G-TECH 1008

SMAW

COBALT ALLOYS
Gr. 12

DESCRIPTION

Hardfacing electrode with rutile-basic coating

Rutile-basic coated electrode with good weldability and easy to remove slag. It is used for surfacing subjected to medium to severe abrasion, light to medium mechanical shock, light to medium thermal shock, severe erosion and corrosion, cavitation, high temperature up to 800 °C, metal to metal friction and compression. It is widely used for the reconstruction of the profile of paper, cardboard, wood and plastic cutting tools, shredder knife refills, mixer blades and knives, sliding guides, hot shear blades, etc.

SPECIFICATIONS

AWS A5.13	ECoCr-B	**DIN 8555**	E 20-UM-50-CTZ
Shielding	-	**Positions**	PA, PB, PC, PD, PF
Current	DC+	**Packaging Type**	Carton box

ASME QUALIFICATIONS

F-No (QW432)	71
A-No (QW442)	-

HARDNESS

48HRC

CHEM. COMP. %	DEFAULT
C	1.2
Ni	2.3
Cr	30
Si	1.2
Fe	3.2
W	8.7

MECHANICAL PROPERTIES	MIN. PER STANDARD	PRODUCT
Tensile strength R_m MPa	-	490
Yield strength $R_{p0.2}$ MPa	0	350
Elongation A (L_0=5d_0) %	0	25
Impact Charpy ISO-V	-	-
Impact Charpy ISO-V	-	-

WELDING PARAMETERS	2.5 mm	3.2 mm	4.0 mm
Ampere	80A - 120A	100A - 140A	150A - 200A
Voltage	-	-	-
Packaging	pcs/kg	pcs/kg	pcs/kg
Packaging Type	Carton box	Carton box	Carton box

ANTI-WEAR CHARACTERISTICS

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

NOTES

Pcs/kg is indicative, actual number may vary ± 5%.

DAIKO

Gr. 12

DESCRIPTION

APPLICATION

Gr. 12 consumables combine exceptional metal-to-metal wear resistance with remarkable corrosion, erosion, and thermal shock resistance. Ideal for service temperatures up to 800 °C, they consist of chromium, nickel, and molybdenum alloys. These confer excellent mechanical properties, enhancing corrosion and wear resistance, and produce a weld deposit characterized by good creep resistance, suitable for high-temperature environments. The ferrite content in the joint makes these consumables particularly suitable for applications such as heavy structural constructions, oil platforms, boilers, pressure vessels, and cryogenic storage tanks. They also offer superior impact values at low temperatures compared to similar consumables. They are used for rebuilding valves and valve seats in the oil and gas industry, conveyors and augers for rubber and plastic, saw teeth for the wood industry, cams, shafts, tappets, and push rods for engines, etc.

ALLOY TYPE

Similar in composition to deposits made using ERCoCr-A electrodes and rods except for a slightly higher percentage of carbides.

MICROSTRUCTURE

Chromium and tungsten carbides (approximately 16%) in an austenitic type matrix.

MATERIALS

It is used to surface valves and valve seats for oil& gas industries, screw conveyors and augers for rubber and plastic, saw teeth for wood industries, cams, shafts, tappets and push rods for engines, etc.

WELDING & PWHT

It is essential to thoroughly clean the joint surface and adjacent area before welding, ensuring the removal of all grease, oil, marker marks, sulfur compounds, and other contaminants. Avoid contact with copper or copper-containing materials in the joint area. It is preferable, but not essential, for the alloy to be in the solution annealed condition during welding. Normally, preheating is not necessary, provided the base metal to be welded is at a temperature above 0 °C. Generally, it is advisable to keep interpass temperatures low.