


Technical data sheet EN131223GB	Cored welding wire CHROMECORE B 13 4-G	
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CLASSIFICATION

EN ISO 17633-A:	T 13 4 B M12 2
EN ISO 17633-B:	TS410NiMo-M M12 1
ASME IIC SFA 5.22 & 5.9:	EC410NiMo
EN 14700:	T Fe7
Equivalent material number:	1.4351

DESCRIPTION

- Metal cored wire with controlled basic mineral additions for gas shielded arc welding of stainless steels
- Excellent impact toughness in the as-welded or heat treated conditions
- Optimised mechanical properties and cracking resistance
- 12% Cr - 4% Ni – 0.5% Mo soft martensitic stainless steel
- Diffusible hydrogen guaranteed below 4 ml per 100 g of weld metal (typically around 2 ml/100g)

APPLICATIONS

CHROMECORE B 13 4-G is used for the fabrication and rebuilding of turbines in the hydropower industry. The deposit is martensitic and combines best in class toughness with excellent resistance to cavitation and to stress corrosion cracking. Together with enhanced productivity, the CHROMECORE B 13 4-G offers many other advantages compared to solid wires: improved weldability, almost no spatter, better arc stability, enhanced wetting properties, reduced crack sensitivity, better bead appearance and shape.

Examples of materials to be welded (non exhaustive list):

- EN Symbol: X4 CrNi 13 4, X3 CrNiMo 13 4, X3 CrNi 13-4, GX4 CrNiMo 13-4, GX5 CrNi 13 4, GX5 CrNiMo 13-4
- Material number: 1.4313, 1.4407, 1.4413, 1.4414
- UNS: S41500, J91540, J91550
- Wrought: F6NM, Cast CA6NM, ASTM A352, A487, A743, A757

A post-weld heat treatment at 580°C - 620°C is recommended to obtain a tempered martensite that combines strength and ductility with corrosion and cavitation resistance.

TYPICAL ALL-WELD METAL ANALYSIS

C	Mn	Si	Cr	Ni	Mo
0.02	0.5	0.3	12.0	4.5	0.5

MINIMUM ALL-WELD METAL MECHANICAL PROPERTIES (with 98% Ar – 2% CO₂ shielding)

PWHT	Rm [MPa]	Rp0.2% [MPa]	A ₅ [%]	CVN [J]
8 hours at 580°C	800	630	15	0°C: 90 -20°C: 80

TYPICAL ALL-WELD METAL MECHANICAL PROPERTIES (with 98% Ar / 2% CO₂ shielding)

PWHT	Rm [MPa]	Rp0.2% [MPa]	A ₅ [%]	CVN [J]
8 hours at 580°C	830	690	18	0°C: 120 -20°C: 110

OPERATING CONDITIONS – PA / 1G

Diameter [mm]	Current type	Current [A]	Voltage [V]	Stick-out [mm]
1.2	DC+	200 - 300	22 - 28	10 - 20
1.6	DC+	250 - 350	24 - 30	10 - 20

Recovery: 95%

SHIELDING GAS

EN ISO 14175: M12 (Ar + 0.5 % < CO₂ ≤ 5%)
 M20 (Ar + 5% < CO₂ < 15%)

WELDING POSITIONS

EN ISO 6947: PA, PB
 ASME IX: 1F, 1G, 2F

PACKAGING

Diameter	1.2 – 1.6 mm
Spool type (EN ISO 544)	BS 300
Weight	15 kg

Other packaging and other diameters: please consult us

Welding products and techniques evolve constantly. All descriptions, illustrations and properties given in this data sheet are subject to change without notice and can only be considered as suitable for general guidance. This document is intended to help the user make the correct choice of product. It is his responsibility to assess its suitability for his intended application.