

Caking Index Determination Apparatus Spare Parts And Consumables For Coal Quality Testing

Item Number: KT-ZJ



Introduction

Equip your coal laboratory with certified caking index determination apparatus spare parts including standard anthracite static loading units nickel chromium weights porcelain crucibles stands and stirring wires engineered to deliver exceptional accuracy operational durability and complete testing compliance.

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Application	Description	Key Benefit
Coking Coal Blending and Optimization	Testing raw and washed coking coal samples to determine plastic layer development and agglomeration properties prior to oven charging.	Ensures optimal coal blend recipes, reducing reliance on expensive prime coking coals while protecting coke battery wall stability.
Blast Furnace Coke Quality Assurance	Routine quality screening of metallurgical coal feedstocks to evaluate post-carbonization mechanical strength and lump cohesion.	Accurately predicts drum strength indices (M40/M10) and coke strength after reaction (CSR), preventing furnace permeability loss.
Commercial Coal Cargo Arbitration and Trade	Performing independent third-party laboratory verification of contractually specified caking parameters for export and domestic coal shipments.	Provides verifiable analytical precision matching national standards, preventing settlement disputes between suppliers and buyers.
Geological Seam Exploration and Core Profiling	Analyzing drill core samples from newly explored coal basins to map spatial variations in coal rank, adhesiveness, and industrial utility.	Delivers reliable caking index classification from limited core sample masses, accelerating mine feasibility and resource valuation.
Coal Washing and Preparation Plant Monitoring	Monitoring clean coal fractions, middlings, and flotation products to evaluate the efficiency of beneficiation circuits on caking potential.	Verifies that cleaning processes do not selectively wash out reactive petrographic components responsible for thermoplastic bonding.
Research on Carbonization Kinetics and Additives	Investigating the influence of biomass blends, petroleum coke additives, or pitch binders on the agglutinating behavior of secondary coals.	Maintains rigorous baseline testing repeatability, enabling researchers to isolate subtle thermo-chemical kinetic interactions.

Component Description	Model Identifier	Material Specification	Primary Dimensional Attributes	Governing Standard
Complete Caking Index Spare Parts Suite	KT-ZJ	Multi-Component Assembly	Full Analytical Suite Configuration	GB/T 5447, GB/T 14181-2010
Standard Anthracite Reference Material	KT-ZJ-AC	Ningxia Rujigou No. 2-1 Lower Seam	Net Weight: 1 kg Hermetic Pack	GB/T 14181-2010
Static Pressure Loading Device	KT-ZJ-SP	Fabricated Carbon Steel with Guide Shaft	220 mm × 220 mm × 420 mm	GB/T 5447
Nickel-Chromium Compacting Weight Block	KT-ZJ-PB	Heat-Resistant Nickel-Chromium Steel	Outer Ø31 mm × H21 mm; Center Hole Ø10 mm × D15 mm	GB/T 5447
Porcelain Crucible and Cover Set	KT-ZJ-CR	High-Density Refractory Porcelain	Top Ø40 mm, Base Ø20 mm, Height 40 mm, Capacity 30 mL	GB/T 5447
Four-Aperture Wire Crucible Stand	KT-ZJ-CS	Heavy-Gauge Nickel-Chromium Wire (Ø3-4 mm)	110 mm × 110 mm × 60 mm; Aperture ID Ø42 mm	GB/T 5447
Hard Metal Stirring Wire Tool	KT-ZJ-SW	Rigid High-Tensile Drawn Metal Wire	Total Length 110 mm; Loop Ø8 mm; Handle 25 mm × 5 mm	GB/T 5447

Parameter Group	Technical Property	Nominal Specification	Permissible Tolerance / Operational Criteria
Standard Anthracite Reference	Mine Origin and Geological Horizon	Ningxia Rujigou Coal Mine (Xigou Pingjiong)	Both sides of No. 2-1 coal seam, lower slice
Standard Anthracite Reference	Packaging Net Weight	1 kg	Moisture-proof sealed container
Standard Anthracite Reference	Standard Certification	GB/T 14181-2010	Certified ash yield and volatile matter baseline
Static Consolidation Presser	Nominal Compaction Force	6.5 kg	Calibrated vertical dead-weight application
Static Consolidation Presser	Frame Footprint Dimensions	220 mm (W) × 220 mm (L) × 420 mm (H)	Precision upright dual-post alignment
Static Consolidation Presser	Total Device Weight	12.5 kg	Weighted anti-tipping cast-iron base
Ni-Cr Compacting Weight	Material Composition	Nickel-Chromium Alloy Steel	High-temperature oxidation resistant formulation
Ni-Cr Compacting Weight	Outer Cylinder Diameter	Ø31 mm	±0.2 mm ground cylindrical tolerance
Ni-Cr Compacting Weight	Total Block Height	21 mm	±0.2 mm vertical profile
Ni-Cr Compacting Weight	Concentric Relief Hole Diameter	Ø10 mm	Centered axial aperture
Ni-Cr Compacting Weight	Relief Hole Internal Depth	15 mm	Standard volatile expansion cavity
Ni-Cr Compacting Weight	Calibrated Mass Range	110 g to 115 g	Strict gravimetric verification per piece
Crucible and Lid Assembly	Internal Working Volume	30 mL	Sized for standard 1:5 coal-anthracite blend
Crucible and Lid Assembly	Top Rim Outer Diameter	Ø40 mm	Precision tapered mouth with recessed rim
Crucible and Lid Assembly	Base Outer Diameter	Ø20 mm	Flat ground base for stable positioning
Crucible and Lid Assembly	Total Crucible Height	40 mm	Standard vertical clearance profile
Crucible and Lid Assembly	Thermal Shock Limit	850°C ± 10°C	Rapid furnace transfer with zero structural spalling
Wire Crucible Stand	Frame Material	Nickel-Chromium Heat-Resistant Wire	Wire diameter: Ø3.0 mm to Ø4.0 mm
Wire Crucible Stand	Holding Capacity	4 Crucibles	Symmetrical 2 × 2 cell arrangement
Wire Crucible Stand	Cell Ring Internal Diameter	Ø42 mm	Smooth drop-in fit for Ø40 mm crucibles
Wire Crucible Stand	Overall External Dimensions	110 mm (W) × 110 mm (L) × 60 mm (H)	Engineered for standard laboratory muffle furnaces
Metal Stirring Wire Tool	Construction Material	Rigid Hard Drawn Metal Wire	High flexural rigidity, non-shedding
Metal Stirring Wire Tool	Core Wire Diameter	Ø1.0 mm to Ø1.5 mm	Prevents bending during sample blending
Metal Stirring Wire Tool	Total Overall Length	110 mm	Provides ample clearance above 40 mm crucible walls
Metal Stirring Wire Tool	Circular Loop Diameter	Ø8 mm	Formed closed circular mixing end
Metal Stirring Wire Tool	Handle Plate Dimensions	25 mm Length × 5 mm Width	Flattened grip for ergonomic control