

## Specification Document

The Asphalt and Binder Analyzer (“Analyzer”) must be new and of current model, equipped as advertised by the manufacturer, to meet or exceed the following **MINIMUM** specifications.

Manufacturer: \_\_\_\_\_ Model: \_\_\_\_\_

**Purpose:** The Mississippi Department of Transportation is seeking bids for the purchase of Analyzer to study and examine the contents of asphalt mixture samples.

**Non-Restrictive Clause:** Any use of brand name or equal within this specification is to be considered a reference for the purpose of describing the standard of quality, performance, and characteristics desired. It is not intended to limit or restrict competition.

The bidder must respond to each of the following statements. Specifications listed are minimum requirements that must be met for a bidder to qualify for an award. A “YES” response means the bidder guarantees that they meet or exceed the requirement. A “NO” response means the bidder cannot meet the requirement and will not be considered. The bidder must supply printed literature that shows compliance with each requirement of the Specifications and, if on inspection, an item is found not to comply, the Equipment(s) will be rejected.

**Descriptive literature shall be furnished to substantiate the details specified throughout this bid.**

### Equipment Specification:

**General:**

Yes	No	Description
		Analyzer must be a “Closed Loop System” – the act of separating the aggregate and other non-bituminous materials and the asphalt binder must be contained within the identified equipment, to include the recovery of the binder for further testing.
		Analyzer must follow the current edition of the ASTM D8159 – Standard Test Method for Automated Extraction of Asphalt Binder from Asphalt Mixtures.

**Asphalt Analyzer:**

Yes	No	Description
		The Analyzer is used for the extraction and determination of binder content in bituminous mixtures containing ground tire rubber, recycled asphalt pavement, recycled asphalt shingles, and cellulose fibers commonly found in SMA in conjunction with a solvent.
		Solvent(s) to be used are high stabilized Trichlorethylene, Perchlorethylene, or Methylenchloride
		Solvent(s) are to be reused.
		Electrical Requirements: 400 V, 50/60 Hz, 3 P+N+PE, 8.5 kW.
		Analyzer to be converted to accept 208v via transformer provided
		Analyzer must be able to perform the following: <ul style="list-style-type: none"> <li>the ability to provide a second solvent circuit, thus allowing the extraction of asphalt mixtures as standalone procedure with the washing chamber or the extraction in the vertical standing unit with an automatic decantation system.</li> </ul>
		<ul style="list-style-type: none"> <li>Ability to program and store multiple test procedures.</li> </ul>
		<ul style="list-style-type: none"> <li>The extraction and distillation processes are to be computer controlled and shown on a touch panel display.</li> </ul>
		<ul style="list-style-type: none"> <li>Complete the extraction process in less than 60 minutes.</li> </ul>
		The Analyzer must come equipped with the following: <ul style="list-style-type: none"> <li>A collection tray</li> </ul>
		<ul style="list-style-type: none"> <li>A mixing tool</li> </ul>
		<ul style="list-style-type: none"> <li>Washing Drum (.075 mm) with interchangeable stainless steel sieve jacket</li> </ul>
		<ul style="list-style-type: none"> <li>Closing Lid for washing drum</li> </ul>
		<ul style="list-style-type: none"> <li>Centrifuge Cup (120 mm diameter): stainless steel suitable to take up to approximately 300 grams of filler.</li> </ul>

		• Paper Centrifuge Cups
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**Solvent Management System:**

Yes	No	Description
		Comprising of a pump, valves, and reinforced tube with coupling suitable to maintain a "Closed Loop" system between the Analyzer and chemical storage tank
		One (1) empty waste drum; Size: 5 gallons
		One (1) 8 gallon or 33 Liters drum of highly stabilized Trichloroethylene, Perchloroethylene or Methylenchloride

**Automated Recovery System: Rotary Evaporator**

Yes	No	Description
		5" touch screen display for controlling the entire system
		Displays the current stage of the extraction process
		Ability to save settings (Favorites) on the start screen
		Expandable library of solvents
		A Two-Stage Diaphragm Pump with a suction capacity of 1 m3/h.
		Automated Recovery is required.

**Cooling System:**

Yes	No	Description
		Closed-loop water cooling system equipped with completely hermetic motor compressor and a cooling water circuit containing water tank and centrifugal pump.
		Electric Connection: 220-volt, 60 Hz, 3-phase
		Cooling System to be converted to accept 208v via transformer provided
		Temperature Control: Electronic
		Control Display: Digital
		Ambient temperature: minimum 10 degrees Celsius; maximum 42 degrees Celsius
		Cooling water temperature from 5 degrees Celsius to 25 degrees Celsius
		Fill level display

**ADDITIONAL REQUIREMENTS**

**Service:** The Analyzer shall be delivered fully assembled and ready to operate. Factory-trained dealer representative is to inspect the Analyzer upon delivery and provide receiving MDOT Materials Engineer with information on operational, service, and maintenance requirements.

The Bidder shall maintain a representative inventory of replacement parts and service facilities as well as all necessary diagnostic tools/equipment/software and software licenses needed for diagnosis, repair, service, and maintenance.

**Acknowledge Yes/No:** \_\_\_\_\_

**Warranty:** Clearly stated terms and conditions of all manufacturer warranties shall be included with the bid package. All materials, specialty equipment, or accessories that prove defective in normal operation within the warranty period shall be replaced or repaired by the manufacturer free of all cost to MDOT, including all material, labor, and transportation costs. Warranty replacement and/or repairs shall be furnished promptly by the successful bidder within a time not to exceed thirty (30) calendar days. **The bidder shall provide written assurance with the bid package regarding warranty repairs.**

The Bidder shall have sole warranty responsibility (**all components**) for the first ninety (90) calendar days after acceptance of equipment.

The manufacturer shall provide, with the bid package, a list of warranty service locations for all components of the Analyzer which may need warranty repair beyond the first ninety (90) calendar days.

**Acknowledge Yes/No:** \_\_\_\_\_

**Workmanship:** Workmanship throughout shall conform to the highest standard of commercially accepted practice for the class of work and shall result in a neat and finished appearance. The design which the manufacturer proposes must be of substantial and durable construction in all respects.

All parts shall be new. Used, reconditioned, or obsolete parts will not be accepted.

**Acknowledge Yes/No:** \_\_\_\_\_

**Parts Availability:** Dealer name and contact information located closest to the point of delivery:

Dealer Name: \_\_\_\_\_

Telephone: \_\_\_\_\_

Street Address: \_\_\_\_\_

City, State, ZIP: \_\_\_\_\_

**Acknowledge Yes/No:** \_\_\_\_\_

**Tests and Testing:** The complete Analyzer and all working and moving parts and operating devices shall be thoroughly tested and put in operating condition by the manufacturer.

Prior to acceptance by MDOT, the manufacturer shall service and adjust the Analyzer for operation.

**Acknowledge Yes/No:** \_\_\_\_\_

**Literature:**

**Technical manuals:** Operator's manual, service/maintenance manual, and parts book are to be made available in both hard copy and electronic (PDF file format on USB flash drive) versions. One set of technical manuals shall be provided with each Analyzer upon delivery. Additional manuals may be ordered later.

**Technical service bulletins:** Successful bidder shall provide TSBs (technical service bulletins) for each Analyzer(s) delivered to MDOT as they are published, regardless of the date of delivery. TSBs may be furnished in paper or electronic format and shall be updated regularly.

**Two (2) copies of descriptive literature shall be furnished to substantiate the details specified in the bid.**

**Acknowledge Yes/No:** \_\_\_\_\_

**Certification:** The manufacturer(s) shall furnish certification that the Analyzer meets or surpasses current U.S. Department of Labor Occupational Safety and Health Administration (OSHA) Regulations, U.S. Department of Transportation Federal Motor Vehicle Safety Standards (FMVSS), and any other applicable Federal regulations.

**Acknowledge Yes/No:** \_\_\_\_\_

**Lienholder:** Upon award, if MDOT issues a **Notice to Proceed** instead of a **Purchase Order**, the Analyzer is being purchased through the State's Master Lease Purchase Program and the specified financial institution must be listed as Lienholder.

**Acknowledge Yes/No:** \_\_\_\_\_