# Exaton 2594

2594 is used for welding of 2507 and other super-duplex steels. The grade is characterized by excellent resistance to stress corrosion in chloride-bearing environments and excellent resistance to pitting and crevice corrosion. 2594 can also be used for welding 2205 and corresponding duplex steels when the highest possible corrosion resistance is required. It is used for TIG-welding.

| Specifications | |
|---|---|
| **Classifications** | EN ISO 14343-A : W 25 9 4 N L<br>SFA/AWS A5.9 : ER2594 |
| **Approvals** | ABS : 2594<br>BV : Duplex<br>CE : EN 13479<br>DNV-GL : 1.2 - 3.2 mm<br>UKCA : EN 13479<br>VdTÜV : 06592 |

| | |
|---|---|
| **Alloy Type** | Austenitic-ferritic (duplex) with approx. 50 FN ferrite - 25% Cr - 10% Ni - 4% Mo - Low C |

| Typical Tensile Properties | | | |
|---|---|---|---|
| **Condition** | **Yield Strength** | **Tensile Strength** | **Elongation** |
| As Welded | 650 MPa ( 94 ksi ) | 850 MPa ( 123 ksi ) | 25 % |

| Typical Charpy V-Notch Properties | | |
|---|---|---|
| **Condition** | **Testing Temperature** | **Impact Value** |
| As Welded | 20 °C ( 68 °F ) | 210 J ( 155 ft-lb ) |
| As Welded | -40 °C ( -40 °F ) | 170 J ( 126 ft-lb ) |
| As Welded | -46 °C ( -51 °F ) | 150 J ( 111 ft-lb ) |
| As Welded | -50 °C ( -58 °F ) | 140 J ( 104 ft-lb ) |

| Typical Wire Composition % | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **C** | **Mn** | **Si** | **S** | **P** | **Ni** | **Cr** | **Mo** | **V** | **Cu** |
| 0.012 | 0.4 | 0.3 | 0.0005 | 0.015 | 9.5 | 25 | 4 | 0.05 | 0.07 |

| Typical Wire Composition % | | | | | | |
|---|---|---|---|---|---|---|
| **N** | **Nb** | **Ti** | **Co** | **PRE** | **FN WRC-92** | **W** |
| 0.25 | 0.01 | 0.003 | 0.04 | 42 | 50 | 0.01 |

| Typical Weld Metal Analysis % | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **C** | **Mn** | **Si** | **S** | **P** | **Ni** | **Cr** | **Mo** | **Cu** | **N** |
| 0.01 | 0.4 | 0.4 | 0.001 | 0.02 | 9.5 | 25 | 3.9 | 0.1 | 0.24 |

| Typical Weld Metal Analysis % | | | |
|---|---|---|---|
| **Nb** | **PRE** | **FN WRC-92** | **W** |
| 0.01 | 41.7 | 52 | 0.01 |