



DAIKOFCW 97S



HIGH YIELD STRENGTH STEELS
110ksi

DESCRIPTION

Rutile all position flux cored wire

Rutile folded flux cored wire formulated for welding high yield strength steels, with tensile strength higher than 770 MPa. Excellent resilience values at low temperatures, down to -40°C. It can be used in the construction of industrial machines, cranes, and other components that require high mechanical strength. Self-releasing slag requiring less cleaning and pickling, very low spatter formation and increased travel speeds allow to obtain noticeable savings in time and costs.

SPECIFICATIONS

ISO 18276-A	T 69 4 Z P M 2 H5	AWS A5.29	E111T1-GM
DIN	-	Werkstoff Number	-
Certifications	-	Shielding	M21
Positions	PA, PB, PC, PD, PE, PF, PG	Current	DC+

ASME QUALIFICATIONS

F-No (QW432)	6
A-No (QW442)	-

FERRITE

F-No (QW432)	-
A-No (QW442)	-

PREN

F-No (QW432)	-
A-No (QW442)	-

HARDNESS

F-No (QW432)	-
A-No (QW442)	-

CHEM. COMP. %

	DEFAULT
C	0.07
Mn	1.86
Ni	2.49
P	0.007
S	0.006
Mo	0.16
Si	0.31

MECHANICAL PROPERTIES

	MIN	VARIANT
Tensile strength R_m MPa	-	815
Yield strength $R_{p0.2}$ MPa	-	740
Elongation A ($L_0=5d_0$) %	-	20
Impact Charpy ISO-V	-	47J @ -40°C
Impact Charpy ISO-V	-	-

WELDING PARAMETERS

	1.2 mm	1.6 mm
Ampere	160A - 280A	180A - 350A
Voltage	18V - 30V	30V - 34V
Packaging	Ø 1,2÷1,6mm	Ø 1,2÷1,6mm
Packaging Type	BS300 spool	BS300 spool

V 01/2024



The information in this datasheet is the result of detailed research and is considered accurate as of the publication date. However, we cannot guarantee its complete accuracy, and it is subject to change without notice. Actual results may vary due to many factors like welding procedures, material composition, temperature conditions, bevel configuration, and specific manufacturing techniques. We accept no liability for any errors or omissions in this datasheet. For the most current information, please visit www.daikowelding.com.





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APPLICATION

Designed for welding quenched and tempered, as well as thermomechanically rolled fine-grained structural steels and high-strength tubes, these consumables yield exceptionally tough weld metal at low temperatures. Their notable deformability makes them well-suited for crane, building, and vehicle constructions. The precise addition of micro-alloying elements ensures excellent ductility and crack resistance despite the high strength. Preheat considerations should align with the base material and thickness, with materials intended for welding by these high-strength consumables typically requiring a minimum preheat of 100°C. Caution is advised with certain HSLA steels, as interpass temperatures exceeding 200°C may lead to reduced strength and toughness. Post-weld heat treatment (PWHT) requirements generally hinge on the base material and application.

ALLOY TYPE

Mn-Ni-Mo low alloy consumables for welding high strength steels with ultimate tensile strength up to 750 MPa (110 ksi).

MICROSTRUCTURE

The microstructure of all the consumables is predominantly ferrite; some will contain high proportions of acicular ferrite for optimum aswelded toughness

MATERIALS

For joining of quenched and tempered and thermomechanically rolled fine-grained structural steels. For use in building, crane and vehicle constructions.

EN W.Nr.: S690QL1, L555M, S690Q, S690QL, S690QL1, S650MC, S700MC.

ASTM: A 514 Gr. F, H, Q.

API: 5L X80, 5L X90, 5L X100.

PROPRIETARY: N-A-XTRA® M 700 (ThyssenKrupp), Strenx® 700 (SSAB).

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