

Data sheet and application

DIM L-1.4462 Duplex ©

Material no.: 1.4462
 DIN 8556: SG X 2 CrNiMoN 22-5-3
 EN ISO 14343-A: G 22 9 3 N L
 EN ISO 14343-B: SS2209
 UNS: S 31803 / AFNOR: (Z 5 CNDU 21.08)
 AWS A5.9: ER2209

Highly alloyed, highly corrosion-resistant

Characteristics

Solid-wire electrode, is ideally suited for the welding of ferritic-austenitic duplex steels. In addition to high strength and toughness properties, the weld metal has excellent resistance to stress corrosion cracking and pitting (PREN > 35) in chloride-containing media. Excellent resistance to hydroabrasive wear and good cavitation resistance. The welding additive can be used in the temperature range from -40°C to +250°C. In order to achieve the special properties of the weld, a controlled mixing and appropriate root protection must be ensured. Ferrite content 30-60 FN (WRC).

The solid wire electrode is characterized by excellent sliding and conveying properties and very good welding and flow behavior.

Application

Components (primarily castings) for the extraction of sea and brackish water, salt solutions, sulphide-containing wash waters in petrochemical plants, as well as flue gas desulfurization plants.

Materials

Similar duplex steels as well as similarly alloyed, ferritic-austenitic materials with increased strength.

1.4462 X2CrNiMoN22-5-3, 1.4362 X2CrNiN23-4,
 1.4462 X2CrNiMoN22-5-3 with 1.4583 X10CrNiMoNb18-12,
 1.4462 X2CrNiMoN22-5-3 with P235GH / P265GH, S255N, P295GH, S355N, 16Mo3
 UNS S31803, S 32205, S 32750
 Steel casting: 1.4305 / 1.4340 / 1.4347 / 1.4415 / 17 / 1.4462 / 63/64/68/69 / 1.4470 / 1.4515 / 1.4517 / 1.4593 / 96

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Chemical composition

C	Si	Mn	Cr	Ni	Mo	N	PREN
≥ 0.015	0,4	1,7	22,5	8,8	3,2	0,15	≥ 35

Certificate of batch upon request.

Mechanical properties of pure weld metal

	Yield strength Rp0.2 MPa	Tensile strength Rm MPa	Elongation A 5 (%)	Impact energy ISO-V KV J +20°C -40°C
u*	660 (≥ 450)	830 (≥ 550)	28 (≥ 20)	85 (≥ 32)

u* untreated, welding state - protective gas Ar + 20% He + 2% CO₂

Processing instructions

Protection gases: Argon + 20-30% He + max. 2% CO₂
 Argon + 20-30% He + max. 1% O₂

Approvals and suitability tests

TÜV