

ALLOY DATA SHEET

CF-20

CORROSION RESISTANT ALLOY

REVISION: 09/95

DESCRIPTION

CF-20 is an Fe-Cr-Ni alloy that is the cast equivalent of wrought AISI 302 stainless steel. The alloy has good corrosion resistance in a wide range of oxidizing environments. This grade is a high carbon modification of CF-8, with somewhat lower ductility and impact strength. and is used in similar but less aggressive environments. Corrosion resistance is optimised by solution annealing at temperatures from 2000 to 2100°F, followed rapid cooling. The alloy will be sensitized by exposure to temperatures from 800 to 1600°F, particularly during welding. Re-solution annealing must be applied to restore the full corrosion resistance of welded components.

COMPOSITION

	<u>C</u>	<u>Mn</u>	<u>Si</u>	<u>Cr</u>	<u>Ni</u>	<u>P</u>	<u>S</u>
Min %				18.0	8.0		
Max %	0.20	1.50	2.0	21.0	11.0	0.04	0.04

APPLICATIONS

Architectural hardware, food and beverage processing equipment, pumps, valves, manifolds, transfer piping, impellers, propellers, filter screens, agitators and mixers, scrubber components.

PRODUCT FORMS

Horizontal and vertical centrifugal castings; static castings.

PHYSICAL PROPERTIES

Density (lbs/in ³)	0.280
Liquidus(°F)	2575
Thermal Conductivity (Btu/h/ft ² /ft/°F)	9.2 @ 212°F 12.1 @ 1000°F
Thermal Expansion (10 ⁻⁶ in/in °F)	9.6 @ 70-212°F 10.4 @ 70-1000°F
Magnetic Permeability	1.01

MECHANICAL PROPERTIES

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

		ASTM	
		<u>A743</u>	
U.T.S.	K.S.I.	77	70 Min.
Y.S.	K.S.I.	36	30 Min.
Elong.	%	50	30 Min.
Brinell	H B	163	
Keyhole	ft-lbs	60	

WELDABILITY

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

Electrodes 308.

Preheat Not required.

Post weld heat treatment 2000-2100°F, Quench.

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

RELATED SPECIFICATIONS

ASTM A743(CF-20), UNS 92602

Nearest wrought grade: AISI 302.

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