TECHNICAL BULLETIN

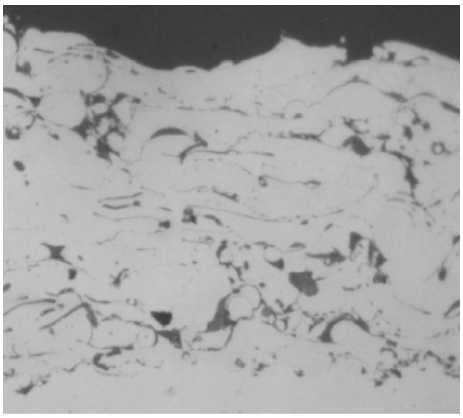
NICKEL CHROMIUM ALUMINUM YTTRIUM CT5100-1

OVERVIEW

CT5100-1 is one of a number of coatings referred to as MCrAlY's where "M" is typically Co, Ni, Fe, or a combination thereof. CT5100-1 is an alloy of Nickel, Chrome, Aluminum, and Yttrium "NiCrAlY" and is applied by the Plasma spray process. At elevated temperatures this coating forms a tenacious oxide layer that serves to protect the underlying substrate from oxidation and corrosion damage.

TYPICAL PROPERTIES

Nominal Composition:	67% Ni – 22% Cr – 10% Al – 1% Y
Physical Appearance:	Dull Grey
Typical Thickness:	.005" - .015"
Coating Density:	>73R_b
Tensile Strength:	>10,000 psi avg.
As-sprayed Surface Roughness:	350-500 Ra
Typical Max Operating Temp:	1900°F



FOR THE FOLLOWING APPLICATIONS

CT5100-1 is typically used as a bond coating in thermal barrier applications. The coating serves two purposes in a thermal barrier system:

1) In the as sprayed condition it provides a suitable surface for application various ceramic top coats.

2) It serves as an effective barrier against oxidation and corrosion of the underlying substrate material.

This coating is most commonly used on gas turbine engine hot section components (liners, caps, venturis, transition pieces, vanes, and blades).

FINISHING

CT5100 is typically used as sprayed without further finishing.

SPECIFICATIONS

CT-5100-1 meets the following specifications:

GEAE:	B50TF192CLA
GE Power Systems:	B50A892
Honeywell:	EMS 52432

CTS-Midwest
5901 Creek Rd.
Cincinnati, OH 45242
(513) 793-0670 | F: (513) 793-4254

CTS-South
11766 NC Highway 210
Rocky Point, NC 28457
(910) 675-2909 | F: (910) 675-0806

CTS-East
80 Fadem Rd.
Springfield, NJ 07083
(973) 379-0003 | F: (973) 379-4066

CTS-Texas
4011 Chance Ln.
Rosharon, TX 77583
(281) 431-1629 | F: (281) 431-2179