



Manufacturer (trade mark):	PRPS	Type/Model OEM:	CLT-K4092S/ELS
Lot/Part number:	4214171	Toner color(s):	BLACK
Main application:	To be used on the relevant printers according to remanufacturer instructions		
Intended yield:	1500	Take over value of existing test protocol :	(box) Yes, from ISO19798
Test device:	145EBAGQA02433H / 4M21BAZSC00422M / 4M21BAFZ40018ON	Relative humidity:	41
Test climate:	Temperature: 21	Test location 2):	SERBIA
Deviations of the determined test conditions	Tester 1): 0	Test date:	23/08/2014

1) If values are taken over from test protocol, the signing person is responsible, that the protocols, from which the values have been taken off, are plausible and correct.

2) Either testing place or place where the protocol is made

Test sample (A)	Type	Used for valuation	Charge/Serial number
1	1610	Yes	Sample 1
2	1580	Yes	Sample 2
3	1623	Yes	Sample 3
4	1690	Yes	Sample 4
5	1712	Yes	Sample 5
6	1701	Yes	Sample 6
7	1583	Yes	Sample 7
8	1567	Yes	Sample 8
9	1806	Yes	Sample 9

Comparing Sample (B)	Type	Used for valuation	Charge/Serial number
1	1500	Yes/no	OEM Sample/Spec
2	1500	Yes/no	OEM Sample/Spec
3	1500	Yes/no	OEM Sample/Spec
4		Yes/no	
5		Yes/no	

OEM data taken from OEMs own ISO19752 or ISO19798 declarations of yield

Administrative checking of health related attributes (5.2)

Is there an EG- Safety Data Sheet of the used toner?	Yes/no	Yes
If there are no information of the AMES test in the EG Safety Data Sheet	Yes/no	Not Aplicable
Is there a test report about the AMES test of the used toner?	Yes/no	Not Aplicable
If not: Description	All MSDSs mention Ames test	

Checking the influence of the toner module on the printer (5.3)

Is the toner leaking less than the original?	Yes/no	Yes
Is the interaction between printer and toner module acceptable?	Yes/no	Yes
If not: Description		

Checking the initialization (5.4)

Is the print out acceptable right after the toner module has been inserted?	Yes/no	Yes
If not: Describe fault		

Checking the yield number (5.5)

BLACK

	1	2	3	Average (\bar{A} or \bar{V})
Yield A: $(A1+A2+A3)/3=\bar{A}$	1806	1623	1567	1665
Yield V: $(V1+V2+V3)/3=\bar{V}$	1500	1500	1500	1500

Alternative:

Yield A: Result of test after ISO/IEC 19752 \bar{A}	
Reference to the test protocol:	
Test date:	
Yield V: Result of test after ISO/IEC 19752 \bar{V}	
Reference to the test protocol:	
Test date:	
Result: $EZ=\bar{A}/\bar{V}$	1,11

Is the expected yield (EZ) reached?	Yes	No	Not Aplicable
Is the expected page yield reached?	YES		

Checking the black print/Color reproduction (5.6.2)

Average value of the 2 areas F test print A1:	0		
Average value of the 2 areas F comparing print V1:	0		
Difference is not higher than $\Delta \leq 5$ for Monochrome	Not Aplicable	Yes/No/Not Aplicable	Not Aplicable
Color difference $\Delta E \leq 18$ for Color	0	Yes/No/Not Aplicable	Yes
Average value of the 2 areas F test print A2:	0		
Average value of the 2 areas F comparing print V2:	0		
Difference is not higher than $\Delta \leq 5$ for Monochrome	Not Aplicable	Yes/No/Not Aplicable	Not Aplicable
Color difference $\Delta E \leq 18$ for Color	0	Yes/No/Not Aplicable	Yes
Average value of the 2 areas F test print A3:	0		
Average value of the 2 areas F comparing print V3:	0		
Difference is not higher than $\Delta \leq 5$ for Monochrome	Not Aplicable	Yes/No/Not Aplicable	Not Aplicable
Color difference $\Delta E \leq 18$ for Color	0	Yes/No/Not Aplicable	Yes

Checking the fade (5.6.3)

BLACK

Test print A1				
Color values 1 6 A F	1	6	A	F
after 50 pages	0	0	0	0
Color values 1 6 A F	1	6	A	F
The biggest deviation	0	0	0	0
Comparing print V1				
Color values 1 6 A F	1	6	A	F
after 50 pages	0	0	0	0

Color values 1 6 A F	1	6	A	F
The biggest deviation	0	0	0	0
Result determination	1	6	A	F
Difference $\Delta L \leq 8$	0	0	0	0
Difference within allowed parameters	YES	YES	YES	YES

Test print A2 BLACK

Color values 1 6 A F	1	6	A	F
after 50 pages	0	0	0	0
Color values 1 6 A F	1	6	A	F
The biggest deviation	0	0	0	0
Comparing print V2				
Color values 1 6 A F	1	6	A	F
after 50 pages	0	0	0	0
Color values 1 6 A F	1	6	A	F
The biggest deviation	0	0	0	0
Result determination	1	6	A	F
Difference $\Delta L \leq 8$	0	0	0	0
Difference within allowed parameters	YES	YES	YES	YES

Test print A3 BLACK

Color values 1 6 A F	1	6	A	F
after 50 pages	0	0	0	0
Color values 1 6 A F	1	6	A	F
The biggest deviation	0	0	0	0
Comparing print V2				
Color values 1 6 A F	1	6	A	F
after 50 pages	0	0	0	0
Color values 1 6 A F	1	6	A	F
The biggest deviation	0	0	0	0
Result determination	1	6	A	F
Difference $\Delta L \leq 8$	0	0	0	0
Difference within allowed parameters	YES	YES	YES	YES

Checking toner adhesion

Test process: visual (tape method):

Is the resistance in between the acceptable parameters? Yes
 If not: Describe deviation

Checking the grey page/color uniformity (5.6.5)

Are the color differences in between the acceptable parameters (pattern B2-B5) $\Delta E \leq 8$? Yes
 If not: Describe deviation

Checking the background (5.6.6)

Is the background smudge between the acceptable parameters (pattern B1-B5)? Yes
 If not: Describe deviation

Checking the ghosting (5.6.7)

Is the repeating of the back rectangles in between the acceptable parameters (pattern B2-B5)? Yes
 If not: Describe deviation

Checking toner miscibility (5.6.8)

Is the toner miscibility given? N/A
 If not: Describe deviation

OVERALL RESULT: Passed



Manufacturer (trade mark):	PRPS	Type/Model OEM:	CLT-C4092S/ELS
Lot/Part number:	4214188	Toner color(s):	CYAN
Main application:	To be used on the relevant printers according to remanufacturer instructions		
Intended yield:	1000	Take over value of existing test protocol :	(box) Yes, from ISO19798
Test device:	145EBAGQA02433H / 4M21BAZSC00422M / 4M21BAFZ40018ON	Relative humidity:	41
Test climate:	Temperature: 21	Test location 2):	SERBIA
Deviations of the determined test conditions	Tester 1): 0	Test date:	23/08/2014

1) If values are taken over from test protocol, the signing person is responsible, that the protocols, from which the values have been taken off, are plausible and correct.

2) Either testing place or place where the protocol is made

Test sample (A)	Type	Used for valuation	Charge/Serial number
1	1120	Yes	Sample 1
2	1080	Yes	Sample 2
3	1065	Yes	Sample 3
4	1112	Yes	Sample 4
5	1163	Yes	Sample 5
6	1185	Yes	Sample 6
7	1093	Yes	Sample 7
8	1205	Yes	Sample 8
9	1187	Yes	Sample 9

Comparing Sample (B)	Type	Used for valuation	Charge/Serial number
1	1000	Yes/no	OEM Sample/Spec
2	1000	Yes/no	OEM Sample/Spec
3	1000	Yes/no	OEM Sample/Spec
4		Yes/no	
5		Yes/no	

OEM data taken from OEMs own ISO19752 or ISO19798 declarations of yield

Administrative checking of health related attributes (5.2)

Is there an EG- Safety Data Sheet of the used toner?	Yes/no	Yes
If there are no information of the AMES test in the EG Safety Data Sheet		
Is there a test report about the AMES test of the used toner?	Yes/no	Not Aplicable
If not: Description	All MSDSs mention Ames test	

Checking the influence of the toner module on the printer (5.3)

Is the toner leaking less than the original?	Yes/no	Yes
Is the interaction between printer and toner module acceptable?	Yes/no	Yes
If not: Description		

Checking the initialization (5.4)

Is the print out acceptable right after the toner module has been inserted?	Yes/no	Yes
If not: Describe fault		

Checking the yield number (5.5)

CYAN

	1	2	3	Average (\bar{A} or \bar{V})
Yield A: $(A1+A2+A3)/3 = \bar{A}$	1205	1120	1065	1130
Yield V: $(V1+V2+V3)/3 = \bar{V}$	1000	1000	1000	1000

Alternative:

Yield A: Result of test after ISO/IEC 19752 \bar{A}	
Reference to the test protocol:	
Test date:	
Yield V: Result of test after ISO/IEC 19752 \bar{V}	
Reference to the test protocol:	
Test date:	
Result: $EZ = \bar{A}/\bar{V}$	1,13

Is the expected yield (EZ) reached?	Yes	No	Not Aplicable
Is the expected page yield reached?	YES		

Checking the black print/Color reproduction (5.6.2)

Average value of the 2 areas F test print A1:	0	
Average value of the 2 areas F comparing print V1:	0	
Difference is not higher than $\Delta \leq 5$ for Monochrome	Not Aplicable	Yes/No/Not Aplicable
Color difference $\Delta E \leq 18$ for Color	0	Not Aplicable
Average value of the 2 areas F test print A2:	0	
Average value of the 2 areas F comparing print V2:	0	
Difference is not higher than $\Delta \leq 5$ for Monochrome	Not Aplicable	Yes/No/Not Aplicable
Color difference $\Delta E \leq 18$ for Color	0	Not Aplicable
Average value of the 2 areas F test print A3:	0	
Average value of the 2 areas F comparing print V3:	0	
Difference is not higher than $\Delta \leq 5$ for Monochrome	Not Aplicable	Yes/No/Not Aplicable
Color difference $\Delta E \leq 18$ for Color	0	Not Aplicable

Checking the fade (5.6.3)

CYAN

Test print A1	
Color values 1 6 A F	1 6 A F
after 50 pages	0 0 0 0
Color values 1 6 A F	1 6 A F
The biggest deviation	0 0 0 0
Comparing print V1	
Color values 1 6 A F	1 6 A F
after 50 pages	0 0 0 0

Color values 1 6 A F	1	6	A	F
The biggest deviation	0	0	0	0
Result determination	1	6	A	F
Difference $\Delta L \leq 8$	0	0	0	0
Difference within allowed parameters	YES	YES	YES	YES

Test print A2 CYAN

Color values 1 6 A F	1	6	A	F
after 50 pages	0	0	0	0
Color values 1 6 A F	1	6	A	F
The biggest deviation	0	0	0	0
Comparing print V2				
Color values 1 6 A F	1	6	A	F
after 50 pages	0	0	0	0
Color values 1 6 A F	1	6	A	F
The biggest deviation	0	0	0	0
Result determination	1	6	A	F
Difference $\Delta L \leq 8$	0	0	0	0
Difference within allowed parameters	YES	YES	YES	YES

Test print A3 CYAN

Color values 1 6 A F	1	6	A	F
after 50 pages	0	0	0	0
Color values 1 6 A F	1	6	A	F
The biggest deviation	0	0	0	0
Comparing print V2				
Color values 1 6 A F	1	6	A	F
after 50 pages	0	0	0	0
Color values 1 6 A F	1	6	A	F
The biggest deviation	0	0	0	0
Result determination	1	6	A	F
Difference $\Delta L \leq 8$	0	0	0	0
Difference within allowed parameters	YES	YES	YES	YES

Checking toner adhesion

Test process: visual (tape method):

Is the resistance in between the acceptable parameters? Yes

If not: Describe deviation

Checking the grey page/color uniformity (5.6.5)Are the color differences in between the acceptable parameters (pattern B2-B5) $\Delta E \leq 8$? Yes

If not: Describe deviation

Checking the background (5.6.6)

Is the background smudge between the acceptable parameters (pattern B1-B5)? Yes

If not: Describe deviation

Checking the ghosting (5.6.7)

Is the repeating of the back rectangles in between the acceptable parameters (pattern B2-B5)? Yes

If not: Describe deviation

Checking toner miscibility (5.6.8)

Is the toner miscibility given? N/A

If not: Describe deviation

OVERALL RESULT: Passed



Manufacturer (trade mark):	PRPS	Type/Model OEM:	CLT-M4092S/ELS
Lot/Part number:	4214195	Toner color(s):	MAGENTA
Main application:	To be used on the relevant printers according to remanufacturer instructions		
Intended yield:	1000	Take over value of existing test protocol : (box)	Yes, from ISO19798
Test device:	145EBAGQA02433H / 4M21BAZSC00422M / 4M21BAFZ40018ON		
Test climate:			
Temperature:	21	Relative humidity:	41
Deviations of the determined test conditions		Test location 2):	SERBIA
Tester 1):	0		
Test date:	23/08/2014		

1) If values are taken over from test protocol, the signing person is responsible, that the protocols, from which the values have been taken off, are plausible and correct.

2) Either testing place or place where the protocol is made

Test sample (A)	Type	Used for valuation	Charge/Serial number
1	1147	Yes	Sample 1
2	1136	Yes	Sample 2
3	1325	Yes	We use for A1 the
4	1056	Yes	MAX, for A2 the
5	1078	Yes	MEDIAN and for A3 the
6	1206	Yes	MIN value of the list at
7	1245	Yes	left
8	1125	Yes	Sample 7
9	1133	Yes	Sample 8
			Sample 9

Comparing Sample (B)	Type	Used for valuation	Charge/Serial number
1	1000	Yes/no	Yes
2	1000	Yes/no	Yes
3	1000	Yes/no	Yes
4		Yes/no	
5		Yes/no	

OEM data taken from OEMs own ISO19752 or ISO19798 declarations of yield

Administrative checking of health related attributes (5.2)

Is there an EG- Safety Data Sheet of the used toner? Yes/no **Yes**

If there are no information of the AMES test in the EG Safety Data Sheet

Is there a test report about the AMES test of the used toner? Yes/no **Not Aplicable**

If not: Description **All MSDSs mention Ames test**

Checking the influence of the toner module on the printer (5.3)

Is the toner leaking less than the original? Yes/no **Yes**

Is the interaction between printer and toner module acceptable? Yes/no **Yes**

If not: Description

Checking the initialization (5.4)

Is the print out acceptable right after the toner module has been inserted? Yes/no **Yes**

If not: Describe fault

Checking the yield number (5.5)

MAGENTA

	1	2	3	Average (A or V)
Yield A: (A1+A2+A3)/3= A	1325	1136	1056	1172
Yield V: (V1+V2+V3)/3=V	1000	1000	1000	1000

Alternative:

Yield A: Result of test after ISO/IEC 19752 A

Reference to the test protocol:

Test date:

Yield V: Result of test after ISO/IEC 19752 V

Reference to the test protocol:

Test date:

Result: EZ=A/V

	Yes	No	Not Aplicable
Is the expected yield (EZ) reached?	YES		
Is the expected page yield reached?	YES		

Checking the black print/Color reproduction (5.6.2)

Average value of the 2 areas F test print A1:	0		
Average value of the 2 areas F comparing print V1:	0		
Difference is not higher than Δ≤5 for Monochrome	Not Aplicable	Yes/No/Not Aplicable	Not Aplicable
Color difference ΔE≤18 for Color	0	Yes/No/Not Aplicable	Yes
Average value of the 2 areas F test print A2:	0		
Average value of the 2 areas F comparing print V2:	0		
Difference is not higher than Δ≤5 for Monochrome	Not Aplicable	Yes/No/Not Aplicable	Not Aplicable
Color difference ΔE≤18 for Color	0	Yes/No/Not Aplicable	Yes
Average value of the 2 areas F test print A3:	0		
Average value of the 2 areas F comparing print V3:	0		
Difference is not higher than Δ≤5 for Monochrome	Not Aplicable	Yes/No/Not Aplicable	Not Aplicable
Color difference ΔE≤18 for Color	0	Yes/No/Not Aplicable	Yes

Checking the fade (5.6.3)

MAGENTA

Test print A1	1	6	A	F
Color values 1 6 A F after 50 pages	0	0	0	0
Color values 1 6 A F	1	6	A	F
The biggest deviation	0	0	0	0
Comparing print V1	1	6	A	F
Color values 1 6 A F after 50 pages	0	0	0	0

Color values 1 6 A F	1	6	A	F
The biggest deviation	0	0	0	0
Result determination	1	6	A	F
Difference $\Delta L \leq 8$	0	0	0	0
Difference within allowed parameters	YES	YES	YES	YES

Test print A2 MAGENTA

Color values 1 6 A F	1	6	A	F
after 50 pages	0	0	0	0
Color values 1 6 A F	1	6	A	F
The biggest deviation	0	0	0	0
Comparing print V2				
Color values 1 6 A F	1	6	A	F
after 50 pages	0	0	0	0
Color values 1 6 A F	1	6	A	F
The biggest deviation	0	0	0	0
Result determination	1	6	A	F
Difference $\Delta L \leq 8$	0	0	0	0
Difference within allowed parameters	YES	YES	YES	YES

Test print A3 MAGENTA

Color values 1 6 A F	1	6	A	F
after 50 pages	0	0	0	0
Color values 1 6 A F	1	6	A	F
The biggest deviation	0	0	0	0
Comparing print V2				
Color values 1 6 A F	1	6	A	F
after 50 pages	0	0	0	0
Color values 1 6 A F	1	6	A	F
The biggest deviation	0	0	0	0
Result determination	1	6	A	F
Difference $\Delta L \leq 8$	0	0	0	0
Difference within allowed parameters	YES	YES	YES	YES

Checking toner adhesion

Test process: visual (tape method):

Is the resistance in between the acceptable parameters? Yes

If not: Describe deviation

Checking the grey page/color uniformity (5.6.5)Are the color differences in between the acceptable parameters (pattern B2-B5) $\Delta E \leq 8$? Yes

If not: Describe deviation

Checking the background (5.6.6)

Is the background smudge between the acceptable parameters (pattern B1-B5)? Yes

If not: Describe deviation

Checking the ghosting (5.6.7)

Is the repeating of the back rectangles in between the acceptable parameters (pattern B2-B5)? Yes

If not: Describe deviation

Checking toner miscibility (5.6.8)

Is the toner miscibility given? N/A

If not: Describe deviation

OVERALL RESULT: Passed



Manufacturer (trade mark):	PRPS	Type/Model OEM:	CLT-Y4072S/ELS
Lot/Part number:	4216625	Toner color(s):	YELLOW
Main application:	To be used on the relevant printers according to remanufacturer instructions		
Intended yield:	1000	Take over value of existing test protocol :	(box) Yes, from ISO19798
Test device:	Z528BAMZ700061E / Z528BAEB802178 / Z5HMBAGZ800105D	Relative humidity:	43
Test climate:	21	Test location 2):	SERBIA
Deviations of the determined test conditions		Test date:	27/01/2014
Tester 1):	0		

1) If values are taken over from test protocol, the signing person is responsible, that the protocols, from which the values have been taken off, are plausible and correct.

2) Either testing place or place where the protocol is made

Test sample (A)	Type	Used for valuation	Charge/Serial number
1	1150	Yes	Sample 1
2	1051	Yes	Sample 2
3	1056	Yes	Sample 3
4	1050	Yes	Sample 4
5	1120	Yes	Sample 5
6	1225	Yes	Sample 6
7	1008	Yes	Sample 7
8	1150	Yes	Sample 8
9	1025	Yes	Sample 9

Comparing Sample (B)	Type	Used for valuation	Charge/Serial number
1	1000	Yes/no	OEM Sample/Spec
2	1000	Yes/no	OEM Sample/Spec
3	1000	Yes/no	OEM Sample/Spec
4		Yes/no	
5		Yes/no	

OEM data taken from OEMs own ISO19752 or ISO19798 declarations of yield

Administrative checking of health related attributes (5.2)

Is there an EG- Safety Data Sheet of the used toner?	Yes/no	Yes
If there are no information of the AMES test in the EG Safety Data Sheet		
Is there a test report about the AMES test of the used toner?	Yes/no	Not Aplicable
If not: Description	All MSDSs mention Ames test	

Checking the influence of the toner module on the printer (5.3)

Is the toner leaking less than the original?	Yes/no	Yes
Is the interaction between printer and toner module acceptable?	Yes/no	Yes
If not: Description		

Checking the initialization (5.4)

Is the print out acceptable right after the toner module has been inserted?	Yes/no	Yes
If not: Describe fault		

Checking the yield number (5.5)

YELLOW

	1	2	3	Average (\bar{A} or \bar{V})
Yield A: $(A1+A2+A3)/3=\bar{A}$	1225	1056	1008	1096
Yield V: $(V1+V2+V3)/3=\bar{V}$	1000	1000	1000	1000

Alternative:

Yield A: Result of test after ISO/IEC 19752 \bar{A}	
Reference to the test protocol:	
Test date:	
Yield V: Result of test after ISO/IEC 19752 \bar{V}	
Reference to the test protocol:	
Test date:	
Result: $EZ=\bar{A}/\bar{V}$	1,10

Is the expected yield (EZ) reached?	Yes	No	Not Aplicable
Is the expected page yield reached?	YES		

Checking the black print/Color reproduction (5.6.2)

Average value of the 2 areas F test print A1:	0		
Average value of the 2 areas F comparing print V1:	0		
Difference is not higher than $\Delta \leq 5$ for Monochrome	Not Aplicable	Yes/No/Not Aplicable	Not Aplicable
Color difference $\Delta E \leq 18$ for Color	0	Yes/No/Not Aplicable	Yes
Average value of the 2 areas F test print A2:	0		
Average value of the 2 areas F comparing print V2:	0		
Difference is not higher than $\Delta \leq 5$ for Monochrome	Not Aplicable	Yes/No/Not Aplicable	Not Aplicable
Color difference $\Delta E \leq 18$ for Color	0	Yes/No/Not Aplicable	Yes
Average value of the 2 areas F test print A3:	0		
Average value of the 2 areas F comparing print V3:	0		
Difference is not higher than $\Delta \leq 5$ for Monochrome	Not Aplicable	Yes/No/Not Aplicable	Not Aplicable
Color difference $\Delta E \leq 18$ for Color	0	Yes/No/Not Aplicable	Yes

Checking the fade (5.6.3)

YELLOW

Test print A1				
Color values 1 6 A F	1	6	A	F
after 50 pages	0	0	0	0
Color values 1 6 A F	1	6	A	F
The biggest deviation	0	0	0	0
Comparing print V1				
Color values 1 6 A F	1	6	A	F
after 50 pages	0	0	0	0

Color values 1 6 A F	1	6	A	F
The biggest deviation	0	0	0	0
Result determination	1	6	A	F
Difference $\Delta L \leq 8$	0	0	0	0
Difference within allowed parameters	YES	YES	YES	YES

Test print A2 YELLOW

Color values 1 6 A F	1	6	A	F
after 50 pages	0	0	0	0
Color values 1 6 A F	1	6	A	F
The biggest deviation	0	0	0	0
Comparing print V2				
Color values 1 6 A F	1	6	A	F
after 50 pages	0	0	0	0
Color values 1 6 A F	1	6	A	F
The biggest deviation	0	0	0	0
Result determination	1	6	A	F
Difference $\Delta L \leq 8$	0	0	0	0
Difference within allowed parameters	YES	YES	YES	YES

Test print A3 YELLOW

Color values 1 6 A F	1	6	A	F
after 50 pages	0	0	0	0
Color values 1 6 A F	1	6	A	F
The biggest deviation	0	0	0	0
Comparing print V2				
Color values 1 6 A F	1	6	A	F
after 50 pages	0	0	0	0
Color values 1 6 A F	1	6	A	F
The biggest deviation	0	0	0	0
Result determination	1	6	A	F
Difference $\Delta L \leq 8$	0	0	0	0
Difference within allowed parameters	YES	YES	YES	YES

Checking toner adhesion

Test process: visual (tape method):

Is the resistance in between the acceptable parameters? Yes

If not: Describe deviation

Checking the grey page/color uniformity (5.6.5)Are the color differences in between the acceptable parameters (pattern B2-B5) $\Delta E \leq 8$? Yes

If not: Describe deviation

Checking the background (5.6.6)

Is the background smudge between the acceptable parameters (pattern B1-B5)? Yes

If not: Describe deviation

Checking the ghosting (5.6.7)

Is the repeating of the back rectangles in between the acceptable parameters (pattern B2-B5)? Yes

If not: Describe deviation

Checking toner miscibility (5.6.8)

Is the toner miscibility given? N/A

If not: Describe deviation

OVERALL RESULT: Passed