Alloy 694, also referred to as Coast Metal 64, is a cobalt-chromium-tungsten alloy providing high strength and stability at temperatures up to 2100°F. Deposits of alloy 694 have outstanding resistance to wear, erosion, creep, thermal fatigue and oxidation. The principal application is for hard-facing turbine blade interlock surfaces.

Wire diameters 0.035", 0.045" and 0.062" are available in straight cut lengths or layer wound spools. This alloy is also available in shaped squares, flats and diamonds sized per customer requirements.

Specifications

GE: B50TF55 **PWA:** PWA 694 **ROLLS-ROYCE:** MSRR.9500-226 **TEXTRON LYCOMING:** M3820 **ALLISON:** EMS 56701
SNECMA: DMR 34.070 **MTU:** MTS 1087A

Chemical Composition, %

	Cr	Ni	Mo	Co	W+Mo	V	B	C	Fe	Mn	Si
MIN	26.0	4.0	–	–	18.0	0.75	0.005	0.7	–	–	–
MAX	30.0	6.0	0.5	balance	21.0	1.25	0.1	1.0	3.0	1.0	1.0

Features

- Hot erosive wear resistance
- Oxidation resistance to 2100°F
- Thermal shock, creep strength

Applications

- Hardfacing gas turbine blade shroud interlock surfaces and other wear location areas

Physical Properties

Density: 0.327 lb/in^3 **Melting Point:** 2325°F

Temperature, °F	400	1000	1200	1400	1600	1800
Coefficient* of Thermal Expansion, in/in°F x 10^{-6}	7.0	7.8	8.1	8.4	8.9	9.7
Thermal Conductivity Btu • ft/ft^2 • hr • °F	7.3	10.4	11.6	12.7	13.9	–
Modulus of Elasticity Dynamic, psi x 10^6	30	27	26	24	23	21

** 70°F to indicated temperature.*

Mechanical Properties

Representative Tensile Properties

Temperature, °F	1800
Ultimate Tensile Strength, ksi	48

Typical Hot Hardness

Temperature, °F	70	800	1000	1200	1400
DPH	440	355	320	310	220

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