

Exaton 42

WELDING WIRE

DATASHEET

Exaton 42 is a duplex stainless steel of type UNS S32760 for use in aggressive environments where high mechanical strength and high corrosion resistance is required.

Compared to Sandvik 25.10.4.L the filler is alloyed with Cu and W which makes it somewhat more prone to intermetallic phases.

STANDARDS

- ISO 14343: 25 9 4 N L
- AWS A5.9/ASME SFA-5.9: ER2594
- W.Nr.: (1.4501)*

* nearest equivalent

Please note that the Werkstoff Nr. corresponds to the base material of the grade.

CHEMICAL COMPOSITION (NOMINAL) %

Chemical composition (nominal) %

C	Si	Mn	P	S	Cr	Ni	Mo	W	Cu	N
≤0.020	0.4	0.8	≤0.020	≤0.015	25	9.5	3.7	0.5	0.6	0.23

APPLICATIONS

Exaton 42 is used for welding super-duplex and duplex stainless steels. The grade is characterized by high mechanical strength and excellent resistance to stress corrosion in chloride bearing environment and excellent resistance to pitting and crevice corrosion.

FORMS OF SUPPLY

Exaton 42 is available in wire and straight rods.

WELD METAL CHARACTERISTICS

The following data is typical for non-heat treated all-weld metal.

Chemical composition, % (TIG)

C	Si	Mn	P	S	Cr	Ni	Mo	W	Cu	N
≤0.020	0.5	0.8	≤0.025	≤0.015	24.5	9.6	3.7	0.5	0.6	0.20

The microstructure is austenitic-ferritic (duplex) with approximately 40 vol-% ferrite.

Chemical composition, % (SAW) and flux 15W

C	Si	Mn	P	S	Cr	Ni	Mo	W	Cu	N
≤0.020	0.5	0.8	≤0.025	≤0.015	24.5	9.6	3.7	0.5	0.6	0.20

C	Si	Mn	P	S	Cr	Ni	Mo	W	Cu	N
≤0.020	0.5	0.7	≤0.030	≤0.015	25.0	9.4	3.7	0.5	0.6	0.20

MECHANICAL PROPERTIES

TIG – typical for non-heat treated weld metal

Temperature	°C (°F)	20 (68)	-40 (-40)	-46 (-51)	-50 (-58)
Yield strength, R _{P0.2}	MPa (ksi)	700 (101)	-	-	-
Tensile strength, R _m	MPa (ksi)	900 (130)	-	-	-
Elongation, A	%	25	-	-	-
Reduction in area, Z	%	65			
Impact strength, KV	J (ft lb)	220 (162)	210 (155)	170 (125)	140 (103)
Hardness, Vickers	HV10	290			

SAW – typical for non-heat treated weld metal

Temperature	°C (°F)	20 (68)	-40 (-40)
Yield strength, R _{P0.2}	MPa (ksi)	700 (101)	-
Tensile strength, R _m	MPa (ksi)	880 (128)	-
Elongation, A	%	25	-
Reduction in area, Z	%	22	
Impact strength, KV	J (ft lb)	90 (66)	60 (44)
Hardness, Vickers	HV10	290	

CORROSION RESISTANCE

Exaton 42 has a high resistance to intergranular corrosion and pitting. The grade passes the ASTM G48A test at 40°C (105°F) for TIG and 35°C (95°F) for SAW. The filler also has good resistance to stress corrosion cracking, especially in environments containing H₂S or chlorides.

Disclaimer: Recommendations are for guidance only, and the suitability of a material for a specific application can be confirmed only when we know the actual service conditions. Continuous development may necessitate changes in technical data without notice. This datasheet is only valid for Sandvik materials.