

PROCESSING EQUIPMENT WEAR SURFACES

Substrate: Carbon Steel / Tool Steel · TMetal Product: TMPK2130GA

OIL & GAS

PTA / LASER CLADDING

● TMPK2130GA

PERFORMANCE METRICS

WC+NI

Composite Matrix

ABRASION

Working Environment

PTA / LC

Process

SPECIFICATIONS

SUBSTRATE

Carbon / Tool Steel

PRODUCT

TMPK2130GA

PROCESS

PTA / Laser Cladding

PARTICLE SIZE

PTA: -180/+53 µm | LC: -150/+45 µm

MATRIX

Ni+WC composite

WC CONTENT

~29 wt%

CHEMICAL COMPOSITION

TMPK2130GA — Ni+WC composite

NI	WC	SI	B	FE	CR	OTHERS
Balance	29.1	2.17	0.71	0.25	0.05	0.50 max

OVERVIEW

Oil and gas processing equipment — including pump housings, valve internals, and mixing components — faces severe abrasive and erosive wear from particulate-laden process streams. The Ni+WC composite matrix combines the weldability and toughness of the Ni binder with the extreme hardness of tungsten carbide particles, delivering exceptional abrasion and erosion resistance in demanding processing environments.



APPLICATION IMAGE

Processing Equipment Wear Surfaces — Oil & Gas

WHY TMETAL

Ni matrix provides excellent weldability and metallurgical bond to steel substrates

WC particles deliver extreme hardness (>1000 HV locally) resisting abrasive particle impact

Gas-atomized morphology ensures consistent powder flowability and deposition quality

Outperforms standard Co-Cr alloys in severe abrasion/erosion — suited for particle-laden streams

Compatible with PTA and laser cladding for both shop and field application

SERVICE ENVIRONMENT

Abrasive particle-laden fluids

Erosive process streams

Hydrocarbon service

Moderate to high contact stress