DAIKOFCW 1006LC

FCAW

COBALT ALLOYS
Gr. 6

DESCRIPTION

Cobalt based cored wire for hardfacing

This flux cored wire provides resistance to many forms of chemical and mechanical degradation over a wide temperature range. It bonds well with all weldable grade steels, including stainless. Suitable for coatings resistant to wear combined with corrosion and oxidation up to 900 ° C. It is used to surface valves and valve seats, hot shear blades, cold and hot forming rolls, equipment for handling hot steel and for applications in a very wide range of industries. Specially formulated with lower carbon content in order to be less crack sensitive and easier to machine than standard grade.

SPECIFICATIONS

EN ISO 14700	TCo2	**AWS A5.21**	ERCCoCr-A
DIN 8555	MF 20-MF-40-CKTZ	**Shielding**	I1, I3
Positions	PA, PB, PC	**Current**	DC+
Packaging Type	BS300 spool		

ASME QUALIFICATIONS

F-No (QW432)	72
A-No (QW442)	-

HARDNESS

36HRC - 38HRC

CHEM. COMP. %	DEFAULT
C	0.8
Mn	1
Ni	2.5
Cr	28.5
Si	1
Fe	3.5
W	5

WELDING PARAMETERS	1.2 mm	1.6 mm
Ampere	100A - 250A	140A - 350A
Voltage	16V - 29V	26V - 30V
Packaging	Ø 1,2÷1,6mm	Ø 1,2÷1,6mm
Packaging Type	BS300 spool	BS300 spool

ANTI-WEAR CHARACTERISTICS

Adhesive wear	▲▲△△△
Abrasive wear	▲▲△△△
Impact	▲△△△△
Corrosion	▲▲▲▲△
Heat	▲▲▲▲▲

DAIKO

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DESCRIPTION

APPLICATION

Grade 6 is the most common type of cobalt-based alloy, appreciated for its exceptional balance of resistance to abrasion, corrosion, erosion, and thermal shock. This alloy offers excellent resistance to adhesive wear, galling, and compression, maintaining its properties at all operating temperatures. Its structure is hypereutectic, characterized by a network of about 13% eutectic chromium carbide, finely distributed within a solid solution matrix of cobalt-chrome-tungsten. Gr. 6 is widely used for coating valve faces and seats, hot-cutting blades, punches, and dies. It is ideal for ingot tong ends and hot steel-handling equipment. In the **petrochemical** industry, it is applied on gate valves for catalytic crackers. It is also used in many other sectors, including steelworks, cement plants, maritime industry, and power generation. Preheating in the range of 100-300 °C may be required, followed by slow cooling to minimize the risk of cracking, especially with multilayer deposits or under high mechanical restraint conditions. The deposits created are machinable with carbide tools and can be finely finished by grinding. These alloys do not undergo allotropic transformations, preserving their properties even after possible heat treatments on the base metal.

ALLOY TYPE

Cobalt based alloy composed of 27%-32% Chrome, 4%-6% Tungsten, 1%-2% Carbon, 3%-4% Nickel, 1%-2% Silicon and 3%-4% Iron.

MICROSTRUCTURE

In the as-welded condition the microstructure consists of a cobalt based austenite with a number of carbides and other complex phases.

MATERIALS

Used for surfacing mild, low alloy and stainless steels, and also for nickel base alloys. Can also be used for the repair of UNS R30006, Stellite 6 (Deloro Stellite).