

TEXAS DEPARTMENT OF TRANSPORTATION  
GENERAL SERVICES DIVISION

SPECIFICATION NO.  
TXDOT No. 207-79-83\*  
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REMANUFACTURED AND ORIGINAL EQUIPMENT MANUFACTURER'S (OEM) COMPATIBLE  
TONER CARTRIDGES

PUBLICATION

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PART I  
GENERAL CLAUSES AND CONDITIONS

1. All parts not specifically mentioned, which are necessary for the unit to be complete and ready for operation or which are normally furnished as standard equipment shall be furnished by the vendor. All parts shall conform in strength, quality and workmanship to the accepted standard of the industry.
2. TxDOT encourages all manufacturers to comply voluntarily with the Society of Automotive Engineers (SAE) Recommended Practice for marking of plastic parts per the latest revision of SAE J1344. All plastic components furnished to this specification should have an imprinted SAE symbol identifying the resin composition of the component so that the item can be recycled after its useful life. Manufacturers are encouraged to use recycled plastics and materials in the manufacture of their products in order to conserve natural resources, energy and landfill space. Bidders should note that future specification revisions may require mandatory compliance with the SAE plastic coding system.

PART II  
SPECIFICATIONS

1. SCOPE: This specification describes the requirements, remanufacturing, packaging, documentation and testing of remanufactured or OEM compatible toner cartridges used in laser printers and facsimile machines.
2. GENERAL REQUIREMENTS
  - 2.1. Vendor shall furnish cartridges that are OEM compatible or have been fully remanufactured. Both shall adhere to specifications equal to or exceed OEM cartridge specifications or approved remanufactured toner cartridge industry standards established by the Standardized Test Methods Committee (STMC), or the latest guidelines adopted by ASTM International for remanufactured or OEM compatible toner cartridges. Toner cartridges that are only refilled or recharged do not meet these specifications and are not acceptable.

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\* This Specification Supersedes Specification No. TxDOT 920-43-74, Revised July 2003.

- 2.2. The International Imaging Technology Council (I-ITC) provides the STMC guideline certification training for vendors. While not a requirement of the purchase order, TxDOT encourages vendors to become a member of I-ITC or other industry associations. These associations assist vendors in keeping current with the latest remanufactured toner cartridge industry developments and standards, and inform members about new techniques or tests developed to produce the best quality remanufactured toner cartridge product.
- 2.3. Vendor shall employ a minimum of one individual who has completed the current STMC certification training. This includes the standardized testing certification for ASTM F1856-98, ASTM F2036, ANSI IT2. 17-95, and ISTA 1A VERSION-99.
3. QUALITY CONTROL REQUIREMENTS: The remanufactured or OEM compatible cartridge shall include, but not be limited to, the following:
  - 3.1. Assessment to determine if the cartridge can be remanufactured and a reliable method to measure reusability of parts.
  - 3.2. Complete disassembly of cartridge to thoroughly clean and check all internal and external components against the original manufacturer's specifications. Worn, damaged or end of life cycle components shall be replaced.
  - 3.3. Replacement of original OEM drum with a new organic photoconductor (OPC). If the returned cartridge is equipped with an after-market drum, vendor shall inspect it, clean it, and reuse or replace it with a new photoconductor drum.
  - 3.4. Replacement of all seals with an OEM-type shipping seal or pressure sensitive seal. Seal shall withstand the International Safety Transportation Association (ISTA) 1A drop test.
  - 3.5. Replacement of the primary charge roller (PCR) with a re-coated or new PCR.
  - 3.6. Reuse of qualified wiper blades allowable, up to a maximum of ten cycles before replacement.
  - 3.7. Replacement of or resetting smart chip shall be provided on cartridges using this technology.
  - 3.8. Filling all cartridges with toner that meets or exceeds OEM toner performance for yield and density.
  - 3.9. Replacing or chemically cleaning the corona wire assembly (where applicable).
  - 3.10. Providing with each cartridge one fuser wand (where applicable) with high temperature resistant felt wiper and one cotton swab.
  - 3.11. Other components may be replaced at different intervals, based upon component part or longevity standards.
4. VENDOR INSPECTION AND TESTING: Vendor shall perform random internal audits to ensure product quality, reliability and toner cartridge yields. A STMC trained quality advisor shall inspect all component parts before assembly and test the finished product to ensure the best quality and performance. Inspection and testing shall include:
  - 4.1 A post-test print sample (vendor shall have test printers on site for each cartridge type).
  - 4.2 A hard crease test (image separation shall be minimal).

- 4.3 Verification that the cartridge is not leaking and has not produced any adverse affects on the printer.

## 5. CARTRIDGE TESTING REQUIREMENTS

- 5.1. Upon award of purchase order, vendor shall be prepared to submit up to three designated cartridge model samples for testing. The cost of this testing shall be the responsibility of the vendor. Designated cartridges will be specified on the solicitation. Testing conducted by vendor will not be acceptable. The cartridge shall be sent to one of the independent third party organizations below:
  - 5.1.1. The Rochester Institute of Technology (RIT)
  - 5.1.2. Buyers Laboratory (BL)
  - 5.1.3. Underwriters Laboratories
  - 5.1.4. An independent testing laboratory for cartridge testing as approved by TxDOT.
- 5.2. Independent third-party testing requirements shall include the latest remanufactured toner cartridge industry standards adopted by the STMC or the latest guidelines adopted by ASTM for remanufactured toner cartridges:
  - 5.2.1. ASTM F1856: Standard Practice for Determining Toner Usage for Printer Cartridges.
  - 5.2.2. ASTM F2036: Standard Test Method for Evaluation of Larger Area Density and Background on Electrophotographic Printers.
  - 5.2.3. ANSI/ISO 5-4-1995, ANSI/NAPM IT2.17-1995: Density Measurements – Part 4: Geometric Conditions for Reflection Density.
- 5.3. TxDOT reserves the right to alter or change the testing requirements.
- 5.4. Vendor shall provide a third party evaluation report for cartridge testing upon request by TxDOT, as specified in Para. 5.4.1. Report shall be submitted within 15 calendar days of award of purchase order. If additional time is needed to obtain this report, vendor shall obtain approval from TxDOT purchaser. Failure to submit report within this timeframe may result in cancellation of purchase order.
  - 5.4.1. EVALUATION REPORT: The evaluation report shall include, at a minimum, the following items:
    - 5.4.1.1. The performance of the remanufactured toner cartridges tested against these specifications and the requirements stated in Para. 5.2.
    - 5.4.1.2. A concise summary of results that compares yields, image quality, and cartridge integrity performance of submitted samples against these specifications
- 5.5. Testing shall list a comparison of the OEM cartridge output with that of the respondent's remanufactured or OEM compatible cartridge to indicate no noticeable difference in the occurrence of print quality and/or print defects. Cartridges tested shall be an indication of the product quality produced by the vendor.

5.6. TxDOT reserves the right to submit up to three cartridge model samples, taken from a regular shipment, to RIT or other TxDOT approved independent testing laboratory to verify the continuing quality of cartridges being supplied.

5.6.1. The cost of this testing shall be the responsibility of the vendor.

5.6.2. TxDOT reserves the right to require re-certification of the specified cartridge(s), or other designated cartridge model(s), prior to purchase order renewal.

## 6. CARTRIDGE MODEL INTRODUCTION/CHANGES

6.1. The vendor shall notify TxDOT of remanufactured or OEM compatible cartridge models that are being introduced into the market, including a projected date of availability.

6.2. The vendor shall provide written notification when component sources, materials or remanufacturing processes change. At such time, TxDOT reserves the right to require the vendor to re-certify any designated cartridges by the approved testing laboratory.

6.3. TxDOT reserves the right to add remanufactured or OEM compatible cartridge models to the purchase order upon availability.

6.4. TxDOT reserves the right to delete from the purchase order remanufactured or OEM compatible cartridge models that are obsolete and no longer available.

## 7. CARTRIDGE PACKAGING

7.1. Vendor shall clearly label each cartridge with vendor's name, model number, and date assembled.

7.2. The cartridge shall be placed in an anti-static moisture proof bag and either heat-sealed or zip-locked. The cartridge shall then be placed in internal protective cradle prior to being packaged in an external carton.

7.3. The internal protective cradle shall be recyclable, reusable or contain recycled content material.

7.4. The external carton and packaging shall protect the cartridge from damage during shipping. The external carton and packaging shall be recyclable, reusable or contain recycled content material.

7.5. The external carton shall identify cartridge type (make and model), the vendor's name, address, telephone number, and purchase order number. All cartridge boxes shall also bear the assembly date and expiration date for shelf life and inventory purposes.

8. CARTRIDGE INSTALLATION INSTRUCTIONS: The vendor shall provide concise cartridge installation instructions (on one sheet, booklet, instructions on the box or label) with every cartridge. The instructions shall contain directions for cartridge and fuser wand replacement (where applicable), directions for returning empty cartridges for remanufacturing, and a telephone number to call if the cartridge is found to be defective.

9. DEFECTIVE CARTRIDGES

- 9.1. All defective cartridges will be returned to the vendor at vendor's expense. Vendor shall establish return shipping methods or shall pick up defective cartridge(s) in-person at TxDOT's location. TxDOT's Recycling Project Administrator (RPA) designated on the purchase order will coordinate with vendor for defective cartridge pickup.
- 9.2. Vendor shall perform an analysis to determine the cause of the problem for any cartridge returned by TxDOT.
- 9.2.1. The analysis report shall be delivered to the RPA within ten business days.
- 9.2.2. If the analysis determines that the cartridge failed, a replacement-remanufactured or OEM compatible cartridge shall be provided at no expense to TxDOT within five business days from completion of analysis. Replacement cartridges shall be properly marked as replacements and identified by the PO number.
- 9.2.3. If TxDOT has reoccurring uncorrected problems with a particular cartridge model, or if there are page yields consistently below OEM standards or approved remanufactured toner cartridge industry standards, TxDOT may cancel the cartridge model from the purchase order.
- 9.2.4. If any cartridge(s) fails in a regular shipment to meet the quality standards stated within this specification, the vendor will be notified and given five days to replace shipment. Failure to correct the situation will result in cancellation of the purchase order.
- 9.2.5. If the overall cartridge defect rate exceeds two percent of all cartridges utilized within any two-month period, TxDOT reserves the right to cancel the purchase order.

10. WARRANTY AND SERVICE

- 10.1. The vendor shall warrant the remanufactured or OEM compatible toner cartridges against defects in material and workmanship for a minimum of one year from the assembly date.
- 10.2. The warranty does not apply to any defects caused by end user negligence, alteration, accident or misuse, failure to operate the printer according to the printer manufacturer's specifications, or failure to properly install the cartridge. A warranty notice shall also be placed within each cartridge box to insure that end users are aware of the warranty and what steps to take to initiate warranty measures.
- 10.3. The vendor is not responsible for replacing any cartridge(s) if it is determined TxDOT stored the cartridges improperly.
- 10.4. If problems occur with printers due to a vendor's defective remanufactured or OEM compatible cartridge, vendor shall provide either one of the following (not both):
- 10.4.1. A competent factory-trained authorized service technician to repair printer
- 10.4.2. Reimbursement of any printer service performed due to the vendor's defective cartridge
- 10.5. SERVICE TECHNICIAN: If the option to use a service technician is chosen (Para. 10.4.1), the service technician shall:

- 10.5.1. Be certified to perform repairs on Hewlett-Packard, Lexmark, Canon, or other designated printer manufacturer's equipment.
  - 10.5.2. Be on site no later than the next business day after notification. Provide service between normal business hours of 8:00 a.m. through 5:00 p.m., Monday through Friday (with the exception of state and national holidays).
  - 10.5.3. Resolve the problem within two business days or otherwise inform TxDOT personnel of the status and timeframe for fixing the problem.
- 10.6. Vendor shall provide copies of all designated service technicians' printer certifications at the time of the award.
11. MANUFACTURING FACILITY: The manufacturing facility shall be equipped with the following:
- 11.1. Dust collection system to filtrate air to ensure health and safety of employees and eliminate toner contamination.
  - 11.2. Climate controlled facility to ensure toner consistency.
  - 11.3. Equipment and software to generate grayscale and black and white prints with graphics and text.
  - 11.4. Computerized filling equipment that allows for custom toner loading to meet OEM yield requirements.
  - 11.5. OPC inspection equipment to measure coating thickness, excessive wear or damage to drum if OPCs are to be reused.
12. SUBCONTRACTING: Subcontractors providing service under the purchase order shall meet the same requirements and provide the same service and level of experience as required of the vendor. No subcontract under the purchase order shall relieve the primary vendor of responsibility for the service. If the vendor uses a subcontractor for any or all of the work required, the following conditions shall apply under the listed circumstances:
- 12.1. Respondents planning to subcontract all or a portion of the work shall identify the proposed subcontractors at the time of response.
  - 12.2. Subcontracting shall be at the vendor's expense.
  - 12.3. TxDOT retains the right to check subcontractor's background and make the determination to approve or reject the use of submitted subcontractors. Any negative responses may result in disqualification of the subcontractor.
  - 12.4. The vendor shall maintain all project management, schedule and responsibilities for the subcontractor.
  - 12.5. The vendor shall pay subcontractor in accordance with Texas Government Code §2251.022.
  - 12.6. The vendor shall be the only contact for TxDOT and subcontractor.

13. CUSTOMER SUPPORT: Vendor shall provide:

- 13.1. One-on-one customer support with the RPA and TxDOT personnel as required.
- 13.2. Communication with the RPA regarding product performance, customer service feedback, or other matters pertaining to the purchase order.

14. RESPONSE SUBMISSIONS

14.1. Failure to submit the following will disqualify response. Respondent shall provide:

- 14.1.1. Signed, dated, and completed Request For Offer form.
- 14.1.2. HUB Subcontracting Plan, if applicable.
- 14.1.3. Schedule 1: References (Para. 16).
- 14.1.4. Signed copies of each certificate for each company personnel who have completed within the past two years the STMC training as stated in Para. 2.3.
- 14.1.5. Verification that the company has a densitometer, test printers and applicable operation procedures to perform on-site cartridge testing
- 14.1.6. A brief written overview detailing the type of quality control used in the process of remanufacturing cartridges.
- 14.1.7. Procedures used to pre-qualify toner batch types and other primary components placed into remanufactured toner or OEM compatible cartridge production
- 14.1.8. Overall defect ratio for each cartridge specified in the solicitation for the previous 12-month period prior to solicitation closing. At TxDOT's request, respondent shall provide documentation detailing the quality control procedures used to verify defect ratio.
- 14.1.9. A cost-per-page average analysis of each cartridge specified in the solicitation with response. The cost-per-page average shall be calculated by taking the total individual cartridge cost and dividing this number by the total individual cartridge yield (number of pages printed by each cartridge).

14.2. Technical certifications or awards achieved within the previous five years may be submitted with response.

15. REFERENCES: Respondent shall submit with their response, the name, address, telephone number and point-of-contact of a minimum of three firms for which the respondent has provided remanufactured laser printer cartridges. (See Schedule 1) References will be checked prior to award. Any negative responses received may result in disqualification of the response.

16. POST AWARD MEETING: Vendor shall attend a post award meeting with the RPA at TxDOT's location within ten calendar days after the award of the purchase order. Vendor shall provide a list of questions and concerns prior to the meeting. The purpose of this meeting will be to discuss the terms and conditions of the purchase order, other details related to performance, and to provide additional information.