

How HP measures inkjet printing speed

HP inkjet print speed specifications cover various types of printing. For example, 4 x 6 inch color photo print speed tests are very different from 8.5 x 11 inch black text document tests. Below are explanations of various types of printing and the speed testing methodology for each one.

Draft and General Office Mode:

Plain Paper Text:

Testing is conducted with the printer in Draft or General Office mode and single-sided printing, unless otherwise specified. Text tests are conducted using Microsoft Word.

- **Black Text, Color Text (up to PPM)**
 - Inkjet print speed varies with document complexity & many other factors.
 - Print speed is faster on simpler and sparser document like a short memo.
 - 'Draft speed on A4 memo' is provided in certain models to illustrate the wide range of speed capability of these HP Inkjet printers.
 - Timing begins when the first sheet lands in the output tray and ends when the last sheet lands in the output tray.
 - Visuals are intended for illustration only. Actual documents may vary.

- Draft (A4)



- Draft (A4 memo)



Photo:

Testing is conducted with the printer in Draft or General Office mode (depending on the printer), unless otherwise specified. Photo tests are conducted using the picture viewer software included with the Windows operating system and 4 x 6 inch HP Advanced Photo Paper printed with borders, unless otherwise specified.

- **Seconds per Color Photo (as fast as)**
 - Timing begins when the first sheet lands in the output tray and ends when the second sheet lands in the output tray.

Normal and Professional Mode

Plain paper:

Tests are conducted in Normal or Professional mode and single-sided printing, unless specified otherwise, using mixed content printed from Microsoft Word, Microsoft Excel, and Adobe Reader. Black tests are conducted with the driver set to print black ink only.

- **ISO/IEC 24734 (up to IPM)**
 - ISO/IEC 24734 is an international standard for measuring the productivity of both inkjet and laser printers in default mode. Timing excludes the first set of test documents. See [ISO/IEC 24734 page](#) for more information.
 - IPM = Images Per Minute and is equivalent to PPM or Pages Per Minute for simplex printing
- **Black and Color First Print Out (as fast as)**
 - Timing begins with pressing "OK" in the print dialog box and ends when the first sheet lands in the output tray. See [ISO/IEC 17629 page](#) for more information.

Best and Presentation Mode

Plain paper:

Tests are conducted in Best or Presentation mode and single-sided printing, unless specified otherwise, using mixed content printed from Microsoft Word, Microsoft Excel, and Adobe Reader. Black tests are conducted with the driver set to print black ink only.

- **Black and Color PPM (up to PPM)**
 - Timing excludes the first set of test documents.

Photo Default Mode:

Tests are conducted in Normal or Professional mode, unless otherwise specified, using the picture viewer software included with the Windows operating system and 4 x 6 inch HP Advanced Photo Paper in borderless mode, unless otherwise specified.

- **Seconds Per Color Photo (as fast as)**
 - Timing begins when the first sheet lands in the output tray and ends when the last sheet lands in the output tray.

Test Conditions and Equipment Used:

Printing speed tests are run in a normal office environment using the default driver included with the printer unless otherwise specified. Plain paper testing is conducted using A4 paper, unless otherwise specified. Multiple tests are conducted to confirm the accuracy of the speed measurement. A warm up page may be sent to the printer prior to starting testing. PPM may be rounded down. For example, if the test resulted in an average PPM of 27.4, HP may specify 27 PPM. Seconds may be rounded up. For example if a test resulted in an average of 14.5 seconds, HP may specify 15 seconds.

As of January 1, 2015, for HP Deskjet, HP Envy, HP Officejet, and HP Photosmart products, HP uses a notebook PC that includes an AMD Turion processor, 2.0 GHz, using Microsoft Windows7, the driver included with the printer, and a USB connection, unless specified otherwise. As of January 1, 2014, for HP Officejet Pro, and HP Officejet Pro X products, HP uses a desktop PC that includes an Intel Core i7, 3.4 GHz, using Microsoft Windows7, the driver included with the printer, and a USB connection, unless otherwise specified.

Print speed is affected by many factors, such as computer configuration, operating system, software, connectivity, document complexity, finishing options such as two sided printing, printer or supply age, and printer or supply usage history. If the printer is on a network, or trying to join for a network, print speed may vary. Print speed may vary with paper manufacturer, type, and size. If multiple input trays are available, all testing is done using the main input tray, unless otherwise specified. Speed tests for copying and printing directly from a memory card are tested in a similar manner as specified above. If required, a software interface is used to set the quality and/or the number of copies. Copy speed tests are done without the use of an automatic document feeder, unless otherwise specified. Speeds may vary when running on a battery. Additional factors not listed above may also affect print speed.