

MGS PRECISION

SINTERING AND FINISH MACHINING OF DENSAMET® TUNGSTEN ALLOYS.

MG Sanders **DENSAMET®** Tungsten Division was established in 2002, following the transfer of key personnel and knowledge from the Royal Ordnance Specialty Metals (BAE Systems) to MGS Precision. In the United Kingdom the process is unique, as only MGS Precision can process in house tungsten powder through consolidation, sintering and heat-treatment in vacuum furnaces to a fully machined component. When enhanced mechanical properties are required, our in-house swaging capability can give up to a 25% improvement.

Since the successful relocation, MGS Precision has re-established **DENSAMET®** Tungsten as the premium material grade for:

- Nuclear Medicine Diagnostics, Radiotherapy and Radiography
- Radiation Shielding and Containers
- Automotive and Motorsport Static and Dynamic Balancing
- Defense and Aerospace Control Surface Balance Weights and Ballast.
- Munitions
- Anti-vibration Tooling

DENSAMET® Tungsten can be supplied as sintered, mechanically enhanced, proof machined or finished machined. Bar diameters ranging from 5mm to 180mm, and up to 1200mm long and flat plate 10mm to 600mm wide, 30mm to 1200mm long and 8mm to 130mm deep can be produced.

DENSAMET® Tungsten is supplied in a variety of specifications dependent on customer needs and, in addition, tailored grades when required. Please see our Materials Data Sheet.

MG Sanders holds stock of sintered and heat-treated **DENSAMET®** Tungsten material for immediate delivery.



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MGS precision Ltd implement a policy of continual improvement and reserve the right to amend the description and specification in this publication.

DENSAMET® TUNGSTEN

Designation	WH9570C	WH9075C	WH8035C	WH9375F	WH9560F	WH9766F
RTP	RTP120	RTP100	RTP138	RTP420	RTP360	RTP383
AMS 7725	Class 3 Type 1	Class 1 Type 1	N/A	Class 2 Type 2	Class 3 Type 2	Class 4 Type 2
Typical Applications	Radiation Shielding Balance Weights	Anti-vibration Tooling Radiation Shielding Balance Weights	Balance Weights	Anti-vibration Tooling Dynamic Balance Weights Ballast	Anti-vibration Tooling Radiation Shielding Balance Weights	Radiation Shielding Balance Weights Ballast
Chemical Composition						
W	95	90	80	93	95	97
Ni	3.5	7.5	7	5.25	3	2
Cu	1.5	2.5	13			
Fe				1.75	2	1

Nominal density g/cm ³	18.0	17.2	15.3	17.6	18.1	18.5
Hardness Max Hrc	34	32	30	33	34	35
Tensile Strength N/mm ²	600	700	700	926	900	900
Elongation %	1	3	2	20	15	2
Modulus of Elasticity KN/mm ²	350	350	250	350	350	350
% Relative Reduction before Rupture (Test D10 x 10)	30	50	20	>50	>50	>50
Electrical Resistivity CM	11	13	15	16	13	11
Thermal Conductivity Wm ⁻¹ K ⁻¹	135	94	80	100	105	108
Magnetic Properties	Non Ferro Magnetic	Non Ferro Magnetic	Non Ferro Magnetic	Weakly Ferro Magnetic	Weakly Ferro Magnetic	Weakly Ferro Magnetic

The above tables detail a selection of the most popular **DENSAMET®** Tungsten alloy grades, however, many other grades are regularly produced to meet our customer's specific requirements.

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