Kubota METAL CORPORATION
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ALLOY DATA SHEET **CORROSION RESISTANT ALLOY**

CG 8M

REVISION: 01/90

DESCRIPTION

CG-8M is an Fe-Cr-Ni-Mo alloy with good corrosion resistance in reducing environments. While similar to grade CF8M it contains higher molybdenum content which increases the resistance to sulphurous and sulphuric acid solutions and to pitting corrosion by halide solutions. The alloy is not recommended for use in nitric acid or other strong oxidizing solutions.

In the solution annealed condition the alloy is two phased with a matrix of austenitic and from 15 to 35% ferrite. The ferrite conferes high room temperature strength and resistance to stress corrosion cracking, however the ferrite may transform to brittle sigma phase after prolonged exposure to temperatures above 1200°F.

COMPOSITION

	C	Mn	Si	Cr	Ni	Mo	P	S
Min %				18	9	3.0		
Max %	0.08	1.50	1.50	21	12	4.0	0.04	0.04

APPLICATIONS

Impellors, propellors, pump casings, valve bodies,.

PRODUCT FORMS

Horizontal and vertical centrifugal castings; static castings.

PHYSICAL PROPERTIES

Density (lbs/in^3)	0.280	
Liquidus(°F)	2550	
Thermal Conductivity	9.4 @ 212°F	
(Btu/h/ft^2/ft/°F)	12.3 @ 1000°F	
Thermal Expansion	70-212°F	8.9
(10^{-6}in/in °F)	70-1000°F	9.7
Magnetic Permeability	1.5 to 3.0	

MECHANICAL PROPERTIES

(Typical Values at Room Temperature - Solution Annealed above 1900°F, Water Quenched.)

			ASTM Spec A743
U.T.S.	K.S.I.	83	70 Min
Y.S.	K.S.I.	44	35 Min
Elong.	%	45	35 Min
Hardness	BHN	176	
Charpy "V"	ft-lbs	80	

WELDABILITY

CG-8M may be welded by the SMAW, GTAW and GMAW processes.

Electrodes	317
Preheat	Not required
Post weld heat treatment	1900-2 00°F W.Q.

Procedures for welding CG-8M alloy are available from Kubota Metal Corporation

RELATED SPECIFICATIONS

Nearest wrought grade: AISI 317L, J93000

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