

Grade Specification Sheet

TCHP Grade: TL-3

Powder Type: Thermal Spray (HVOF)

Powder Composition:

Titanium Carbonitride:	7.0 - 8.0	wt%
Tungsten Carbide:	81.0 - 84.0	wt%
Cobalt:	9.5 - 10.5	wt%

Powder Properties:

Bulk Density (ASTM B329):	2.75 - 3.25	g/cm ³
Particle Size:	20 - 53	µm

Typical Sintered Properties:

Density (As deposited):	12.7 - 12.8	g/cm ³
Microhardness (cross-section)	1200 to 1400	HV ₃₀₀

Grade Attributes: The uniformly distributed Ti(C,N) particles provide increased thermal conductivity when compared to conventional WC-Co grades while maintaining TCHP's unmatched hardness and toughness at elevated operating temperatures. The patented TCHP coating process eliminates the standard core-rim cermet structure by completely encapsulating each Ti(C,N) particle in order to protect them during consolidation.

