Carbon Cup



Product Overview

DKKI Thermal Analysis Cup is a high-quality, disposable sampler cup engineered for precision thermal analysis of molten iron. Each cup is constructed with a robust, sintered-sand shell, ensuring superior thermal resistance and mechanical integrity during handling and sampling. Permanently embedded within this shell is an integrated, precision-calibrated thermocouple, guaranteed to deliver a highly accurate and consistent thermal response. The primary design function of its single-use nature is to prevent cross-contamination between samples, thereby eliminating a critical source of metallurgical error and guaranteeing the integrity of each measurement. By capturing a representative sample of molten iron, the cup facilitates the generation of a precise cooling curve. When used with a compatible thermal analyzer, it provides the foundational data required for the accurate, real-time calculation of Carbon Equivalent (CEL), Carbon Content (%C), and Silicon Content (%Si) directly on the foundry floor.

Key Features

- Pre-embedded, precision thermocouple
- Robust sintered-sand shell
- Disposable for single-use consistency
- Designed for clean, fast sampling
- Ensures reliable thermal arrest data
- Compatible with standard thermal analyzers
- For use with gray and ductile irons
- Simple plug-and-play operation

Why DKKI

- Proven success for over three decades
- ISO 9001:2015 certified quality
- In-house testing under real operating conditions
- Free expert support and comprehensive training
- On-site consulting and troubleshooting
- Fast order processing with flexible logistics
- Standard products, customizable options
- Transparent partnerships that build trust
- Proactive customer engagement

Application Areas

- Thermal analysis of molten iron
- Sampling for %CEL, %C, and %Si determination
- Ladle analysis before pouring
- Quality verification before pouring

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Technical Specifications

Parameter	Details
Measurement Principle	Correlating the solidification cooling curve with chemical composition
Temperature Range	from 500°C to 1350 °C
Response Time	Less than 40 seconds
Thermocouple Options	Type K (IPTS 68 calibrated)
Signal Output for Standard Thermal Analyzers	microvolt (µV) outputs
Compliance and Certifications	ISO 9001:2015 IEC 60584 IPTS 68
Storage Conditions	Dry environment avoid direct sunlight or corrosive fumes
Shelf Life	2 years under proper storage conditions

Packaging Information

Probe Dimensions (mm)	Probes per Pack	Packs per Pallet	Probes per Pallet
52 x 52 x 64	72	42	3024

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