

Classifications

| | |
|---------------|----------|
| EN ISO 3581-A | AWS A5.4 |
| E 21 10 R | - |

Characteristics and typical fields of application

Avesta 253 MA is primarily designed for welding the high temperature stainless steel Outokumpu 253 MA, used for furnaces, combustion chambers and burners. Both the steel and filler metal offers excellent resistance to oxidation up to 1100°C.

The chemical composition of Avesta 253 MA is balanced to give a crack resistant weld metal. The steel often forms a rather thick oxide in welding or hot rolling and oxidized plates and welds must be brushed or ground clean before welding.

Corrosion resistance:

Excellent resistance to high temperature corrosion. Not intended for applications exposed to wet corrosion.

Base materials

| Outokumpu | EN | ASTM | BS | NF | SS |
|---------------------|--------|--------|----|----|------|
| 253 MA [®] | 1.4835 | S30815 | - | - | 2368 |
| 153 MA [™] | 1.4818 | S30415 | - | - | 2372 |

Typical analysis of all-weld metal (wt.-%)

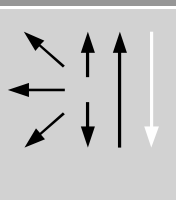
| | C | Si | Mn | Cr | Ni | N |
|------|------|-----|-----|------|------|------|
| wt-% | 0.08 | 1.5 | 0.7 | 22.0 | 10.5 | 0.18 |

Mechanical properties of all-weld metal

| Heat-treatment | Yield strength R _e N/mm ² | Tensile strength R _m N/mm ² | Elongation (L ₀ =5d ₀) | Impact work ISO-V KV J | | Hardness |
|----------------|--|--|--|---------------------------|-------|----------|
| | MPa | MPa | % | +20 °C | -40°C | HB |
| u | 535 | 725 | 37 | 60 | - | 215 |

u untreated, as-welded

Operating data

|  | Polarity: DC (+) | Electrode identification: | ø (mm) | L mm | Amps A |
|---|-----------------------|------------------------------|--------|------|-----------|
| | | | 2.0 | | 45 – 65 |
| | | | 2.5 | | 60 – 80 |
| | | | 3.25 | | 70 – 110 |
| | | | 4.0 | | 100 – 140 |
| | | | 5.0 | | 150 – 200 |

Approvals

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