| | | | |
|---|---|---|---|
| Manufacturer (trade mark): | **Clover Germany** | Type/Model OEM: | TN325BK |
| Lot/Part number: | **DPCTN325BE** | Toner color(s): | **BLACK** |
| Main application: | To be used on the relevant printers according to remanufacturer instructions | | |
| Intended yield: | 4000 | | |
| Test device: | E68021L2J310292 / E68452A1J160893 / E68452E2J281853 | Take over value of existing test protocol : | (box) Yes, from ISO19798 |
| Test climate: | | | |
| Temperature: | 24 | Relative humidity: | 45 |
| Deviations of the determined test conditions | | | |
| Tester 1): | Aleksandar Kojic | Test location 2): | **CLOVER SERBIA** |
| Test date: | **29.08.2018** | | |

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 | 4612 | Yes | | Sample 1 |
| 2 | 4415 | Yes | | Sample 2 |
| 3 | 4350 | Yes | We use for A1 the | Sample 3 |
| 4 | 4512 | Yes | MAX, for A2 the | Sample 4 |
| 5 | 4220 | Yes | MEDIAN and for A3 the | Sample 5 |
| 6 | 4360 | Yes | MIN value of the list at | Sample 6 |
| 7 | 4496 | Yes | left | Sample 7 |
| 8 | 4245 | Yes | | Sample 8 |
| 9 | 4258 | Yes | | Sample 9 |

| Comparing Sample (B) | Type | Used for valuation | | Charge/Serial number |
|---|---|---|---|---|
| 1 | 4000 | Yes/no | Yes | OEM Sample/Spec |
| 2 | 4000 | Yes/no | Yes | OEM Sample/Spec |
| 3 | 4000 | 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 (Ā or V) |
|---|---|---|---|---|
| Yield A: (A1+A2+A3)/3= Ā | 4612 | 4360 | 4220 | 4397 |
| Yield V: (V1+V2+V3)/3=V | 4000 | 4000 | 4000 | 4000 |

**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 | 1.10 |

| | 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: | 22.7 | | |
| Average value of the 2 areas F comparing print V1: | 22.6 | | |
| Difference is not higher than ∆≤5 for Monochrom | Not Aplicable | Yes/No/Not Aplicable | Not Aplicable |
| Color difference ∆E≤18 for Color | 0.1 | Yes/No/Not Aplicable | Yes |
| Average value of the 2 areas F test print A2: | 23.9 | | |
| Average value of the 2 areas F comparing print V2: | 21.9 | | |
| Difference is not higher than ∆≤5 for Monochrom | Not Aplicable | Yes/No/Not Aplicable | Not Aplicable |
| Color difference ∆E≤18 for Color | 2 | Yes/No/Not Aplicable | Yes |
| Average value of the 2 areas F test print A3: | 23.6 | | |
| Average value of the 2 areas F comparing print V3: | 22.1 | | |

| | | | |
|---|---|---|---|
| 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 |

**Checking the fade (5.6.3)**

**BLACK**

**Test print A1**

| Color values 1 6 A F | 1 | 6 | A | F |
|---|---|---|---|---|
| after 50 pages | 86.4 | 62.2 | 39.4 | 22.4 |
| Color values 1 6 A F | 1 | 6 | A | F |
| The biggest deviation | 1.4 | 4 | 4.3 | 0.8 |

**Comparing print V1**

| Color values 1 6 A F | 1 | 6 | A | F |
|---|---|---|---|---|
| after 50 pages | 86.4 | 64.2 | 42.9 | 25.9 |
| Color values 1 6 A F | 1 | 6 | A | F |
| The biggest deviation | 2.2 | 11.8 | 9.3 | 4.9 |

| **Result determination** | 1 | 6 | A | F |
|---|---|---|---|---|
| Difference ΔL≤8 | 0.8 | 7.8 | 5 | 4.1 |
| 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 | 82.4 | 62.4 | 43 | 23.6 |
| Color values 1 6 A F | 1 | 6 | A | F |
| The biggest deviation | 6 | 1.9 | 1.5 | 0.9 |

**Comparing print V2**

| Color values 1 6 A F | 1 | 6 | A | F |
|---|---|---|---|---|
| after 50 pages | 87.1 | 61.3 | 43.8 | 25.2 |
| Color values 1 6 A F | 1 | 6 | A | F |
| The biggest deviation | 2.3 | 9.1 | 8.5 | 5 |

| **Result determination** | 1 | 6 | A | F |
|---|---|---|---|---|
| Difference ΔL≤8 | 4 | 7.2 | 7 | 4.1 |
| 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 | 83.7 | 65.6 | 46 | 24.9 |
| Color values 1 6 A F | 1 | 6 | A | F |
| The biggest deviation | 3.3 | 7.8 | 6.7 | 2.1 |

**Comparing print V2**

| Color values 1 6 A F | 1 | 6 | A | F |
|---|---|---|---|---|
| after 50 pages | 87.4 | 62.7 | 42.6 | 24.7 |
| Color values 1 6 A F | 1 | 6 | A | F |
| The biggest deviation | 3 | 10.3 | 8.5 | 4 |

| **Result determination** | 1 | 6 | A | F |
|---|---|---|---|---|
| Difference ΔL≤8 | 0.3 | 2.5 | 1.8 | 1.9 |
| Difference within allowed parameters | YES | YES | YES | YES |

**Checking toner adhesition**

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 diferences in between the acceptable parameters (pattern B2-B5) ΔE≤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**