

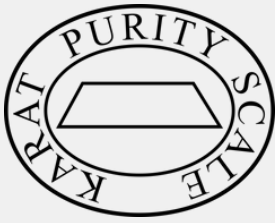


Unifying Metal Purity Standards: The Case for KPSTTM

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PREPARED BY

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Executive Abstract

Metals have always been the backbone of human progress. From the Bronze Age to today's electrified, digital economies, the purity of metals has determined their value, utility, and trustworthiness. Yet, the way we measure and communicate that purity has remained fragmented, inconsistent, and often confusing.

Gold is spoken of in karats, silver in millesimal fineness, platinum and palladium in percentages, while copper – despite being one of the most important metals in both ancient trade and modern technology – rarely carries any consumer-facing purity standard at all.

This fractured approach makes it difficult for ordinary people to understand what they are buying, for investors to compare metals fairly, and for industries to align reporting. It creates inefficiency and opens the door to error and abuse.

The Karat Purity Scale™ (KPS™) solves this problem by introducing a single global language of purity. Rooted in the karat system but expanded universally, KPS™ offers a simple, intuitive 0–24 scale that applies equally to all metals. It is designed not just for today's markets, but for tomorrow's digital economy.

By bringing clarity and fairness, KPS™ represents more than a measurement tool: it is a foundation for trust, efficiency, and future-proofing in global commerce.



The Problem: A Legacy of Confusion

Metal purity has never had a single story. Instead, it has been shaped by regional traditions, guild standards, and historical precedent:

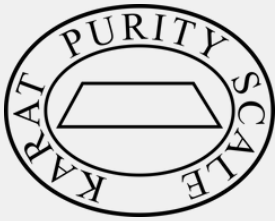
- **Gold:** Measured in karats for centuries. The karat system (24 parts = 100% pure) is widely known, but only within the context of gold. Consumers may know that 18k means 75%, but the term does not transfer to silver, platinum, or copper.
- **Silver:** Typically stamped as “925” or “999”. While precise, these numbers are abstract, disconnected from gold’s karats, and unfamiliar to the casual buyer.
- **Platinum & Palladium:** Often marked as “950” or “999”, adding yet another format. Investors must constantly translate these values when comparing them to gold or silver.
- **Copper:** Strikingly absent from consumer purity standards. Industry professionals recognise grades like C101 (99.9%), but the public has no accessible benchmark.

Why it matters

This patchwork creates layers of misunderstanding:

- Consumers often overpay or misinterpret what they are purchasing.
- Traders waste time converting between systems.
- Regulators and auditors face challenges in standardising reporting.
- Opportunists exploit the confusion, leading to misrepresentation and fraud.

In short, the absence of a unifying system is not a technical problem – it is a trust problem.



The KPS™ Solution

The Karat Purity Scale™ offers a clean, universal solution: a 0–24 scale for all metals.

- Inspired by tradition: Built on gold's karat system, which has endured for centuries.
- Universally applied: Every metal, from copper to platinum, is measured in the same terms.
- Simple formula:
- $\% \text{ Purity} \times 24 \div 100$

Examples:

- 18k Gold (75%) → KPS 18
- Silver 925 (92.5%) → KPS 22
- Copper C101 (99.9%) → KPS 24

Two tolerance grades

- Jewellery Grade: ± 0.10 KPS (for crafted items where small variations are expected).
- Investment Grade: ± 0.05 KPS (for bullion and assets requiring strict precision).

By clearly publishing tolerance levels, KPS™ introduces transparency where opacity once ruled.

KPS™ is not just a system of measurement; it is a framework for a fairer marketplace. It creates a common denominator across all metals, finally making it possible to speak about purity in a single, shared language.

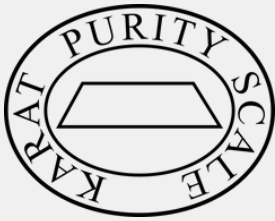


Benefits of Unification

The advantages of KPS™ extend across consumers, industry, and investors:

- **Clarity for Consumers:** A single number eliminates the “18k vs 925 vs 950” confusion. Anyone, anywhere, can instantly understand what they are buying.
- **Market Efficiency:** Less time wasted on conversions and disputes, tighter bid/ask spreads, and smoother global trade.
- **Fairness Across Metals:** Gold is no longer the “favoured child” of purity standards. Copper, platinum, and every element receive the same recognition.
- **Future-Proofing:** The digital economy demands consistency. KPS™ integrates seamlessly with:
 - Digital certificates for authenticity
 - Blockchain-based asset tokenisation
 - AI-driven valuation and supply chain management

In unifying standards, KPS™ does more than simplify transactions – it builds trust, strengthens regulation, and unlocks the potential for transparent, globalised metal markets



Conclusion

Purity has always been important.

Yet, the systems we inherited from the past are fragmented, archaic, and no longer fit for a globalised, digitised world.

KPS™ is the first system designed to unify metal purity standards into a single, fair, and transparent framework. By creating a 0–24 scale for all metals, KPS™ brings:

- **Simplicity for the consumer,**
- **Efficiency for the marketplace,**
- **Fairness for all metals, and**
- **Compatibility with the technologies of tomorrow.**

Purity is purity. The world deserves one clear language to express it. KPS™ is that language.