

Manufacturer (trade mark): **Clover Germany** Type/Model OEM: **TK-5150K**
 Lot/Part number: **DPCTK5150BE** Toner color(s): **BLACK**
 Main application: To be used on the relevant printers according to remanufacturer instructions
 Intended yield: 12000
 V5U5Z08029 /
 V5U5Z08682 /
 Test device: V5U5Z08347 Take over value of existing test protocol : (box) **Yes, from ISO19798**
 Test climate:
 Temperature: 25 Relative humidity: 43
 Deviations of the determined test conditions
 Tester 1): Aleksandar Kojic Test location 2): **CLOVER SERBIA**
 Test date: **6.12.2017**

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	12525	Yes	Sample 1
2	12715	Yes	Sample 2
3	12845	Yes We use for A1 the	Sample 3
4	14001	Yes MAX, for A2 the	Sample 4
5	13254	Yes MEDIAN and for A3 the	Sample 5
6	12978	Yes MIN value of the list at	Sample 6
7	12720	Yes left	Sample 7
8	12963	Yes	Sample 8
9	12700	Yes	Sample 9
Comparing Sample (B)	Type	Used for valuation	Charge/Serial number
1	12000	Yes/no Yes	OEM Sample/Spec
2	12000	Yes/no Yes	OEM Sample/Spec
3	12000	Yes/no Yes	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)

BLACK

	1	2	3	Average (Å or V)
Yield A: (A1+A2+A3)/3= Å	14001	12845	12525	13124
Yield V: (V1+V2+V3)/3=V	12000	12000	12000	12000

Alternative:

Yield A: Result of test after ISO/IEC 19752 Å	
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=Å/V	1,09

	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:	25,8		
Average value of the 2 areas F comparing print V1:	27,3		
Difference is not higher than Δ≤5 for Monochrom	Not Aplicable	Yes/No/Not Aplicable	Not Aplicable
Color difference ΔE≤18 for Color	1,5	Yes/No/Not Aplicable	Yes
Average value of the 2 areas F test print A2:	25,8		
Average value of the 2 areas F comparing print V2:	27,2		
Difference is not higher than Δ≤5 for Monochrom	Not Aplicable	Yes/No/Not Aplicable	Not Aplicable
Color difference ΔE≤18 for Color	1,4	Yes/No/Not Aplicable	Yes
Average value of the 2 areas F test print A3:	23,3		
Average value of the 2 areas F comparing print V3:	26,7		

Difference is not higher than $\Delta \leq 5$ for Monochrome
 Color difference $\Delta E \leq 18$ for Color

Not Applicable
3,4

Yes/No/Not Applicable	Not Applicable
Yes/No/Not Applicable	Yes

Checking the fade (5.6.3)

BLACK

Test print A1				
Color values 1 6 A F	1	6	A	F
after 50 pages	87,9	70,3	52,8	29,3
Color values 1 6 A F	1	6	A	F
The biggest deviation	4,3	2,6	3,5	6,8
Comparing print V1				
Color values 1 6 A F	1	6	A	F
after 50 pages	89,7	67,5	50,8	26,1
Color values 1 6 A F	1	6	A	F
The biggest deviation	1,3	1,4	0,5	2,1
Result determination				
Difference $\Delta L \leq 8$	1	6	A	F
	3	1,2	3	4,7
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	88,2	71,8	58,2	29,7
Color values 1 6 A F	1	6	A	F
The biggest deviation	0,7	5,9	10,7	7,1
Comparing print V2				
Color values 1 6 A F	1	6	A	F
after 50 pages	90,3	68,5	49,5	25,5
Color values 1 6 A F	1	6	A	F
The biggest deviation	1,7	2	3	3,1
Result determination				
Difference $\Delta L \leq 8$	1	6	A	F
	1	3,9	7,7	4
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	88	67,9	49,6	22,9
Color values 1 6 A F	1	6	A	F
The biggest deviation	1,6	1,3	3,5	2,8
Comparing print V2				
Color values 1 6 A F	1	6	A	F
after 50 pages	89,3	68,5	49,2	24,5
Color values 1 6 A F	1	6	A	F
The biggest deviation	2,3	0,9	1,4	3,7
Result determination				
Difference $\Delta L \leq 8$	1	6	A	F
	0,7	0,4	2,1	0,9
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? Yes
 If not: Describe deviation

OVERALL RESULT: Passed