Product Environmental Aspects Declaration

EP and IJ printer (PCR-ID:AD-04)



AD-19-E1100 Date of publication May./20/2019



http://konicaminolta.com

Please direct any inquiries or comments to e-mail: bt-environ@pub.konicaminolta.jp



Total of 653,400 sheets on the assumption of five years usage. Environmental impact by copypaper is not included.

*The picture is attached with options.

Marking technologies	Electrophotographic Printer (EP)
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33 prints-per-minute(B/W) 33 prints-per-minute(color) Printing speed

Maximum copy paper

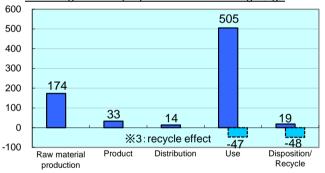
Non-stack ADU equipped Duplex copying

Life Cycle Impact

Consumption and discharge in a life cycle	All the stage sum totals
Global warming(CO₂equivalent):kg	744
Global warffillig(CO2equivalent).kg	(648)
Acidification(SO₂equivalent):kq	1.1
Acidincation(302equivalent).kg	(1.0)
Energy resources(crude oil equivalent):MJ	14,468
Lifergy resources(crude oil equivalent).ivis	(12,349)

※Figures in() indicated environmental impact including recycle effect *note3

Warming load CO₂ equivalent of each stage (kg)



Notes:

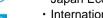
- 1. Original LCA data is available on PEIDS: Product Environmental Information Declaration Sheet, and Product Data Sheet.
- 2. Unified rules and requirements for EcoLeaf LCA, for intended product category, are available as a PCR: Product Category Rule. Visit EcoLeaf website under JEMAI homepage at http://www.ecoleaf-jemai.jp/eng/ for details.
- 3. Recycle Effect illustrates an indirect influence to other products/services.
- 4. Basic Units used for calculations are based on Japan domestic data at this time, due to a lack of base data to establish localized Basic Unit for overseas locations adequately.
- 5. This declaration was produced using Product Category Rule intended for a product model sold in the Japanese market and using the qualitative and quantitative data collected in Japan.

[Supplemental environmental information]



Certified Environmental Standards







Conforming to Japanese Law on Promoting Green Purchasing

PCR review was conducted by : PCR Deliberation Committee, January 01,2008, Name of reprentative : Youji Uchiyama, University of Tsukuba, Graduate School

Independent verification of the declaration and data, according to ISO14025 □internal ■external

Third party verifier: The third party verifier * : Kazuo Naito

Programme operator: Japan Environmental Management Association for Industry, ecoleaf@jemai.or.jp

In the case of an business entity certified as an Ecoleaf-data-collection system, the names of certification auditors are written. The EcoLeaf is an environmental labeling program that belongs to the ISO-Type III category.

Impact assesment

by Emision Consumption

Atmosphere

to Water system to Soil system Global warming (CO2 equivalent) Acidification (SO2 equivalent)

kg

kg

1.74E+02

2.56E-01

3.30E+01

3.83E-02

1.37E+01

4.24E-02

5.05E+02

7.72E-01

1.88E+01

2.72E-02

-9.53E+01

-1.58E-01

Product Environmental Information Data Sheet (PEIDS)

_		
	Document control no.	F-02B-03
	Product vendor	KONICAMINOLTA ,INC.
	EcoLeaf registration no.	AD-19-E1100

Unit Function DB version 2.1

Characterization Factor DB version 2.1



	PCF	R nar	me	EP and IJ print	er	Product type			bizhub C3350i		
	PC	R-I	D	AD-04		Product weight[kg]	38.5	Package[kg]	5.2	Weight total[kg]	43.7
				1", 0, 1, 0;		Dund	uction				
م/Ou	ıt iter	mc		Life Cycle Stage	Unit	Raw material	Product	Distribution	Use	Disposal	Recycle
I/Ou	it itei	115			MJ	3.18E+03	6.39E+02	1.83E+02	1.04E+04	3.59E+01	-2.12E+03
		E	nergy C	onsumption	Mcal	7.60E+02	1.53E+02	4.38E+01	2.49E+03	8.58E+00	-5.06E+02
		l		Coal		2.45E+01	3.85E+00	4.28E-04	4.03E+01	1.83E-01	-1.23E+01
				Crude oil (as a fuel)	kg	2.45E+01 2.86E+01	4.43E+00	4.28E-04 4.00E+00	7.41E+01	3.86E-01	-1.69E+01
			Energy	Natural Gas	kg	5.54E+00	2.69E+00	6.18E-02	2.95E+01	9.48E-02	-1.69E+01 -2.54E+00
				Uranium ore	kg	5.13E-04	2.69E+00 2.60E-04	2.90E-08	2.95E+01 2.07E-03	9.46E-02 1.24E-05	
					mg	5.13E-04	2.60⊑-04	2.90E-00	2.07 E-03	1.24E-03	-1.30E-04
				Crude oil (as an ingredients)	kg	1.45E+01	0	0	5.66E+01	0	-1.76E+01
				Iron ore	kg	1.93E+01	0	0	9.25E+00	0	-1.14E+01
				Copper ore	kg	5.85E-01	0	0	0.00E+00	0	-1.89E-01
	_			Bauxite	kg	5.59E-01	0	0	8.71E-01	0	-5.70E-01
	nent	tible		Nickel ore	kg	1.26E-01	0	0	3.02E-02	0	-6.26E-02
	Resource Consumption from the environment	Exhaustible resources		Chromium ore	kg	1.77E-01	0	0	4.40E-02	0	-8.85E-02
	Cor	E E		Manganese ore	kg	1.13E-01	0	0	5.39E-02	0	-1.46E-02
	ource The		Material	Plumbous ore	kg	2.00E-02	0	0	0	0	-4.70E-03
	Resc			Tin ore	kg	0	0	0	0	0	0
	_			Zinc ore	kg	1.97E-01	0	0	0	0	-4.62E-02
				Gold ore	kg	0	0	0	0	0	0
				Silver ore	kg	0	0	0	0	0	0
				Silica sand	kg	1.65E+00	0	0	1.08E-01	0	-5.63E-01
				Rock salt	kg	9.27E+00	1.93E-03	0	1.95E+00	1.24E-02	-4.32E+00
yses				Limestone	kg	4.18E+00	0	0	2.29E+00	1.83E-01	-1.96E+00
anal			ewable	Natural soda ash	kg	1.57E-01	0	0	0.00E+00	0	-5.55E-02
tony		Renev	vable	Wood	kg	7.27E+00	0	0	5.51E+01	0	-2.50E+01
Inventory analyses		resoul	rces	Water	kg	1.19E+04	3.29E+03	3.24E-01	2.84E+04	1.49E+02	-4.10E+03
				CO2	kg	1.69E+02	3.22E+01	1.30E+01	4.86E+02	1.88E+01	-9.25E+01
				SOx	kg	1.11E-01	2.28E-02	7.26E-03	2.97E-01	1.01E-02	-5.87E-02
				NOx	kg	2.07E-01	2.21E-02	5.03E-02	6.78E-01	2.45E-02	-1.41E-01
				N2O	kg	1.49E-02	2.96E-03	2.35E-03	6.67E-02	3.48E-05	-1.00E-02
		to Atm	nosphere	CH4	kg	1.36E-03	6.96E-04	7.76E-08	5.51E-03	3.31E-05	-3.37E-04
				СО	kg	2.40E-02	4.80E-03	1.09E-02	7.59E-02	5.20E-03	-1.33E-02
				NMVOC	kg	2.66E-03	1.36E-03	1.52E-07	1.08E-02	6.49E-05	-6.59E-04
	ge			СхНу	kg	7.35E-03	4.95E-04	1.68E-03	1.93E-02	1.43E-04	-4.92E-03
	nission/Discharge the environment			dust	kg	2.44E-02	9.87E-04	5.09E-03	4.80E-02	1.43E-03	-1.58E-02
	/Dis			BOD	kg	-	-	-	-	-	
	ssior he er			COD	kg	-	-	-	-	-	-
	Emi to t	to Wa	ter system	N total	kg	-	-	-	-	-	-
				P total	kg	-	-	-	-	-	-
				SS	kg	-	-	-	-	-	-
				Unspecified solid waste	kg	1.35E+00	1.19E-02	0	1.67E+01	1.52E+01	-1.18E+00
				Slag	kg	6.01E+00	0	0	2.81E+00	0	-3.28E+00
		to Soi	system	Sludge	kg	8.78E-01	0	0	1.87E+00	0	-1.10E+00
				Low emission radioactive waste	kg	3.59E-04	1.82E-04	2.03E-08	1.44E-03	8.64E-06	-9.06E-05
	sumption			Energy resources (crude oil equivalent)	kg	5.52E+01	1.23E+01	4.08E+00	1.52E+02	7.19E-01	-2.89E+01
	source Cons		austible ources	Mineral resources (Iron ore equivalent)	kg	2.44E+02	0	0	6.74E+01	0	-1.05E+02

[Notes for readers: EcoLeaf common rules]

I. Stage related

- A. "Production" stage is intended for two sub-stages listed below.
 - (1) "Raw material" production: consists of mining, transportation and raw material production.
 - (2) "Product" production: consists of the parts processing, assembly and installation.
- B. "Distribution" stage is intended for transportation of produced product. Transportation of consumables and maintenance goods (e.g. replacement parts) for use of the product are included into "Use" stage.
- C. "Use" stage is intended for use of the product (active mode, standby mode, etc.) and production, transportation to disposal/recycle of consumables /maintenance goods (e.g. replacement parts).
- D. "Disposition/Recycle" stage is intended for environmental impacts by product disposition/recycle, and deduction by recycling (e.g. impact reduction of raw material production).
- E. "Recycle Effect" illustrates an indirect environmental influences to other products/services by use of reclaimed materials/parts, and/or by supply of used products to other businesses for material reclaim/parts reuse.
- Case 1: Use of reclaimed materials/parts: Sum of increase of environmental impact by collection activities of used materials/parts, and decrease by volume reduction of used materials/parts.
- Case 2: Supply of used products to other businesses for material reclaim/parts reuse: Sum of increase of environmental impact by materials/parts reclaiming process, and decrease by volume reduction of new materials/parts production.

II. Inventory analyses

- A. Data of mineral ore on "Exhaustible resources" are presented in weight of pure ingredients (e.g. iron, aluminum) in the ore.
- B. Data on energy resources are presented based on origin in calorific value. e.g. Data on uranium ore presents weight of uranium concentrate, which is available for use as an atomic fuel.
- C. Data of discharge to water system are in actual figure (not calculated using unit function in inventory analyses).

III. Impact analyses

Result of the "Impact analyses" is found in converting results of inventory analyses into total amount of a reference material (e.g. CO2 in case of "Global Warming").

- A. Impact "by resource consumption" represents magnitude of impacts to resource depletion.
- B. Impact "by emission/discharge to environment" represents magnitude of impacts to Atmosphere, Water and Soil system.

IV. Data entry format

- A. Exponential notation, after the decimal point to two, should be used.
- B. Indicate "0" instead exponential notation, if the result of calculation or estimation is considered as "zero" or negligible in comparison to related results.
- C. Indicate "-" if calculation nor estimation can not be done, in order to differentiate to indicate "zero".

 (BGD for material production are for production from mineral ore. Those data do not include reclaiming processes like recovery from scrap.)

[Notes for readers: Target product specific]

- A. "Raw material" in "Production" includes environmental impacts generated during mining transportation material production phases of the main body of the printer and the toner cartridge enclosed in the printer. The environmental impacts are calculated using the eco-leaf basic unit DB for calculations.
- B. " Product" in "production" includes environmental impacts of processing of the parts (injection, blow-, press- and glass-molding).

The environmental impacts from the parts assembly plant which is different from the main body assembly plant (such parts are clacified in "parts C") are calculated using the eco-leaf basic unit DB for calculations.

The impacts from the main body assembly plant are calculated using the quantitative data on environmental impacts in our assembly plant.

C. Regarding the basis and the basic units for calculations during distribution stages

The total distance of the transportation in Japan of 100km is used according to PCR (AD-04) and the transportation overseas includes the transportation by track in China and by ship between China and Japan.

D. Regarding the basis and the basic units for calculations during use and consumption stage

The power consumption is measured by the TEC test procedure according to PCR (AD-04).

653,400 sheets are printed in total during the use period of five years.

The toner consumption is summed up over the five years from the toner consumption data per sheet using our print pattern with 5% coverage.

The production loads and the collection & recycling impacts of the toner cartridges used over the five years are included in this stage.

- E. The recycling impacts are calculated assuming that 40% of the end-of-life printers are recovered from users according to PCR (AD-04). The impacts are calculated with the remaining 60% following the disposal senario as general wastes.
- F. The impacts of material production of recycled materials are included in the values with minus as a recycling effect.
- G. This declaration was produced using Product Category Rule intended for a product model sold in the Japanese market and using the qualitative and quantitative data collected in Japan.

Product data sheet

	(input data and parameters for LCA
Document control no.	F-03-03
Product vendor	KONICAMINOLTA,INC.
EcoLeaf registration no.	AD-19-E1100



PCR name	EP and IJ printer (PCR-ID:AD-0	Product type	bizhub C3350i				
.CA/LCIA in units o	1	Product weight[kg]	38.5	Package[kg]	5.2	Weight total[kg]	43.7

1. Product information (per unit): parts etc. by material and by process/assembly method

	Breakdown of	primary materials		Math breakdown of pa	arts, which need to apply	Processing / Assembly B	Base Units (Parts B, C)
Material name	Weight (kg)	Material name	Weight (kg)	Process name	Weight (kg)	Process name	Weight (kg)
Ordinary steel	1.83E+01	Rubber	1.13E-01	Press molding:Iron	1.69E+01		
Stainless steel	7.98E-01	Semiconductor circuit board	1.12E+00	Press molding:Nonfe rrous metal	6.91E-01		
Aluminium	3.87E-01			Injection molding	1.55E+01		
Other metals	3.04E-01						
Glass	1.54E+00						
Thermoplastic resin	1.63E+01						
Wood	2.70E+00						
Paper	2.14E+00						
Subtotal	ubtotal 4.25E+01 Subtotal		1.24E+00				
	Total		4.37E+01	Subtotal	3.31E+01	Subtotal	

2. Production site information (per unit): Consumption and discharge/emission for production/processing/assembly within the site.

SOX	SOx and NOx should be indicated in SO2, NO2 equivalent.											
tion	Classification	Energy	Energy	Material	Material							
ptc	Distribution	Electricity	Furnace urban	Industrial	Groundwater							
mnsı		(kWh)	gas (m³)	water(kg)	(kg)							
Con	Quantity	3.23E+01	9.75E-01	3.16E+02	5.12E+01							
O	Note											
~ e	Classification To Water system	To Water										
ion/		system										
iss sh	Distribution	Sewage(kg)										
Emission/ Discharge	Quantity	3.32E+02										
	Note											

<u> </u>	ibution stage informatio	ii (poi uiiit): iiiot	ino, aiotanoo, iot	iding ratio, conc	ampaione and on	noorono, aloonar	300.		
	Means of transportation	Freight by ship	Freight by ship	Freight by ship	Freight by ship	Diesel truck :20ton	Diesel truck :20ton	Diesel truck :20ton	Diesel truck :20ton
	Conditions	Load(kg•km)	Weight (kg)	Distance (km)	Loading Ratio(%w)	Load(kg•km)	Weight (kg)	Distance (km)	Loading Ratio(%w)
ution	Quantity	2.19E+05	4.37E+01	5.00E+03	1.00E+02	2.24E+04	4.37E+01	2.59E+02	5.05E+01
ğ	Note								
Distrib	Means of transportation	Diesel truck :2ton	Diesel truck :2ton	Diesel truck :2ton	Diesel truck :2ton				
	Conditions	Load(kg•km)	Weight (kg)	Distance (km)	Loading Ratio(%w)				
	Quantity	1.50E+03	4.37E+01	7.50E-01	2.19E+00				
	Note								

Use stage (per unit): use condition (mode, term) including active mode, standby mode and maintenance.
 1 Product and accessories subject to this analysis

	Classification	Consumption	Consumption	Consumption	Consumption	Consumption	Consumption	Consumption	Consumption
Product	Distribution	Electricity (kWh)	Gasoline as fuel(kg)	Furnace urban gas (m³)	Industrial water(kg)	Groundwater (kg)	Ordinary steel (kg)	Stainless steel (kg)	Aluminium (kg)
4	Quantity	4.04E+02	2.75E-01	1.41E+01	1.68E+02	1.58E+03	8.86E+00	1.90E-01	8.24E-01
	Note								
	Classification	Consumption	Consumption	Consumption	Processing	Processing	Processing	Processing	
Product	Distribution	Thermoplastic resin(kg)	Paper(kg)	Rubber(kg)	Press:lron(kg)	Press: Nonferrous(kg)	Injection molding(kg)	Blow molding (kg)	
	Quantity	5.74E+01	2.33E+01	4.24E-01	8.15E+00	9.73E-01	1.23E+01	3.99E+01	
	Note								
	Classification	Assembly	To Water system						
Product	Distribution	Parts assembly (kg)	Sewage(kg)						
	Quantity	3.99E+01	1.36E+03						
	Note								
	Classification	Distribution							
Product	Distribution	Diesel truck: 10ton (kg•km)							
	Quantity	1.33E+04							
	Note								

4.2 Disposition/Recycle information on consumables and replacement parts

4.2 DI	2 Disposition/Recycle information on consumables and replacement parts											
	Classification	Consumption	Consumption	Treatment	Treatment	Treatment	Treatment	Treatment	Treatment			
Consumables	Distribution	Electricity (kWh)	Kerosene(kg)	Recycle: to iron(kg)	Recycle: to Aluminum(kg)	Recycle: to copper(kg)	Recycle: to plastics(kg)	Recycle: to Paper(kg)	Industrial waste destruction by fire(kg)			
0	Quantity	2.23E+00	5.21E-02	3.62E+00	3.29E-01	0.00E+00	1.24E+01	1.15E+01	1.70E-01			
	Note											
	Classification	Treatment	Treatment	Treatment	Deduction	Deduction	Deduction	Deduction	Deduction			
Consumables	Distribution	Industrial waste inning(kg)	Waste destruction by fire(kg)	Waste inning(kg)	Iron(kg)	Aluminum(kg)	Copper(kg)	Plastics(kg)	Paper(kg)			
ပိ	Quantity	1.26E-01	3.64E+01	8.67E+00	-3.62E+00	-3.29E-01	0.00E+00	-1.24E+01	-1.15E+01			
	Note											
	Classification	Distribution	Distribution									
Consumables	Distribution	Diesel truck: 10ton (kg•km)	Diesel truck: 4ton (kg•km)									
S	Quantity	3.60E+03	4.36E+03									
	Note											

a. Disp	isposition/Recycle stage information (per product): process method and scenarios												
S	Classification	Consumption	Consumption	Treatment	Treatment	Treatment	Treatment	Treatment	Treatment				
umables	Distribution	Electricity (kWh)	Kerosene(kg)	Recycle: to iron(kg)	Recycle: to Aluminum(kg)	Recycle: to	Recycle: to Glass(kg)	Recycle: to plastics(kg)	Recycle: to Paper(kg)				
ns		· /				copper(kg)							
Consi	Quantity	1.31E+00	3.05E-02	7.72E+00	1.55E-01	2.75E-01	6.17E-01	6.46E+00	2.09E+00				
0	Note												
	Classification	Treatment	Treatment	Treatment	Treatment	Deduction	Deduction	Deduction	Deduction				
Consumables	Distribution	Incineration: Industrial waste(kg)	Landfill: Industrial waste(kg)	Incineration to landfill (as ash)(kg)	Landfill: General waste(kg)	Iron(kg)	Aluminium (kg)	copper(kg)	Glass(kg)				
S	Quantity	3.20E-01	1.08E-01	1.28E+01	1.32E+01	-7.72E+00	-1.55E-01	-2.75E-01	-6.17E-01				
	Note												
	Classification	Deduction	Deduction	Distribution	Distribution								
Consumables	Distribution	Plastics(kg)	Paper(kg)	Diesel truck: 10ton (kg•km)	Diesel truck: 4ton (kg•km)								
Š	Quantity	-6.46E+00	-2.09E+00	2.11E+03	2.55E+03								
	Note												

6. Others

A. Product information:

All the parts mass per unit sorted by materials and by processes/assembly are included. The motor mass is included in ordinary steel.

B. Production site information:

The energy consumption & material use during the main body assemby and cartridge & toner shipment are included.

The environmental impacts that are exhausted from the production site in the atmosphere and the water system are included.

C. Distribution stage information:

The total distance of the transportation in Japan of 100km is used according to PCR (AD-04) and the transportation overseas includes the transportation by track in China and by ship between China and Japan.

D. Product and accessories subject to this analysis:

The power consumption is calculated assuming the use period of five years and 653,400 sheets printed during the use period according to the PCR (AD-04). The toner consumption is summed up over the five years from the toner consumption data per sheet using our print pattern with 5% coverage.

The production impacts of the cartridges and toner used during the use period of five years are included.

The impacts of the maintenance parts used and the transportation impacts of the maintenace during the use period of five years are included in this stage.

E. Disposal/Recycle information on the consumables and the maintenance parts during use stage:

The recycling information of the toner, the developer, the drums and the maintainance parts used during the use period of five years are included .

The recycling processing impacts are included as plus and the production impacts of the recycled materials are included as minus.

Treatment of copper and deduction of copper include copper of " assembled circuit board". Incineration of assembled circuit board is included "Incineration: Industrial waste".

F. Disposal/Recycle stage information:

The information on the products recovered from users is included.

The recycling processing impacts are included as plus and the production impacts of the recycled materials are included as minus.

Treatment of copper and deduction of copper include copper of " assembled circuit board". Incineration of assembled circuit board is included "incineration; industrial waste"

board is included "Incineration: Industrial waste".

G.This declaration was produced using Product Category Rule intended for a product model sold in the Japanese market and using the qualitative and quantitative data collected in Japan.