

ALLOY DATA SHEET CH-20

CORROSION RESISTANT ALLOY

REVISION: 09/95

DESCRIPTION

CH-20 is an Fe-Cr-Ni alloy with mechanical properties between those of CE-30 and CF-8. The alloy may be modified with 0.10% maximum carbon (CH-10) and with an addition of molybdenum (CH10M), which provides better corrosion resistance than CF-8 or CF8M.

The alloy is most commonly used to handle hot dilute sulphuric acid and sulphite liquors. The alloy is austenitic but may contain small amounts of ferrite. The alloy should be solution annealed to maximise corrosion resistance and after welding to prevent sensitization of the HAZ.

COMPOSITION

	<u>C</u>	<u>Mn</u>	<u>Si</u>	<u>Cr</u>	<u>Ni</u>	<u>P</u>	<u>S</u>
Min %				22	12		
Max %	0.20	1.50	2.0	26	15	0.04	0.04

APPLICATIONS

Pump casings, valve bodies, digesters, roaster hardware..

PRODUCT FORMS

Horizontal and vertical centrifugal castings; static castings.

PHYSICAL PROPERTIES

Density (lbs/in ³)	0.279	
Liquidus(°F)	2600	
Thermal Conductivity (Btu/h/ft ² /ft/°F)	8.2 @ 212°F	
	10.1 @ 600°F	
	12.0 @ 1000°F	
Thermal Expansion (10 ⁻⁶ in/in °F)	70-212°F	8.6
	70-600°F	8.7
	70-1000°F	9.5
Magnetic Permeability	1.71(Soln Ann)	

MECHANICAL PROPERTIES

(Typical Values at Room Temperature - Solution Annealed above 2000°F, Water Quenched.)

			<u>ASTM Spec A743</u>
U.T.S.	K.S.I.	88	70 Min
Y.S.	K.S.I.	50	30 Min
Elong.	%	38	30 Min
Hardness	BHN	190	
Charpy "V"	ft-lbs	30	

WELDABILITY

CH-20 may be welded by the SMAW, GTAW and GMAW processes.

Electrodes 309

Preheat Not required

Post weld heat treatment 2000°F W.Q.

Procedures for welding CH-20 alloy are available from Kubota Metal Corporation

RELATED SPECIFICATIONS

Nearest wrought grade: AISI 309

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