

ALLOY DATA SHEET CE-30

CORROSION RESISTANT ALLOY

REVISION: 01/89

DESCRIPTION

CE-30 is an Fe-Cr-Ni alloy, somewhat similar to CC-50 alloy, but with a higher nickel content, which increases its strength and ductility and promotes a two phase austenite-ferrite microstructure. The chromium content is high enough to confer good resistance to attack by sulphurous or dilute sulphuric acids, or mixtures of them, sulphites, nitric-sulphuric acid mixtures and organic acids.

This alloy is also produced in a modified form with a controlled ferrite content and is particularly resistant to polythionic acid. Details of this modification are shown in CE-20A ALLOY DATA SHEET.

CE-30 may also be used in high sulphur bearing environments at temperatures up to 2000°F. For high temperature service the alloy usually contains 0.30 to 0.40% carbon. Details of the high temperature properties are summarized in Kubota HE ALLOY DATA SHEET.

COMPOSITION

	<u>C</u>	<u>Mn</u>	<u>Si</u>	<u>Cr</u>	<u>Ni</u>	<u>P</u>	<u>S</u>
Min%				26.0	8.0		
Max%	0.30	1.50	2.0	30.0	11.0	0.04	0.04

APPLICATIONS

Oil refinery transfer piping, pump and valve bodies, digester components.

PRODUCT FORMS

Horizontal and vertical centrifugal castings; static castings.

PHYSICAL PROPERTIES

Density (lbs/in ³)	0.277
Melting Point(°F)	2650
Thermal Conductivity (Btu/h/ft ² /ft/°F)	8.5 @ 212°F 10.5 @ 600°F 12.4 @ 1000°F 13.5 @ 1200°F
Thermal Expansion (10 ⁻⁶ in/in °F)	9.6 @ 70-1000°F 9.9 @ 70-1200°F 10.2 @ 70-1400°F 10.5 @ 70-1600°F
Magnetic Permeability	>1.5

MECHANICAL PROPERTIES (Typical Values at Room Temperature)

		As Cast	2000-2050°F, W.Q.	ASTM Spec. A743	
U.T.S.	K.S.I.	95	97	80.0	Min.
Y.S.	K.S.I.	45	63	40.0	Min
Elong.	%	15	18	10	Min
Brinell	HB	190	190		
Charpy'key'	ft-lbs	20	7		

WELDABILITY

CE 30 may be welded by the SMAW process.

Electrodes 312.

Preheat Not required.

Post weld heat treatment Heat to 2000 to 2050°F cool and quench.

Procedures for welding CE 30 alloy are available from Kubota Metal Corporation.

RELATED SPECIFICATIONS

ASTM A743(CE 30)

Nearest wrought grade: AISI 312

**HEAD OFFICE, FOUNDRY & INTERNATIONAL SALES
Kubota Metal Corporation, Fahramet Division**

25 Commerce Road, P.O. Box 1700,

Orillia, Ontario, Canada, L3V 6L6.

Phone (705) 325-2781

Fax (705) 325 5887