

SAW TIPS & CUTTING INSERTS

Substrate: N/A · TMetal Product: TMP12 PM

INDUSTRIAL / MFG

POWDER METALLURGY

• TMP12 PM

PERFORMANCE METRICS

45-51 HRC

Insert Hardness

700°C

Thermal Ceiling

PM

Near-net-shape

SPECIFICATIONS

PRODUCT

TMP12 PM

FORM

Pressed PM insert — brazed / mechanically retained in tool steel holder

ALSO AVAILABLE AS

Extrusion wire / rod

SIZE

<53 µm powder

HARDNESS

45-51 HRC

PROCESS

Powder Metallurgy

WEAR RATE

$1.5-2.5 \times 10^{-6} \text{ mm}^3/\text{N}\cdot\text{m}$

CHEMICAL COMPOSITION

TMP12 PM — Co-Cr-W-C (Powder Metallurgy grade)

CO	CR	W	C	OTHERS
Balance	29	8.5	1.5	Si, Fe, Mo, Ni, Mn, B

Typical hardness: **45-51 HRC**

OVERVIEW

Saw tips and cutting inserts for industrial sawing and cutting operations demand high hardness, toughness, and resistance to abrasive wear at elevated cutting temperatures. TMP12 PM powder metallurgy inserts offer a higher-carbon Co-Cr-W-C composition pressed to near-net-shape, providing 45-51 HRC hardness and a specific wear rate $1.5-2.5 \times 10^{-6} \text{ mm}^3/\text{N}\cdot\text{m}$ — superior to conventional Stellite 6 grades for hard-particle abrasion in cutting applications.



APPLICATION IMAGE

Saw Tips & Cutting Inserts — Industrial / MFG

WHY TMETAL

45-51 HRC — harder than Stellite 6; resists abrasive dulling at cutting edges

Near-net-shape PM pressing minimises machining to final insert geometry

Specific wear rate $1.5-2.5 \times 10^{-6} \text{ mm}^3/\text{N}\cdot\text{m}$ — significantly better than Co-Cr baseline in abrasion

Higher carbon content drives carbide volume fraction for cutting-edge retention

Operating ceiling ~700°C — suitable for cutting temperatures in industrial sawing

SERVICE ENVIRONMENT

Hard-particle abrasion

Elevated cutting temperature

Intermittent contact load

Dry or minimally lubricated