

Environmental Benefits of Imation Earthwise™ Remanufactured Toner Cartridges

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Original Manufacturer quality at a great price.
Saves Resources. Saves Money. Same Quality.

Background

By some estimation, 300 million plastic toner cartridges are land filled globally each year. At about 3 pounds per cartridge this equates to 450,000 tons of land filled plastic, steel, aluminum, rubber, foam and other components per year. In addition, to produce a new cartridge, the energy equivalent of 3 quarts of oil is consumed.

It is clear that there is a high energy and resource cost associated with each toner cartridge and one may readily conclude that a program to reuse the plastic cartridge is warranted.

In the lexicon of environmental stewardship, there is a hierarchy of preferred practices:

REduce
REuse
REcycle



From top to bottom in this list, the greatest benefit to our limited resources and environment can be found. Of course, this means the best way to become an environmental guru is to reduce usage.

In terms of toner cartridges, the ultimate environmentally friendly solution is to cut down on the

number of pages printed. This saves the most money, the most energy, the most resources and has zero land fill impact.

This ideal is fine, but there are times when printing is simply needed. In fact, it appears that the amount of pages printed each year continues to increase. Therefore, it is important to look at Reuse and Recycle opportunities as well. Imation Earthwise remanufactured toner cartridges are an example of the Reuse model.

What is a remanufactured toner cartridge?

There are two primary methods of producing a recycled cartridge.

1. Drill and Fill – Here a hole is drilled into the toner hopper and then new toner is added. Finally the hole is sealed and the cartridge is “ready” to be sold.
2. Remanufacture – Here the cartridge is disassembled and cleaned. The various components are inspected and worn or damaged parts are replaced. The cartridge is then reassembled and filled with new toner. Finally, each remanufactured cartridge is tested to assure it is functioning like new.

For optimal performance and highest quality, the remanufactured cartridge is the best choice. Any defective or worn components that are replaced are subsequently recycled and the consumer receives a quality product from which they can expect OEM-like performance.

Benefits of remanufactured cartridges

• Resource Conservation

A typical used toner cartridge consists of 40% plastic and 40% metal with the remaining 20% made up of foam, rubber, paper and left over toner. Approximately 97% of this material is reused in a remanufactured cartridge .

• Energy Conservation

The energy equivalent of 3 quarts of oil is consumed in the manufacturing of a new cartridge. While there is energy consumed in the transportation of empty cartridges, it is far less than what is used to make a new cartridge.

• Cost Savings

Remanufactured cartridges are less costly than newly manufactured cartridges, offering a savings to consumers of up to 50% less than the cost of new. Printer manufacturers are known to charge very high prices for new cartridges. They make a lot of money on these “consumables”.

• Reduce Land Fill Needs

Every time a cartridge is remanufactured or recycled (after the cartridge is beyond useful life for remanufacturing), there is a reduction in the demand for land fill space. The plastic in a toner cartridge takes at least 1,000 years to decompose .

Imation Earthwise Toner Cartridges – Remanufacturing Process and Quality

Imation is a leading global developer and marketer of branded products you know and trust that enable people to capture, save and enjoy digital information. In addition to

Imation’s commitment to delivering high-quality digital storage products, Imation is dedicated to applying outstanding environmental stewardship and reducing impacts on the Earth wherever possible. And, Imation has expanded its portfolio to include earth-friendly remanufactured, high-quality Earthwise toner cartridges.

Earthwise remanufactured toner cartridges meet Original Manufacturer quality standards. Each cartridge contains a new drum, new toner, reconditioned or replaced parts and a recycled plastic shell. The Earthwise remanufacturing process allows Imation to



deliver a high performance product at a lower cost with less waste.

Imation is committed to providing Earthwise remanufactured toner cartridges that are as good as new cartridges—at a lower cost with less waste. The Earthwise portfolio of laser printer and fax toner cartridges meets stringent quality requirements and is good for the environment.

Another benefit of Earthwise toner cartridges is the packaging. Made from at least 80% recycled materials, the box that the cartridges ship in doubles as a return shipper so that the cartridge can arrive safely back at a recycling center after it is used.

The remanufactured toner cartridges are produced in an ISO 14001 and 9001 certified facility to specifications equal to, or exceeding original equipment manufacturer’s (OEM) cartridge quality standards and performance. Toner cartridges furnished to these specifications meet or exceed the latest remanufactured toner cartridge standards, including the guidelines adopted by the Standardized Test Methods Committee (STMC), the American Society for Testing and Materials (ASTM) and the International Safe Transit Association (ISTA), including the ASTM F 1856

Standards, ASTM F 335 and F 2036 Standards and ISTA – Integrity Procedure 1A Standards (ISTA 1A).

The R&D QC team continually performs tests on the cartridges based on the above mentioned industry standards. Integrity Procedure 1A standards (ISTA 1A) test procedure is followed to evaluate breakage or leakage in Earthwise cartridges.

ASTM International standard (ASTM F 1856 04) is followed to determine the average rate of toner usage for monochrome Earthwise cartridges over the anticipated life of the cartridge. The cartridge is run to ~80% of anticipated life and uses a 5 ± 0.5% text document for the particular printer. Once the toner usage is determined, this number is divided into total amount of available toner to estimate page yield. ASTM International standard (ASTM F2632 07) is followed to determine the toner usage for Color printer cartridges.

Under controlled temperature and humidity environmental conditions, image density and background is measured using the Standard Test Method for Evaluation of Larger Area Density and Background (ASTM F2036). The prescribed test target uses solid black blocks placed in the center and in each corner of the print page. Density measurements are performed on each block. The target also has four outlined boxes for background measurements.

The remanufacturing process starts with a complete disassembly, cleaning and part-by-part inspection of each component. Damaged or worn components are replaced and then the cartridge is reassembled, ready for filling with brand new toner.

The exact type of toner that is used is selected based on detailed engineering analysis of optimal particle size and distribution to match the performance of the OEM toner. Different cartridges use different toner. A major classification of toners is whether they are grown or ground. Selection is based on engineering the best performance for a particular printer.

After reassembly, toner filling is completed with QC verification. Random samples are audited for the “pull seal”, 100% life testing and print quality inspection. Final QA inspection audit (ANSI/ASQC Z1.4) is performed for packaging, cartridge functionality and print quality before the products are shipped to the Imation warehouse.

Taking environmental impacts into account when making purchasing decisions can help save money and create a safer and healthier environment and workplace. The Imation Earthwise toner cartridge is one product made from remanufactured materials that is good for the environment.

1 “Why Buy Remanufactured?” Recharger Magazine, December 2000, www.rechargermag.com/

2 OECD Environmental Outlook. Paris: OECD, 2001, p.215

3 “Remanufactured Toner Cartridges in Alameda County – Fact Sheet”, Alameda County Waste Management Authority, May 2004, www.stopwaste.org

4 Ibid.

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