

ISO/IEC 24734 Printing Productivity Report: Office Category

Full Detailed Test Report - LETTER

HP Color LaserJet Enterprise M652dn

Printing device and settings

Test Start Date and Time	4/21/2017 10:24
Tester	AO
Machine name/model	HP Color LaserJet Enterprise M652dn
Colour or B&W	Colour
FW Version	2403298_006038
Temperature and Humidity	73 degF / 23 degC 25.0 %rH
Voltage	110V
Test End Date and Time	8/3/2017 9:51

Item	Value
Driver Version	upd-pcl6-x64-6.4.0.22070
Media/Quality Setting	Default / Default
Simplex B&W Settings	Print in Greyscale
Duplex B&W Settings	Print in Greyscale
Setting N set count	Application
Collating function	Activated (application)
Paper Sending Direction	Default
Paper Size Setting	Default
Paper Feeding	Tray 2
Paper Exit	Standard Exit Tray
Output Orientation	Default (face down)
Duplexing Unit (Yes/No)	Yes
Paper Manufacturer	HP / Xerox
Paper Weight	20lb / 75 g/m2
Paper Size	Letter / A4
Paper type/name	HP Multipurpose Ultra White / HP Office

Summary Report: Letter

Office Category	Test for Color Device	FSOT (seconds)	ESAT (ipm)
Color	Simplex	9.9	50.2
	Duplex	12.5	50.6
B&W	Simplex	9.2	50.2
	Duplex	12.5	50.6

Notes

- 1) All printing device and driver settings were default mode.
- 2) For the B/W results, the print driver was set to "print in B/W".
- 3) For more information see <http://www.hp.com/go/printerclaims>.
- 4) Port monitor not configured to follow device if the IP address changes.

Detailed Report: LETTER

Office Category Test	FSOT (secs)	EFTP (ipm)			ESAT (ipm)	
		1 set only (1 set)	1 set + 30sec (# of sets)	1 set + 4min (# of sets)		
Color Mode	Simplex - Adobe Reader	10.42	23.02 (1 set)	43.59 (8 sets)	46.09 (55 sets)	50.25
	Simplex - Word	9.58	25.06 (1 set)	44.73 (8 sets)		50.27
	Simplex - Excel	9.62	24.96 (1 set)	44.51 (8 sets)		50.26
	Simplex - Average	9.9	24.3	44.2	46.0	50.2
	Duplex - Adobe Reader	13.00	18.46 (1 set)	40.88 (8 sets)		50.66
	Duplex - Word	12.15	19.74 (1 set)	42.12 (8 sets)		50.64
	Duplex - Excel	12.20	19.66 (1 set)	41.82 (8 sets)		50.66
	Duplex - Average	12.5	19.2	41.6		50.6
B&W mode (optional for color device)	Simplex - Adobe Reader	9.53	25.19 (1 set)	44.52 (8 sets)	46.02 (50 sets)	50.25
	Simplex - Word	9.00	26.68 (1 set)	45.40 (8 sets)		50.25
	Simplex - Excel	8.89	27.00 (1 set)	45.22 (8 sets)		50.25
	Simplex - Average	9.2	26.2	45.0	46.0	50.2
	Duplex - Adobe Reader	13.17	18.22 (1 set)	40.92 (8 sets)		50.66
	Duplex - Word	12.15	19.74 (1 set)	41.80 (8 sets)		50.66
	Duplex - Excel	12.14	19.76 (1 set)	41.96 (8 sets)		50.66
	Duplex - Average	12.5	19.2	41.5		50.6

Notes

- 1) All printing device and driver settings were default mode.
- 2) For the B/W results, the print driver was set to "print in B/W".
- 3) For more information see <http://www.hp.com/go/printerclaims>.
- 4) Port monitor not configured to follow device if the IP address changes.

Test System Parameters

Item	Value
Computer	HP Compaq Elite 8300 Small Form Factor
Processor	Intel Core i7 -3770, 3.4 GHz
System Chip Set	Intel C216 Chipset Family SMBus Host Controller
System Board	system devices, default system BIOS
System Memory	4 GB
Hard Drive Subsystem	Standard disk drive (Seagate)
Video Subsystem	AMD Radeon HD 6350
Optical Drive	HP DVD A DH16aCSHR ATA
I/O Subsystem	Builtin
USB Subsystem	USB 2.0/3.0
TCP/IP	TCP/IP 10/1000
Operating System	Windows 7 64 Bit
Printing Applications	Microsoft Office 2010
Microsoft Office	Office 2010
Adobe Reader	10
Test files and location	Office category files, hard drive

ISO/IEC 24734 Printing Productivity Report: Office Category

Full Detailed Test Report - A4

HP Color LaserJet Enterprise M652dn

Printing device and settings	
Test Start Date and Time	4/21/2017 10:24
Tester	AO
Machine name/model	HP Color LaserJet Enterprise M652dn
Colour or B&W	Colour
FW Version	2403298_006038
Temperature and Humidity	73 degF / 23 degC 25.0 %rH
Voltage	110V
Test End Date and Time	8/3/2017 9:51

Item	Value
Driver Version	upd-pcl6-x64-6.4.0.22070
Media/Quality Setting	Default / Default
Simplex B&W Settings	Print in Greyscale
Duplex B&W Settings	Print in Greyscale
Setting N set count	Application
Collating function	Activated (application)
Paper Sending Direction	Default
Paper Size Setting	Default
Paper Feeding	Tray 2
Paper Exit	Standard Exit Tray
Output Orientation	Default (face down)
Duplexing Unit (Yes/No)	Yes
Paper Manufacturer	HP / Xerox
Paper Weight	20lb / 75 g/m2
Paper Size	Letter / A4
Paper type/name	HP Multipurpose Ultra White / HP Office

Summary Report: A4			
Office Category Test for Color Device		FSOT (seconds)	ESAT (ipm)
Colour	Simplex	9.4	47.4
	Duplex	11.9	47.9
B&W	Simplex	9.4	47.4
	Duplex	11.9	48.0

Notes
 1) All printing device and driver settings were default mode.
 2) For the B/W results, the print driver was set to "print in B/W".
 3) For more information see <http://www.hp.com/go/printerclaims>.
 4) Port monitor not configured to follow device if the IP address changes.

Detailed Report: A4						
	Office Category Test	FSOT (secs)		EFTP (ipm)		ESAT (ipm)
		1 set only (1 set)	1 set only (1 set)	1 set + 30sec (# of sets)	1 set + 4min (# of sets)	1 set + 30sec
Colour Mode	Simplex - Adobe Reader	9.80	24.48 (1 set)	41.41 (8 sets)	43.71 (53 sets)	47.44
	Simplex - Word	9.12	26.32 (1 set)	43.11 (8 sets)		47.44
	Simplex - Excel	9.23	26.01 (1 set)	42.92 (8 sets)		47.44
	Simplex - Average	9.4	25.6	42.4	43.7	47.4
	Duplex - Adobe Reader	12.28	19.54 (1 set)	39.94 (8 sets)		48.00
	Duplex - Word	11.59	20.70 (1 set)	39.86 (7 sets)		47.98
	Duplex - Excel	11.76	20.40 (1 set)	40.62 (8 sets)		48.00
	Duplex - Average	11.9	20.2	40.1		47.9
B&W mode (optional for color device)	Simplex - Adobe Reader	9.83	24.41 (1 set)	42.20 (8 sets)	45.94 (53 sets)	47.45
	Simplex - Word	9.16	26.21 (1 set)	43.09 (8 sets)		47.43
	Simplex - Excel	9.18	26.14 (1 set)	42.22 (8 sets)		47.45
	Simplex - Average	9.4	25.5	42.5	45.9	47.4
	Duplex - Adobe Reader	12.24	19.60 (1 set)	39.88 (8 sets)		48.00
	Duplex - Word	11.60	20.68 (1 set)	41.32 (9 sets)		48.02
	Duplex - Excel	11.57	20.74 (1 set)	41.34 (9 sets)		48.02
	Duplex - Average	11.9	20.3	40.8		48.0

Notes
 1) All printing device and driver settings were default mode.
 2) For the B/W results, the print driver was set to "print in B/W".
 3) For more information see <http://www.hp.com/go/printerclaims>.
 4) Port monitor not configured to follow device if the IP address changes.

Test System Parameters	
Item	Value
Computer	HP Compaq Elite 8300 Small Form Factor
Processor	Intel Core i7 -3770, 3.4 GHz
System Chip Set	Intel C216 Chipset Family SMBus Host Controller
System Board	system devices, default system BIOS
System Memory	4 GB
Hard Drive Subsystem	Standard disk drive (Seagate)
Video Subsystem	AMD Radeon HD 6350
Optical Drive	HP DVD A DH16aCSHR ATA
I/O Subsystem	Builtin
USB Subsystem	USB 2.0/3.0
TCP/IP	TCP/IP 10/1000
Operating System	Windows 7 64 Bit
Printing Applications	Microsoft Office 2010
Microsoft Office	Office 2010
Adobe Reader	10
Test files and location	Office category files, hard drive

ISO/IEC 24734 Printing Productivity Report: Office Category

Feature Performance Full Report - Office Feature Performance Test

HP Color LaserJet Enterprise M652dn

Printing device and settings	
Test Start Date and Time	4/21/2017 10:24
Tester	AO
Machine name/model	HP Color LaserJet Enterprise M652dn
Colour or B&W	Colour
FW Version	2403298_006038
Temperature and Humidity	73 degF / 23 degC 25.0 %RH
Voltage	110V
Test End Date and Time	8/3/2017 9:51

Item	Value
Driver Version	upd-pcl6-x64-6.4.0.22070
Media/Quality Setting	Default / Default
Simplex B&W Settings	Print in Greyscale
Duplex B&W Settings	Print in Greyscale
Setting N set count	Application
Collating function	Activated (application)
Paper Sending Direction	Default
Paper Size Setting	Default
Paper Feeding	Tray 2
Paper Exit	Standard Exit Tray
Output Orientation	Default (face down)
Duplexing Unit (Yes/No)	Yes
Paper Manufacturer	HP / Xerox
Paper Weight	20lb / 75 g/m2
Paper Size	Letter / A4
Paper type/name	HP Multipurpose Ultra White / HP Office

ISO Print Productivity Report: Feature Performance Test Summary

Printing Modes (Feature Adobe Reader - Office test file)		Feature Performance Ratio	
		A5 and Legal	
		FSOT (base)	ESAT (feature)
		FSOT (feature)	ESAT (base)
A5 Landscape Feed - Colour	Simplex	126%	160%
A5 Portrait Feed - Colour	Simplex	44%	9%
Legal - Colour	Simplex		
Legal - Colour	Duplex		
A5 Landscape Feed - B/W	Simplex	176%	157%
A5 Portrait Feed - B/W	Simplex	63%	9%
Legal - B/W	Simplex		
Legal - B/W	Duplex		

- Notes
- 1) All printing device and driver settings were default mode.
 - 2) Test conducted with 8-paper Office Feature Performance file.
 - 3) For more information see <http://www.hp.com/go/printerclaims>.
 - 4) Port monitor not configured to follow device if the IP address changes.

Feature Performance Full Report - Feature Printing Mode: 'Office' Feature Performance Test

Printing Modes Feature Adobe Reader - Office test file (8-page)	Base Printing Mode		Feature Performance			
			A5 and Legal			
	FSOT Base	ESAT Base	1 set FSOT (secs)	1 set + 30 sec ESAT (ipm)	FSOT (base) FSOT (feature)	ESAT (feature) ESAT (base)
Simplex A5 Landscape Feed - Colour	16.03	47.54	12.73	76.2	126%	160%
Simplex A5 Portrait Feed - Colour	16.03	47.54	36.78	4.7	44%	9%
Legal Simplex - Colour	16.03	47.54				
Legal Duplex - Colour	16.03	47.54				
Simplex A5 Landscape Feed - B/W	21.92	47.52	12.52	74.9	176%	157%
Simplex A5 Portrait Feed - B/W	21.92	47.52	35.31	4.7	63%	9%
Legal Simplex - B/W	21.92	47.52				
Legal Duplex - B/W	21.92	47.52				

- Notes
- 1) All printing device and driver settings were default mode.
 - 2) Test conducted with 8-paper Office Feature Performance file.
 - 3) For more information see <http://www.hp.com/go/printerclaims>.
 - 4) Port monitor not configured to follow device if the IP address changes.

Test System Parameters

Item	Value
Computer	HP Compaq Elite 8300 Small Form Factor
Processor	Intel Core i7 -3770, 3.4 GHz
System Chip Set	Intel C216 Chipset Family SMBus Host Controller
System Board	system devices, default system BIOS
System Memory	4 GB
Hard Drive Subsystem	Standard disk drive (Seagate)
Video Subsystem	AMD Radeon HD 6350
Optical Drive	HP DVD A DH16aCSHR ATA
I/O Subsystem	Builtin
USB Subsystem	USB 2.0/3.0
I/O	TCP/IP
Operating System	Windows 7 64 Bit
Printing Applications	Microsoft Office 2010
Microsoft Office	Office 2010
Adobe Reader	10
Test files and location	Office category files, hard drive

ISO/IEC 17629 First Print Out Time Report: Office Category

Full Detailed Test Report - LETTER

HP Color LaserJet Enterprise M652dn	
Printing device and settings	
Test Start Date and Time	4/21/2017 10:24
Tester	AO
Machine name/model	HP Color LaserJet Enterprise M652dn
Colour or B&W	Colour
FW Version	2403298_006038
Configuration (options)	Default
Controller	7.143
Printing device page count	Not Specified
Printing supplies page count	Not Specified
Temperature and Humidity	73 degF / 23 degC 25.0 %rH
Voltage	110V
Test End Date and Time	8/3/2017 9:51

Item	Value	
Mode and Setting	PDL and driver version	upd-pcl6-x64-6.4.0.22070
	Print Quality mode	default
	B&W settings	default
	Paper feed orientation	Short Edge
Paper	Paper type setting	default
	Paper feeding	Standard cassette
	Paper exit	Standard exit tray
Paper Path	Output orientation	default (face up or face down)

ISO First Page Out Time Summary Report: Office Category

Summary Report: Letter		
		FPOT from Ready (seconds)
Color	Simplex	6.09
	Duplex	
B&W	Simplex	5.41
	Duplex	

- Notes
- 1) All printing device and driver settings were default mode.
 - 2) For the B/W results, the print driver was set to "print in B/W".
 - 3) For more information see <http://www.hp.com/go/printerclaims>.
 - 4) Port monitor not configured to follow device if the IP address changes.
 - 5) Page counts were collected after completion of the tests.

ISO First Page Out Time Report: Office Category

Detailed Report: LETTER						
		Word (seconds)	Excel (seconds)	Adobe Reader (seconds)	Average (seconds)	Delay Time
Color Mode	FPOT from Ready - Simplex	5.80	5.89	6.58	6.09	20 Seconds
	FPOT from Ready - Duplex					
	FPOT from Sleep - Simplex			13.35		105 Minutes
	Recovery Time			6.8		
	FPOT from Off - Simplex			158.41		
	Warm-up Time			151.83		
B&W Mode	FPOT from Ready - Simplex	5.37	5.24	5.61	5.41	20 Seconds
	FPOT from Ready - Duplex					
	FPOT from Sleep - Simplex			13.31		105 Minutes
	Recovery Time			7.7		
	FPOT from Off - Simplex			157.47		
	Warm-up Time			151.86		

Notes

- 1) All printing device and driver settings were default mode.
- 2) For the B/W results, the print driver was set to "print in B/W".
- 3) For more information see <http://www.hp.com/go/printerclaims>.
- 4) Port monitor not configured to follow device if the IP address changes.
- 5) Page counts were collected after completion of the tests.
- 6) Details for FPOT from Sleep are shown below.

HP Data Table

Detailed Report: LETTER							
		FPOT Avg (secs)	FPOT (secs) Iteration 1	FPOT (secs) Iteration 2	FPOT (secs) Iteration 3	Application	Delay Time
Color Mode	FPOT from Sleep	13.35	13.39	13.30	N/A	Adobe Reader	105 Minutes
	FPOT from Sleep (15 minutes) HP/Non ISO Test	8.35	8.36	8.34	N/A	Adobe Reader	15 Minutes
B&W Mode	FPOT from Sleep	13.31	13.41	13.21	N/A	Adobe Reader	105 Minutes
	FPOT from Sleep (15 minutes) HP/Non ISO Test	7.53	7.34	7.71	N/A	Adobe Reader	15 Minutes

- Notes
- 1) All printing device and driver settings were default mode.
 - 2) For the B/W results, the print driver was set to "print in B/W".
 - 3) DLP includes detailed iterations as data measurements may vary run to run.

Test System Parameters

Item	Value	
Test System	Computer	HP Compaq Elite 8300 Small Form Factor
	Processor	Intel Core i7 -3770, 3.4 GHz
	System Chip Set	Intel C216 Chipset Family SMBus Host Controller
	System Board	system devices, default system BIOS
	System Memory	4 GB
	Hard Drive Subsystem	Standard disk drive (Seagate)
	Video Subsystem	AMD Radeon HD 6350
	Optical Drive	HP DVD A DH16aCSHR ATA
	I/O Subsystem	Builtin
	USB Subsystem	USB 2.0/3.0
Printing Device Connection	TCP/IP	10/1000
Software	Operating System	Windows 7 Business/Ultimate, 64 bit, Build 7601, SP 1
	Printing Applications	Microsoft Office 2010 SP2
	Print Driver	Adobe Reader 10.1.4 upd-pcl6-x64-6.4.0.22070

ISO/IEC 17629 First Print Out Time Report: Office Category

Full Detailed Test Report - A4

HP Color LaserJet Enterprise M652dn	
Printing device and settings	
Test Start Date and Time	4/21/2017 10:24
Tester	AO
Machine name/model	HP Color LaserJet Enterprise M652dn
Colour or B&W	Colour
FW Version	2403298_006038
Configuration (options)	Default
Controller	7.143
Printing device page count	Not Specified
Printing supplies page count	Not Specified
Temperature and Humidity	73 degF / 23 degC 25.0 %rH
Voltage	110V
Test End Date and Time	8/3/2017 9:51

	Item	Value
Mode and Setting	PDL and driver version	upd-pcl6-x64-6.4.0.22070
	Print Quality mode	default
	B&W settings	default
	Paper feed orientation	Short Edge
Paper	Paper type setting	default
	Paper feeding	Standard cassette
	Paper exit	Standard exit tray
Paper Path	Output orientation	default (face up or face down)

ISO First Page Out Time Summary Report: Office Category

Summary Report: A4		
FPOT from Ready (seconds)		
Colour	Simplex	5.37
	Duplex	
B&W	Simplex	5.39
	Duplex	

Notes
 1) All printing device and driver settings were default mode.
 2) For the B/W results, the print driver was set to "print in B/W".
 3) For more information see <http://www.hp.com/go/printerclaims>.
 4) Port monitor not configured to follow device if the IP address changes.
 5) Page counts were collected after completion of the tests.

ISO First Page Out Time Report: Office Category

Detailed Report: A4						
		Word (seconds)	Excel (seconds)	Adobe Reader (seconds)	Average (seconds)	Delay Time
Color Mode	FPOT from Ready - Simplex	5.14	5.26	5.70	5.37	20 Seconds
	FPOT from Ready - Duplex					
	FPOT from Sleep - Simplex			13.28		105 Minutes
	Recovery Time			7.6		
	FPOT from Off - Simplex			158.94		
	Warm-up Time			153.24		
B&W Mode	FPOT from Ready - Simplex	5.11	5.25	5.81	5.39	20 Seconds
	FPOT from Ready - Duplex					
	FPOT from Sleep - Simplex			12.98		105 Minutes
	Recovery Time			7.2		
	FPOT from Off - Simplex			157.03		
	Warm-up Time			151.22		

Notes
 1) All printing device and driver settings were default mode.
 2) For the B/W results, the print driver was set to "print in B/W".
 3) For more information see <http://www.hp.com/go/printerclaims>.
 4) Port monitor not configured to follow device if the IP address changes.
 5) Page counts were collected after completion of the tests.
 6) Details for FPOT from Sleep are shown below.

HP Data Table

Detailed Report: A4							
		FPOT Avg (secs)	FPOT (secs) Iteration 1	FPOT (secs) Iteration 2	FPOT (secs) Iteration 3	Application	Delay Time
Color Mode	FPOT from Sleep	13.28	13.28	13.27	N/A	Adobe Reader	105 Minutes
	FPOT from Sleep (15 minutes) HP/Non ISO Test	8.50	8.46	8.53	N/A	Adobe Reader	15 Minutes
B&W Mode	FPOT from Sleep	12.98	12.90	13.05	N/A	Adobe Reader	105 Minutes
	FPOT from Sleep (15 minutes) HP/Non ISO Test	7.98	7.96	7.99	N/A	Adobe Reader	15 Minutes

Notes
 1) All printing device and driver settings were default mode.
 2) For the B/W results, the print driver was set to "print in B/W".
 3) DLP includes detailed iterations as data measurements may vary run to run.

Test System Parameters

	Item	Value
Test System	Computer	HP Compaq Elite 8300 Small Form Factor
	Processor	Intel Core i7 -3770, 3.4 GHz
	System Chip Set	Intel C216 Chipset Family SMBus Host Controller
	System Board	system devices, default system BIOS
	System Memory	4 GB
	Hard Drive Subsystem	Standard disk drive (Seagate)
	Video Subsystem	AMD Radeon HD 6350
	Optical Drive	HP DVD A DH16aCSHR ATA
	I/O Subsystem	Builtin
	USB Subsystem	USB 2.0/3.0
Printing Device Connection	TCP/IP	10/1000
Software	Operating System	Windows 7 Business/Ultimate, 64 bit, Build 7601, SP 1
	Printing Applications	Microsoft Office 2010 SP2
	Print Driver	Adobe Reader 10.1.4 upd-pcl6-x64-6.4.0.22070