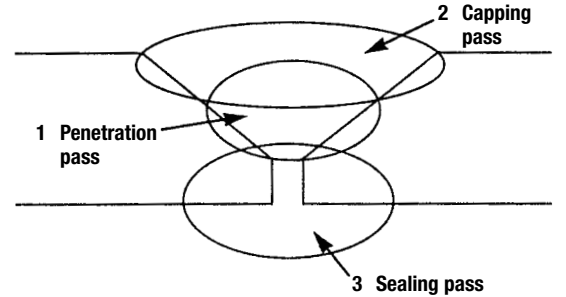
| Run | Process | Diameter of filler metal (mm) | Current (A) | Voltage (V) | Type of Wire feed Current & Polarity | Wire feed Speed (m/min) | Travel Speed (mm/min) | Heat Input (KJ) |
|-----|---------|-------------------------------|-------------|-------------|--------------------------------------|-------------------------|-----------------------|-----------------|
| 1 | MAG | 1.0 | 254 | 27.0 | DC+ | 6.9 | 438 | 0.94 |
| 2 | MAG | 1.0 | 226 | 27.5 | DC+ | 7.3 | 420 | 0.88 |
| 3 | MAG | 1.0 | 230 | 27.0 | DC+ | 7.3 | 420 | 0.88 |
| 4 | | | | | | | | |
| 5 | | | | | | | | |
| 6 | | | | | | | | |

| | |
|---------------------------------|--|
| Filler metal and specification | 316LSi AWS A5.9 ER316LSi |
| Filler metal composition | C - 0.03% max. - Si - 0.65 / 1.00% Mn - 1.50 / 2.50% - P - 0.030% max. S - 0.030% max. - Cr - 19.5 / 21.0% Mo - 0.50% max. Ni - 9.50 / 11.0% Cu - 0.50% max. |
| Classification of shielding gas | EN 439 - M 12(2) |
| Shielding gas/ | Inomaxx® Plus |
| Gas flow rate - Shield | 18 l/min |
| Purge | n/a |
| TIG electrode type | n/a |
| Underside protection | n/a |
| Preheat temperature | Ambient |
| Interpass temperature | 150°C max |

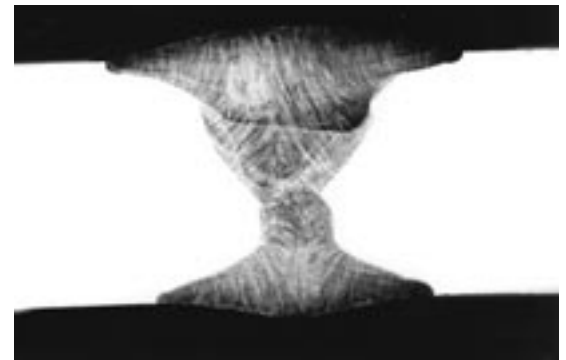
| | |
|----------------------|---------------------------------|
| Heat treatment | n/a |
| Stand off distance | 15 mm |
| Torch angle | 15° in the direction of welding |
| Nozzle bore diameter | 20 mm |

*n/a: not applicable

Welding sequence



Macrography



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