



Industry Uses:



- Aerospace
- Manufacturing
- Oil & Gas
- Power Generation
- Automotive

Industry Specifications:

- ASM2447-9

Coating Thickness:

0.050" (2mm) maximum

Coating Finish:

As sprayed: 130 μ - in Ra

Ground: Less than 10 μ - in Ra

Composition Weight %

86% Tungsten Carbide;

10% Cobalt

4% Chromium

Bond Strength:

10,000 PSI (epoxy failure at

0.015" coating thickness)

Hardness:

Superficial: 92 R_{15N}

Macro: 68 R_c

Micro: 1400 DPH₃₀₀

Microstructure:

Porosity: less than 1%

Oxides: less than 2%

TMTC10 Tungsten Carbide:

10% Cobalt / 4% Chrome

TMTC10 is Techmetals' Tungsten Carbide (10% Cobalt, 4% Chromium) thermal spray coating used to help protect critical parts from harsh operational environments. The hard, dense coating helps parts prevent abrasion and impingement, while also reducing sliding and fretting wear. This rugged solution is a natural fit for applications such as landing gear, hydraulic cylinders, compressor shafts, oil field apparatus – as well as draft fans, gas transmission equipment, paper rolls and more.

While pure Tungsten Carbide-Cobalt (WC-Co) coatings are susceptible to galvanic corrosion in acidic or saline environments, the addition of chromium creates a passive layer that protects the cobalt binder from leaching, thereby preventing the "pull-out" of carbide grains that leads to premature failure.

Benefits and uses of TMTC10 Tungsten Carbide (10% Cobalt, 4% Chromium):

- Hard, dense coating with increased sliding wear resistance
- Improves wear from impingement, fretting and abrasion on critical parts

