

Coal Hardgrove Grindability Index Standard Reference Material Set For Calibration

Item Number: KT-HS



Introduction

Calibrate Hardgrove machines with this certified coal reference material set. Featuring four hardness grades from 40 to 110 HGI, it ensures precise calibration curves, full traceability, and strict compliance with testing standards.

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Application	Description	Key Benefit
Coal-Fired Thermal Power Utilities	Periodic calibration of laboratory grindability analyzers to forecast power station pulverizer performance, mill wear rates, and specific electricity consumption.	Prevents boiler mill derating and optimizes auxiliary power usage by ensuring accurate fuel grindability forecasting.
Commercial Commodity Inspection	Generating legally compliant calibration curves for third-party testing laboratories engaged in coal valuation, tariff assignment, and cargo settlement.	Eliminates commercial disputes and financial liability by providing undeniable metrological traceability to national standards.
Metallurgical Coke Manufacturing	Classifying coking coals and pulverized coal injection (PCI) grades according to their mechanical pulverization resistance prior to blast furnace charging.	Enhances blast furnace injection stability, maintains optimal permeability, and prevents premature milling equipment damage.
Cement Clinker Production	Calibrating grindability apparatus to evaluate raw fuel hardness for vertical roller mills and ball mills within cement kiln firing systems.	Lowers energy consumption per ton of clinker and minimizes pulverizer maintenance shutdowns through precise grinding optimization.
Hardgrove Machine Mechanical Validation	Diagnostic testing to verify machine tolerances, including the 29.0 kg vertical load, spindle revolution count, and race ring ball contact uniformity.	Identifies mechanical wear or structural deflection early, preventing systematic laboratory measurement errors.
Synthetic Fuels and Gasification Feedstock Analysis	Evaluating the ease of grinding for prospective gasifier feedstocks to guarantee proper particle size distribution in gasification burners.	Ensures steady syngas conversion rates and prevents unburned carbon loss or nozzle plugging caused by improper fuel fineness.
Proficiency Testing and Laboratory Accreditation	Serving as blind reference standards for internal quality control, inter-laboratory comparisons, and ISO/IEC 17025 technical audits.	Validates laboratory operator competency, sieving consistency, and repeatability under accredited quality management systems.

Specification Parameter	System Value / Standard Detail
Product Item Number	KT-HS
Standard Compliance	GB/T 2565 (Determination of Grindability Index of Coal - Hardgrove Machine Method)
Primary Function	Calibration and validation of Hardgrove Grindability Index (HGI) instruments
Metrological Functionality	Construction of four-point linear regression calibration curve and result traceability
Complete Set Configuration	4 bottles per set (1 bottle per hardness level)
Unit Bottle Weight	250 g ± 1 g per bottle
Total Set Net Weight	1,000 g (4 × 250 g)
Packaging Material	High-barrier airtight polymer bottles with hermetic inner tamper-evident seals
Grinding Equipment Compatibility	Standard Hardgrove Grindability Index testing apparatus

Specification Parameter	System Value / Standard Detail
Nominal Grinding Load Requirement	29.0 ± 0.2 kg (64.0 ± 0.5 lbs) vertical force
Prescribed Instrument Revolutions	60 ± 0.25 revolutions
Analytical Sieving Specification	Certified 0.075 mm (200 mesh) analytical test sieve
Recommended Storage Environment	Cool, dry, dark environment; ambient temperature 15°C to 28°C; relative humidity < 60%

Item Number Variant	Reference Standard Code	Nominal Certified HGI Value	Material Hardness Classification	Package Volume
KT-HS-40	GBW12005	~40 HGI	High Hardness (Difficult to Grind)	250 g
KT-HS-60	GBW12006	~60 HGI	Medium-High Hardness (Moderately Hard)	250 g
KT-HS-80	GBW12007	~80 HGI	Medium-Low Hardness (Easy to Grind)	250 g
KT-HS-110	GBW12008	~110 HGI	Low Hardness (Very Easy to Grind / Friable)	250 g