Ferro-Tic® Grade PK

GRADE DESCRIPTION

Ferro-Tic Grade PK is an advanced metal matrix composite comprised of ultra-hard titanium carbide grains homogeneously dispersed in an age-hardenable, maraging steel matrix. In the annealed state, it can be readily machined into any desired shape using conventional tooling.
PK exhibits excellent corrosion resistance due to the low carbon content in the precipitation hardening matrix.

PK

APPLICATIONS

Ferro-Tic Grade PK is especially suited for the plastics industry. Its unique combination of wear, heat, corrosion resistance and toughness make it an ideal material for pelletizing knives and die faces in polyethylene and polypropylene manufacturing.

CHEMICAL COMPOSITION GUIDE (weight %)

Carbide Phase	**Binder Phase**						
Titanium Carbide	Ni	Co	Mo	Cu	Al	Ti	Fe
30.0	15.0	9.0	6.0	0.8	0.75	0.6	Bal

PROPERTIES

Density, g/cc.....6.55-6.70
Hardness, Rc
  Solution Annealed.....Approx. 53
  Aged.....60-64
Transverse Rupture Strength.....200
(psi x 10^3)
Compressive Strength.....417
(psi x 10^3)
Impact Strength (Izod unnotched).....31.5
(in-lbs)
Linear Size Change
Thru Heat Treatment, %.....-0.029

SOLUTION ANNEALING

Temperature: 1650°F for 1 Hour,
Rapid Cool, Approx. 53 HRC
(material is supplied in the solution annealed condition)

AGE HARDENING

Temperature: 900°F for 3 Hours,
Rapid Cool, 60-64 HRC