

Anex C - DIN33870-Mono/Color

Manufacturer (trade mark):	Clover Germany	Type/Model OEM:	TN2000
Lot/Part number:	TN2000XL	Toner color(s):	Monochrome
Main application:	To be used on the relevant printers according to remanufacturer instructions		
Intended yield:	5000	Take over value of existing test protocol :	(box) Yes, from ISO19752
Test device:	H6J620086 / G7J328834 / B6J845182		
Test climate:			
Temperature:	25	Relative humidity:	44
Deviations of the determined test conditions		Test location 2):	CLOVER SERBIA
Tester 1):	Aleksandar Kojic		
Test date:	10.6.2016		

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	6116	Yes	Sample 1
2	5841	Yes	Sample 2
3	5489	Yes	Sample 3
4	6041	Yes	Sample 4
5	5620	Yes	Sample 5
6	5478	Yes	Sample 6
7	5942	Yes	Sample 7
8	5714	Yes	Sample 8
9	5396	Yes	Sample 9

We use for A1 the MAX, for A2 the MEDIAN and for A3 the MIN value of the list at left

Comparing Sample (B)	Type	Used for valuation	Charge/Serial number
1	2500	Yes/no	OEM Sample/Spec
2	2500	Yes/no	OEM Sample/Spec
3	2500	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)

	Monochrome			Average (Ā or V)
	1	2	3	
Yield A: (A1+A2+A3)/3= Ā	6116	5714	5396	5742
Yield V: (V1+V2+V3)/3=V	2500	2500	2500	2500
Alternative:				
Yield A: Result of test after ISO/IEC 19752 Ā				
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=Ā/V				2,30
	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: 22

Average value of the 2 areas F comparing print V1: 23

Difference is not higher than Δ≤5 for Monochrome **1** Yes/No/Not Aplicable **Yes**

Color difference ΔE≤18 for Color **Not applicable** Yes/No/Not Aplicable **Not Aplicable**

Average value of the 2 areas F test print A2:	22,7
Average value of the 2 areas F comparing print V2:	23,4
Difference is not higher than $\Delta \leq 5$ for Monochrome	0,7
Color difference $\Delta E \leq 18$ for Color	Not aplicable
Average value of the 2 areas F test print A3:	22,5
Average value of the 2 areas F comparing print V3:	22,4
Difference is not higher than $\Delta \leq 5$ for Monochrome	0,1
Color difference $\Delta E \leq 18$ for Color	Not aplicable

Yes/No/Not Aplicable	Yes
Yes/No/Not Aplicable	Not Aplicable
Yes/No/Not Aplicable	Yes
Yes/No/Not Aplicable	Not Aplicable

Checking the fade (5.6.3)

Monochrome

Test print A1

Color values 1 6 A F	1	6	A	F
after 50 pages	91,2	70,9	52,7	21,9
Color values 1 6 A F	1	6	A	F
The biggest deviation	0,8	4,3	4,8	0,3

Comparing print V1

Color values 1 6 A F	1	6	A	F
after 50 pages	92	93,4	57,3	24,4
Color values 1 6 A F	1	6	A	F
The biggest deviation	0,4	3	4,5	2,7

Result determination

Difference $\Delta L \leq 8$	1	6	A	F
	0,4	1,3	0,3	2,4
Difference within allowed parameters	YES	YES	YES	YES

Test print A2 Monochrome

Color values 1 6 A F	1	6	A	F
after 50 pages	89,5	66,5	50,6	23,7
Color values 1 6 A F	1	6	A	F
The biggest deviation	3,4	8,2	6,4	1,9

Comparing print V2

Color values 1 6 A F	1	6	A	F
after 50 pages	91,4	70,1	52,9	24,9
Color values 1 6 A F	1	6	A	F
The biggest deviation	0,8	0,2	0,5	2,1

Result determination

Difference $\Delta L \leq 8$	1	6	A	F
	3	8	5,9	0,2
Difference within allowed parameters	YES	YES	YES	YES

Test print A3 Monochrome

Color values 1 6 A F	1	6	A	F
after 50 pages	90,3	66,3	51,5	22,2
Color values 1 6 A F	1	6	A	F
The biggest deviation	2,5	8,7	5,4	0,6

Comparing print V2

Color values 1 6 A F	1	6	A	F
after 50 pages	91,9	71,4	54,8	23
Color values 1 6 A F	1	6	A	F
The biggest deviation	0,9	3,7	5,5	0,8

Result determination

Difference $\Delta L \leq 8$	1	6	A	F
	1,6	5	0,1	0,2
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 differences in brightness between the acceptable parameters (pattern B2) $\Delta L \leq 5$? Yes
 If not: Describe deviation

Checking the background (5.6.6)

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

Yes

Checking toner miscibility (5.6.8)

Is the toner miscibility given?
If not: Describe deviation

N/A

OVERALL RESULT: Passed