



DAIKOMCW 109



HIGH YIELD STRENGTH STEELS
100ksi

DESCRIPTION

Metal all position flux cored wire

Copper-plated tubular cored wire, slag-free with metal powder filling, low-Ni-Mo alloyed. For single pass or multipass welding of high strength steels with high elastic limit, up to 550 MPa. It has stable operating characteristics, excellent sidewall fusion and filling, low splash level and is usable in short, spray and pulsed. Excellent resilience values down to -50 ° C. To be used only under protection of Ar + CO2 mixture.

SPECIFICATIONS

ISO 18276-A	T 55 5 Z M M 1 H5	AWS A5.36	E91T15-M21
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)	10

FERRITE

-

PREN

-

HARDNESS

-

CHEM. COMP. %

DEFAULT

C	0.08
Mn	1.8
Ni	0.6
Cr	0.03
Mo	0.4
Si	0.6
Cu	0.15

MECHANICAL PROPERTIES

	MIN	VARIANT
Tensile strength R _m MPa	640	720
Yield strength R _{p0.2} MPa	550	620
Elongation A (L ₀ =5d ₀) %	18	18
Impact Charpy ISO-V	47J @ -50°C	47J @ -50°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	B5300 spool	B5300 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

Exhibiting commendable impact strength at low temperatures, this filler material is well-suited for welding high-strength low-alloy (HSLA) used in cranes and earthmoving equipment. Applications extend to offshore fabrication and the chemical and petrochemical industry, where the precise addition of micro-alloying elements ensures excellent ductility and crack resistance despite the high strength. Preheating requirements depend on the base material and thickness, often mandating a minimum preheat of 100°C. Caution is warranted with certain HSLA steels, as interpass temperatures exceeding 200°C may lead to a reduction in strength and toughness. Post-weld heat treatment (PWHT) requirements are generally dependent on the specific base material and application. This filler material's composite properties offer a blend of durability, weldability, and machinability, making it an ideal choice for manufacturing diverse mechanical components.

ALLOY TYPE

Mn-Ni-Mo low alloy consumables for welding high strength steels with ultimate tensile strength to 690 MPa (100ksi).

MICROSTRUCTURE

Predominantly ferrite; some will contain high proportions of acicular ferrite for optimum as welded 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.: S460, S500, S550, S620, S620Q, S620QL, S620QL1, S690Q, S690QL, S690QL1, S600MC, S650MC, S700MC, L690M, L830M.

ASTM: A 514 Gr. F, H, Q, A 709 Gr. 100 Type B, E, F, H, Q, A 709 Gr. HPS 100W.

API: 5L X65, 5L X70, 5L X80+

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

