Coal Abrasion Index Tester Coal Abrasiveness Index Determinator

Item Number: KT-TE44

Introduction

Accurately determine the abrasiveness index of lignite, bituminous, and anthracite coals. Engineered for standardized testing, this rugged unit provides reliable wear data to optimize industrial pulverizers, power plant boilers, and grinding alloy selection.

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Application	Description	Key Benefit
Thermal Power Plant Fuel Assessment	Evaluates the abrasiveness of incoming fuel stocks, including sub-bituminous coals and anthracite blends, prior to entering high-throughput bowl or ball mills.	Prevents unscheduled boiler outages and predicts the service life of pulverizer grinding elements.
Pulverized Coal Gasification	Determines the wear potential of dry coal feeds used in entrained-flow gasifiers and pneumatic transfer pipelines.	Informs material selection for burner nozzles, rotary valves, and pneumatic elbows subjected to high-velocity impact.
Grinding Component Metallurgy Selection	Assesses relative metal loss rates to benchmark candidate alloys (e.g., high-chromium white irons, Ni-Hard alloys) against standardized coal batches.	Optimizes alloy selection and heat-treatment specifications for industrial crushing and milling components.
Coal Exploration and Basin Characterization	Measures the abrasion index (AI) across core samples and geological coal seams during resource evaluation and mine planning.	Enables mine operators to classify deposits by milling wear characteristics and market coal with accurate technical profiles.
Commercial Fuel Testing Laboratories	Provides standardized abrasion index certification for commercial coal contracts, fuel import/export verification, and third-party quality audits.	Delivers indisputable, standard-compliant test certificates recognized across energy and metallurgical industries.
Pulverizer and Mill Engineering	Utilized by equipment OEMs to simulate pulverizer dynamics and model wear rates when designing vertical spindle mills, tube mills, and crushers.	Validates engineering calculations for wear liner thickness, rotor design, and overall mechanical safety margins.

Parameter	Specification Details
Product Model	KT-TE44
Standard Compliance	GB/T 15458 (Method for Determination of Abrasiveness Index of Coal)
Target Fuel Types	Lignite (Brown Coal), Bituminous Coal, Anthracite
Test Parameter Output	Coal Abrasion Index (AI Value, represented in mg wear / 4 kg coal)
Agitator Spindle Speed	1450 ± 30 r/min
Preset Revolution Limit	12000 ± 20 revolutions
Wear Blade Dimensions	38 mm × 38 mm × 11 mm (4 blades per complete set)
Blade Material Standard	Specially calibrated structural carbon/alloy steel per standard requirement
Electric Drive Motor	2.2 kW, industrial three-phase induction motor
Electrical Power Supply	380 V AC, 3-Phase, 50 Hz
Chamber Sealing System	Multi-stage dust-proof containment with particulate seals
Instrument Weight	120 kg

Parameter	Specification Details
Overall Physical Dimensions	410 mm (W) × 400 mm (D) × 820 mm (H)
Operating Mode	Automated cycle execution with automatic spindle stop
Housing Construction	Heavy-duty structural steel with corrosion-resistant industrial finish