

MOLYBDENUM POWDER METALLURGY PRODUCTS

Number PD-7031 Issue 1-24.01.2011

MOLYBDENUM ALLOY PSBT P/M TZM Powder Metallurgy Billet

Description of Product This specification covers molybdenum alloy (Molybdenum + 0.5 % Titanium

+ 0.1 % Zirconium) pressed and sintered billet.

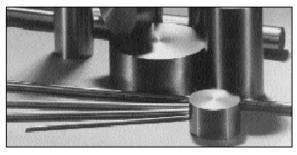
Chemical Characteristics¹⁾

(Mass fraction in % [cg/g]; ppm [µg/g])

Mo(By Difference)	min.		99.2	%
С	0.010	-	0.040	%
*N (witness billet)	max.		0.005	%
*O (witness billet)	max.		0.050	%
Fe	max.		0.010	%
Ni	max.		0.005	%
Si	max.		0.005	%
Ti	0.40	-	0.55	%
Zr	0.06	-	0.12	%

Physical PropertiesDensity: The as-sintered density will be 94 % minimum, based on 10.13 g/cakm³. No defect will exceed a No. 8 FBH as determined by ultrasonic inspection.

*Per ASTM 387, deviations from these limits shall not be cause for rejection. Analysis shall be conducted on a 2" x 3" witness billet (approximate dimensions) made from the same master lot of powder and sintered with the production billet.



Powder metallurgy TZM products

Dimensional Tolerances

Billet surface will be in the pressed and sintered condition. A machined surface can be supplied at additional cost.

¹⁾ Information on testing methods on request.



High Performance Metal Solutions

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Diameter		Tolerance	
Inches	mm	Inches	mm
Less than 4 inches	< 101.7	± 1/8 inch	± 3.2
4 to 7"	101.6 - 177.8	± 3/16 inch	± 4.8
7 to 10"	177.8 - 254.0	± 1/4 inch	± 6.4
10 to 15"	254 - 381	± 3/8 inch	± 9.6
15 to 24"	381 - 610	± 3/4 inch	± 19.1
Greater than 24"	610	± 1 inch	± 25.4

Length: Maximum variation in cut lengths will be -0 to +1/4 inches, uncut lengths dependant on billet diameter. Straightness: Maximum variation from straightness will be 1/32° (.031) in 6 inches.

Identification Billet will be identified with an appropriate heat number.

Hazards identification in Advertising (Directive 67/548/EEC Article 26, Directive 1999/45/EC Article 13

and REGULATION (EC) No 1272/2008 Article 48)

none.

Reports Shipments will be accompanied by documents indicating the specification

number, the number of pieces, lot number, billet size and the net weight of each

billet size.

Rejection H.C. Starck must receive written notification of rejected material with the reason

for rejection. The right is reserved to inspect rejected material at customer plant for claim validation. The material may be returned only after proper authorization.

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High Performance Metal Solutions

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