



# DAIKOWS 700



HIGH YIELD STRENGTH STEELS

110ksi

## DESCRIPTION

### Low alloy solid wire for high yield strength steels

Ni-Cr-Mo low alloy submerged arc welding wire for high yield strength steels, with tensile strength higher than 770 MPa. Excellent resilience values at low temperatures, down to -40°C. Suitable for carpentry, off-shore constructions, chemical and petroleum industries. The wire is also used in the production of high strength low alloy steels, where it can be used in the construction of industrial machines, cranes, and other components that require high mechanical strength.

## SPECIFICATIONS

ISO	-	AWS A5.23	EG
DIN	-	Werkstoff Number	-
Certifications	-	Shielding	DAIKOFLUX 490-W, 491-W
Positions	PA, PB, PC	Current	DC/AC

ASME QUALIFICATIONS	FERRITE	PREN	HARDNESS
F-No (QW432)	6	-	-
A-No (QW442)	-	-	-

CHEM. COMP. %	DEFAULT	MECHANICAL PROPERTIES	MIN	VARIANT
C	0.07	Tensile strength R <sub>m</sub> MPa	-	760
Mn	1.7	Yield strength R <sub>p0.2</sub> MPa	-	690
Ni	1.6	Elongation A (L <sub>0</sub> =5d <sub>0</sub> ) %	-	18
Cr	0.15	Impact Charpy ISO-V	-	47J @ -40°C
P	0.005	Impact Charpy ISO-V	-	-
S	0.004			
Mo	0.25			
Si	0.5			
Cu	0.2			

  

WELDING PARAMETERS	2.4 mm	3.2 mm	4 mm
Ampere	350A - 450A	430A - 530A	480A - 580A
Voltage	27V - 31V	27V - 31V	28V - 32V
Packaging	Ø 2,0÷4,0mm	Ø 2,0÷4,0mm	Ø 2,0÷4,0mm
Packaging Type	K415 spool and drums. K415 spool and drums. K415 spool and drums.		

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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](http://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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