



ABRASION RESISTANCE TESTER FOR PE-UHMW

QualiAbrade-UHMW

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The QualiAbrade-UHMW is an advanced abrasion resistance tester **engineered specifically for ultra-high molecular weight polyethylene (PE-UHMW) and high-density polyethylene (PE-HD)**. It plays a critical role in quality assurance for production environments, incoming material evaluations, and comparative testing in resin-based applications.

Equipped with microprocessor-based control, the system delivers precise, real-time monitoring of rotational speed and temperature. A user-friendly interface allows operators to set countdown timers directly from the control panel, ensuring accurate, repeatable results with consistent performance.



FEATURES/ADVANTAGES

Uniform Rotation Across All Six Stations

Equipped with six synchronized testing stations, the system enables parallel evaluation of multiple specimens. Each station is powered by a synchronous belt connected to a centralized spindle motor, ensuring even rotational speed and enhancing consistency and comparability across samples.

Independent Cooling System

Each of the six test cups is immersed in a shared water tank for temperature control. The water is cooled via copper coils linked to a refrigeration unit, maintaining uniform slurry temperatures across stations with deviations under 1°C.

Sealed Immersion Test Cup

The test cup features a lid pressed into a circular groove, secured by three spring-loaded fasteners. This prevents slurry leakage during rotation and maintains a stable testing environment by tightly sealing the specimen chamber.

Automatic Lifting System for Efficiency and Safety

A capacitor motor drives the chain-lifted platform, enabling smooth vertical motion and stopping at any desired height. Dual-limit protection ensures operator safety—if the primary limit fails, the secondary system automatically cuts power to prevent accidents.

External Stirring with Rotating Specimen Disk

Made from corrosion-resistant stainless steel, key components—including the cup, lid, stirring shaft, and water tank—ensure durability and easy maintenance. External stirring improves slurry homogeneity throughout the test.

Automated Testing with Real-Time Monitoring

The integrated digital control panel supports countdown-based testing with a default duration of 3 hours. Real-time monitoring of temperature and rotational speed simplifies operation, minimizes human error, and enhances testing precision.

TECHNICAL SPECIFICATIONS

SPECIFICATION	DETAILS
Number of Instrument Test Stations	6
Rate of Rotation	800 to 1400 r/min
Rotation Control Precision	1% (≥1000 r/min); 10 r/min (< 1000 r/min)
Rate of Rotation Display Resolution	1 r/min
Timing Accuracy	1 s
Timing Deviation	0.1%
Temperature Display Resolution	0.1 °C
Temperature Control Accuracy	±0.5 °C
Tank Volume	35 liters
Mortar Ratio in Each Test Cup	450g Silica Sand, 300g Water
Refrigeration Power	5.1 KW
Refrigeration Medium	Water
Voltage	220V AC 2Kva (110V is also available)
Dimensions (L × W × H)	1.2 × 0.5 × 1.2 m
Weight	220 kg (485.02 lbs)



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Contact our **QualiTeam** today to find out how we can help your organization **select the most suitable testing solution** for your application, requirements, and budget.

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