

Manufacturer (trade mark): **Clover Germany** Type/Model OEM: **TK-590Y**  
 Lot/Part number: **DPCTK590YE** Toner color(s): **YELLOW**  
 Main application: To be used on the relevant printers according to remanufacturer instructions  
 Intended yield: **5000**  
 Test device: **LWG6344673 / LWG5Y38494 / LWG5Y38495** Take over value of existing test protocol : (box) **Yes, from ISO19798**  
 Test climate: **24** Relative humidity: **41**  
 Deviations of the determined test conditions  
 Tester 1): **Aleksandar Kojic** Test location 2): **CLOVER SERBIA**  
 Test date: **05.11.2018**

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	6508	Yes	Sample 1
2	6181	Yes	Sample 2
3	6200	Yes We use for A1 the	Sample 3
4	6570	Yes MAX, for A2 the	Sample 4
5	6112	Yes MEDIAN and for A3 the	Sample 5
6	6309	Yes MIN value of the list at	Sample 6
7	6410	Yes left	Sample 7
8	6241	Yes	Sample 8
9	6382	Yes	Sample 9
Comparing Sample (B)	Type	Used for valuation	Charge/Serial number
1	5000	Yes/no Yes	OEM Sample/Spec
2	5000	Yes/no Yes	OEM Sample/Spec
3	5000	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)**

**YELLOW**

	1	2	3	Average (Å or V)
Yield A: (A1+A2+A3)/3= Å	6570	6309	6112	6330
Yield V: (V1+V2+V3)/3=V	5000	5000	5000	5000

**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 **1.27**

	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: 86.6  
 Average value of the 2 areas F comparing print V1: 87.1  
 Difference is not higher than Δ≤5 for Monochrom **Not Aplicable** Yes/No/Not Aplicable **Not Aplicable**  
 Color difference ΔE≤18 for Color **0.5** Yes/No/Not Aplicable **Yes**  
 Average value of the 2 areas F test print A2: 86.6  
 Average value of the 2 areas F comparing print V2: 87.6  
 Difference is not higher than Δ≤5 for Monochrom **Not Aplicable** Yes/No/Not Aplicable **Not Aplicable**  
 Color difference ΔE≤18 for Color **1** Yes/No/Not Aplicable **Yes**  
 Average value of the 2 areas F test print A3: 87.8  
 Average value of the 2 areas F comparing print V3: 87.5

Difference is not higher than  $\Delta \leq 5$  for Monochrome  
 Color difference  $\Delta E \leq 18$  for Color Not Applicable  
0.3

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

**Checking the fade (5.6.3)**

**YELLOW**

<b>Test print A1</b>				
Color values 1 6 A F	1	6	A	F
after 50 pages	92.7	91.2	89.6	87.3
Color values 1 6 A F	1	6	A	F
The biggest deviation	0.6	1.5	1.8	1.5
<b>Comparing print V1</b>				
Color values 1 6 A F	1	6	A	F
after 50 pages	92.7	92.2	90.7	88.5
Color values 1 6 A F	1	6	A	F
The biggest deviation	0.8	1.7	1.7	2.3
<b>Result determination</b>				
Difference $\Delta L \leq 8$	1	6	A	F
	0.2	0.2	0.1	0.8
Difference within allowed parameters	YES	YES	YES	YES

<b>Test print A2 YELLOW</b>				
Color values 1 6 A F	1	6	A	F
after 50 pages	91.3	91.8	89.5	87.4
Color values 1 6 A F	1	6	A	F
The biggest deviation	0.9	2.1	2.2	1.9
<b>Comparing print V2</b>				
Color values 1 6 A F	1	6	A	F
after 50 pages	91.6	92.3	90.8	88.5
Color values 1 6 A F	1	6	A	F
The biggest deviation	1.6	1.4	1.7	1.6
<b>Result determination</b>				
Difference $\Delta L \leq 8$	1	6	A	F
	1	0.7	0.5	0.3
Difference within allowed parameters	YES	YES	YES	YES

<b>Test print A3 YELLOW</b>				
Color values 1 6 A F	1	6	A	F
after 50 pages	92.6	92	90.7	88.5
Color values 1 6 A F	1	6	A	F
The biggest deviation	1.4	1	1.7	1.7
<b>Comparing print V2</b>				
Color values 1 6 A F	1	6	A	F
after 50 pages	91.8	91.9	90.4	88.4
Color values 1 6 A F	1	6	A	F
The biggest deviation	0.6	1.4	1.6	1.7
<b>Result determination</b>				
Difference $\Delta L \leq 8$	1	6	A	F
	0.8	0.4	0.1	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? Yes  
 If not: Describe deviation

**OVERALL RESULT: Passed**