



SEIMITSU[®]

— PRECISION IN EVERY MEASUREMENT —

PRODUCT CATALOGUE

PRECISION

STABILITY

RELIABILITY

PRECISION GAUGE BLOCKS

Steel • Tungsten Carbide • Zirconia Ceramic



— ACCURACY • STABILITY • RELIABILITY —

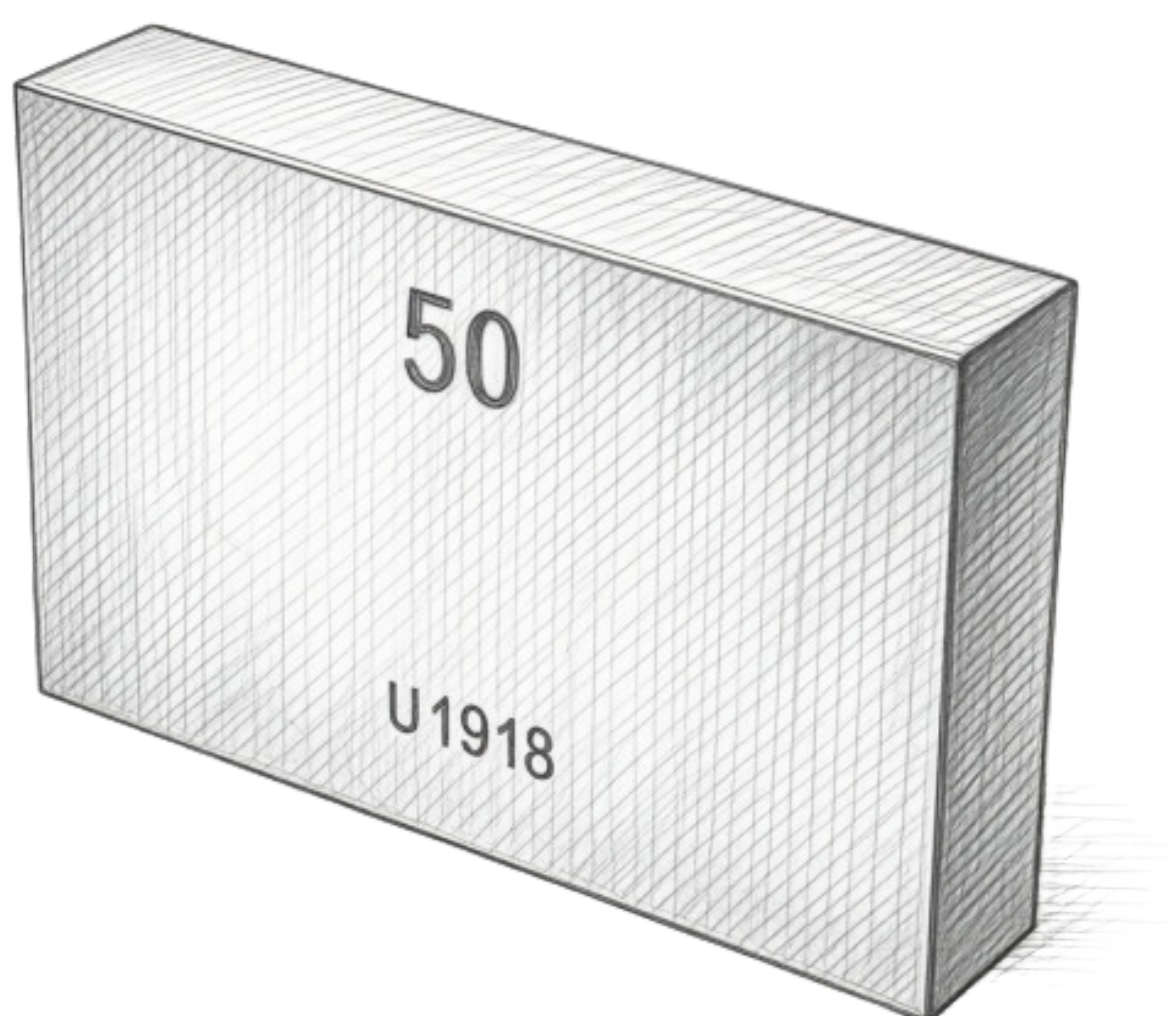


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High-Precision Tungsten Carbide Gauge Blocks

These gauge blocks deliver exceptional longevity with 50–100 times the wear resistance of standard steel, significantly extending calibration intervals.

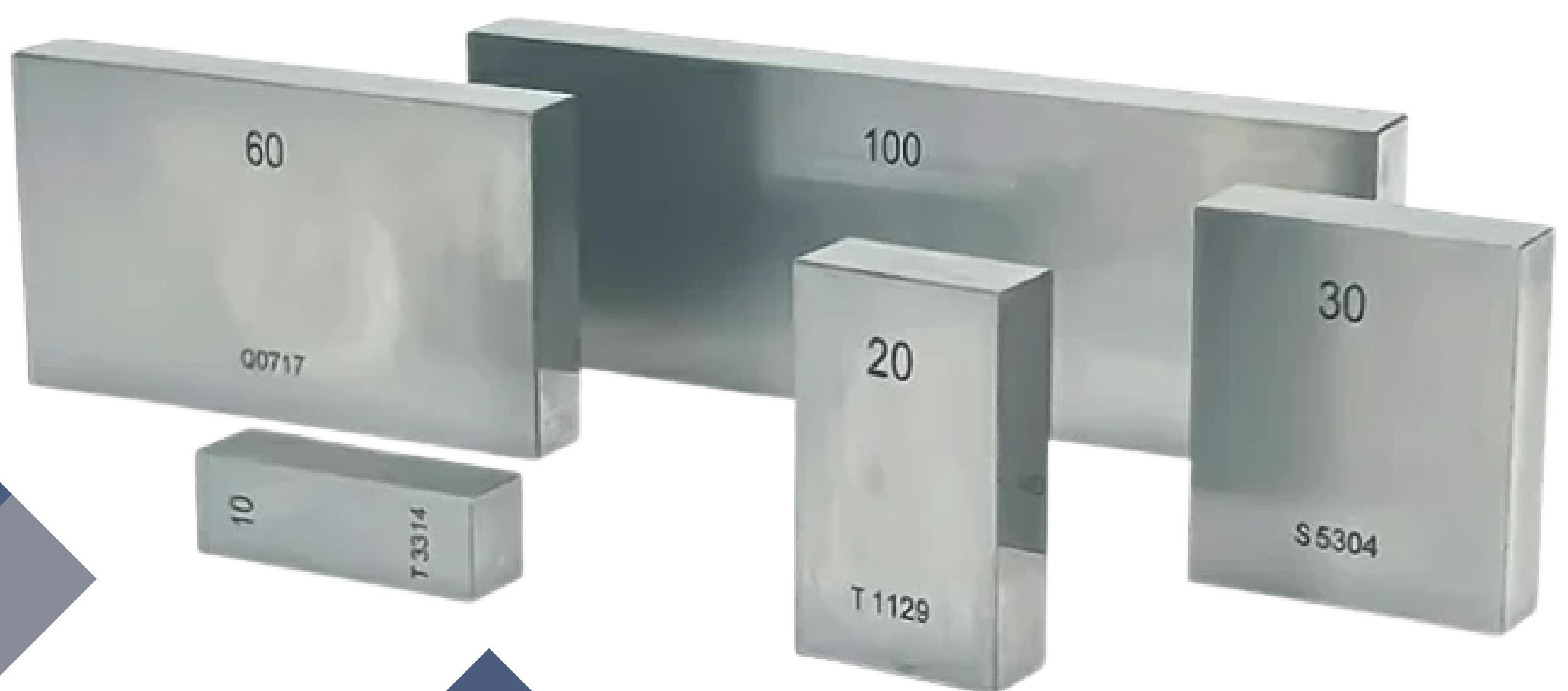
Their high modulus of elasticity provides superior rigidity, minimal deformation under pressure and excellent dimensional stability. Multiple precision-lapping stages deliver extremely low surface roughness and excellent wringability.



Product Overview

Tungsten carbide gauge blocks, also known as cemented carbide gauge blocks, are industrial measurement standards engineered for extreme wear resistance.

- **Made from ultra-fine-grain tungsten carbide with hardness of 1500 HV or above—far exceeding conventional tool steels—they resist scratches and wear during intensive, frequent workpiece contact, maintaining long-term measurement consistency.**
- **Mirror-lapped surfaces enable effortless wringing with minimal cumulative error in stacked combinations. Thus, making them a premier choice for high-frequency workshop use and master gauge setting.**
- **Rigorously inspected in a 20°C constant-temperature laboratory, these blocks provide reliable measurement references for aerospace, automotive manufacturing and precision machining.**





Hardness & Wear Protection

Over twice as hard and several dozen times more wear-resistant than standard steel, tungsten carbide wear blocks protect internal blocks at both stack ends, significantly reducing long-term replacement costs.



Rigidity & Stability

High elastic modulus and compressive strength minimize deformation. Specialized heat treatment and aging eliminate residual stresses, maintaining nanometre-level dimensional stability for years.



Precision Wringability

Independently developed polishing and lapping create mirror-flat measuring faces, enabling strong molecular adhesion, near-gap-free wringing and minimal cumulative stacking error.

APPLICATIONS



Comes With Manufacturer Instruction Certificate

Precision Machining

Provides the highest-level reference standard for positioning CNC machining centres and grinding machines.

Instrument Calibration

Supports routine calibration of micrometers, calipers, digital height gauges and other general measuring instruments.

Automotive Inspection

Enables on-site monitoring and frequent, high-volume inspection of engine components, transmission systems and other automotive parts.

Wear Protection

Forms protective layers in complex gauge-block combinations, preventing wear on precision steel or ceramic blocks.

Set Available

Block set	Detailed dimensions (mm)	Grade
83 pieces, DIN EN ISO 3650 ASME B89.1.9 GB/T 6093	0.5 , 1 block	K,0,1 & 2
	1.005, 1 block	
	1-1.49, total 50 blocks	
	1.5–1.9, interval 0.1, total 5 blocks	
	2.0–9.5, interval 0.5, total 16 blocks	
	10–100, interval 10, total 10 blocks	

Block set	Detailed dimensions (mm)	Grade
87 pieces, ISO standard	1.001–1.009, in increments of 0.001, 9 values in total	K,0,1 & 2
	1.01–1.49, in increments of 0.01, 49 values in total	
	0.5–9.5, in increments of 0.5, 19 values in total	
	10–100, in increments of 10, 10 values in total	
112 pieces, ISO standard	1.0005	K,0,1 & 2
	1.001–1.009, in increments of 0.001, 9 intervals in total	
	1.01–1.49, in increments of 0.01, 49 intervals in total	
	0.5–24.5, in increments of 0.5, 49 intervals in total	
	25–100, in increments of 25, 4 intervals in total	

FAQ about Tungsten Gauges

What advantages does tungsten carbide offer over ceramic?

Both materials are extremely hard, but tungsten carbide offers greater toughness and impact resistance than brittle ceramic, reducing workshop chipping. Its high density also provides a more stable, tactile wringing feel.

Does thermal expansion affect measurement accuracy?

Yes. Tungsten carbide's coefficient is approximately $4.2 \times 10^{-6}/^{\circ}\text{C}$, compared with $11.5 \times 10^{-6}/^{\circ}\text{C}$ for steel. Measuring steel outside 20°C requires temperature compensation, making carbide particularly suitable as a high-precision reference in controlled laboratories.

Can tungsten carbide rust, and how should it be maintained?

Despite excellent corrosion resistance, rust spots may develop in humid or corrosive conditions. After use, remove fingerprints and moisture with a lint-free cloth, apply a little acid-free anti-rust oil and store in a dry protective case.



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Marketed by:

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