

ISO Print Speeds

What is ISO Print Speed?

Digital printing devices may produce printed pages at a different rate than their nominal speed due to various factors. These include but are not limited to host computer, driver, application, operating system, type of connection to the printer (USB, Ethernet, wireless), and the computing power of the device. In addition, job characteristics such as black-and-white vs. color, the number of pages to be printed, single-sided or double-sided output, quality setting, number of copies, paper type and size, document content, and document complexity can affect print speed.

ISO/IEC 24734 specifies a method for measuring the productivity of digital printing devices using various test files, office applications, and print job characteristics on plain paper in default mode. It is applicable to black-and-white and color devices, and to single-function and multi-function devices, regardless of print technology (e.g. inkjet, laser, etc).

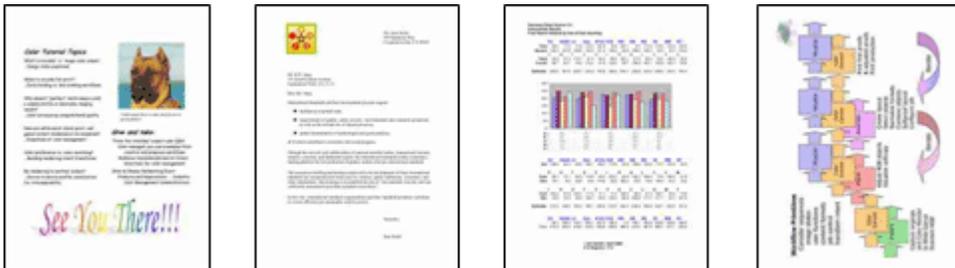
ISO/IEC 24734 enables manufacturers of digital printing devices to measure the productivity of different digital printing devices with a consistent measurement method.

Testing

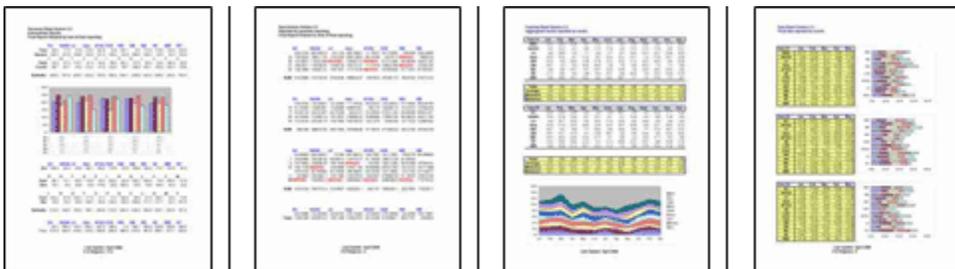
Tests are conducted with the device set to default conditions, using a recommended plain paper. For color devices, black-and-white tests are run by setting the device to print in black-only mode. Testing is done with single-sided printing, as well as with two-sided printing if automatic two-sided printing is standard on the device.

Four-page test files are printed through Adobe Reader™, Microsoft Word™, and Microsoft Excel™ with the number of sets (copies) varied to create print jobs of different lengths.

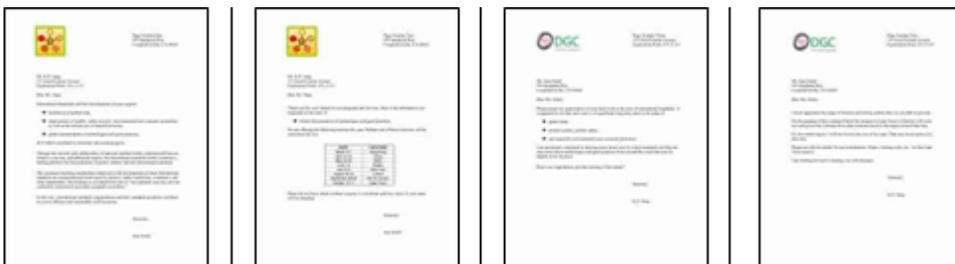
Adobe Reader™ Test File



Microsoft Excel™ Test File



Microsoft Word™ Test File



Three different job lengths are tested

1. Short Jobs

Single prints of each test file

2. Medium Jobs

Multiple prints of each test file, so that about 30 seconds of printing occurs after the complete file is printed once

3. Long Jobs

Multiple prints of the PDF test file, so that about 4 minutes of additional printing occurs after the complete file is printed once (single-sided only).

Three different print timing methods are used

The average of the time to print each four page test file once, from the initiation of the print job on the host computer until the complete exit of the last page (4th page) of the test file, including the first print job processing time. The time resulting from this measurement is referred to as First Set Out Time (FSOT).

The average images per minute to print multiples of the four page test files, which is a measurement of the average speed at which a device produces pages measured from the initiation of a job through the complete exit of the last page of the job, including the first print job processing time. The IPM (images per minute) resulting from this measurement is referred to as Effective Throughput (EFTP). The average images per minute to print multiples of the four page test files, measured from the complete exit of the last page of the first print of the test file, through the complete exit of the last page of the job, which is a measurement of print rate excluding the first print job processing time. The IPM (images per minute) resulting from this measurement is referred to as Estimated Saturated Throughput (ESAT).

These results are reported for each file as well as the average of all files

- FSOT for the short job.
- EFTP for the short, medium, and long jobs.
- ESAT for the medium job. Lexmark generally advertises the average single-sided ESAT IPM.

What is ISO?

ISO (International Organization for Standardization) is the world's largest developer and publisher of International Standards.

ISO is a network of the national standards institutes of 157 countries, one member per country, with a Central Secretariat in Geneva, Switzerland, that coordinates the system. ISO is a non-governmental organization that forms a bridge between the public and private sectors. Many of its member institutes are part of the governmental structure of their countries, or are mandated by their government. Other members have their roots uniquely in the private sector, having been set up by national partnerships of industry associations. Therefore, ISO enables a consensus to be reached on solutions that meet both the requirements of business and the broader needs of society.

For more information on ISO see www.iso.org

Details of the ISO/IEC printing standards are available at www.iso.org