Product Environmental Aspects Declaration

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



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http://konicaminolta.jp

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



Total of 735,000 sheets on the assumption of five years usage.

Environmental impact by copypaper is not included.

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Marking technologies Electrophotographic Printer (EP)

35 prints-per-minute(B/W), 35 prints-per-minute(color) Printing speed

Maximum copy paper

Duplex copying Non-stack ADU equipped

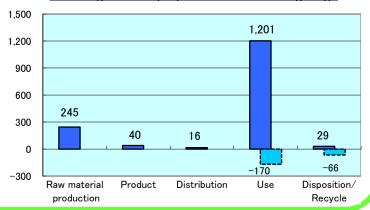
Document feeding ADF with Auto-document reversing function equipped

Life Cycle Impact

Consumption and discharge in a life cycle	All the stage sum totals
Global warming(CO₂equivalent):kg	1,531 (1,295)
Acidification(SO ₂ equivalent):kg	2.9 (2.4)
Energy resources(crude oil equivalent):MJ	28,092 (23,220)

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

Warming load CO₂ equivalent of each stage (kg)



- 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
 - International Energy Star Program

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 * : Shozo Nakamuta

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.

Product Environmental Information Data Sheet (PEIDS)

		_	
Document control no.	F-02B-03	Unit Function DB version	2.1
Product vendor	KONICAMINOLTA ,INC.	Characterization Factor DB version	2.1
EcoLeaf registration no.	AD-14-E328		



	PCF	R name	9	EP and IJ print	er	Product type			bizhub C3350)		
	PC	R-ID		AD-04		Product weight[kg]	45.0	Package[kg]	12.9	Weight total[kg]	57.9	
				1". 0 . 1. 0		Dund	ation					
I:./O:	.4 :4-			Life Cycle Stage	Unit	Produ Raw material		Distribution	Use	Disposal	Recycle	
III/O	ut ite	ms					Product	0.155.00	0.055+0.4	4.045.01	4.075+00	
		Ene	rgy Co	onsumption	MJ	4.53E+03	7.65E+02	2.15E+02			-4.87E+03	
					Mcal	1.08E+03	1.83E+02	5.13E+01			-1.16E+03	
				Coal	kg	3.05E+01	4.59E+00	5.02E-04			-3.28E+01	
		Er	nerav	Crude oil (as a fuel)	kg	4.29E+01	5.55E+00	4.69E+00			−3.78E+01	
	Emission/Discharge Resource Consumption by Resource Consumption to the environment from the environment and the environment to				Natural Gas	kg	8.42E+00	3.08E+00	7.25E-02	5.90E+01	1.19E-01	-7.23E+00
		L		Uranium ore	mg	7.84E-04	3.10E-04	3.40E-08	3.80E-03	1.56E-05	-2.53E-04	
				Crude oil (as an ingredients)	kg	2.00E+01	0	0	1.05E+02	0	−3.65E+01	
				Iron ore	kg	2.02E+01	0	0	4.17E+01	0	-2.47E+01	
				Copper ore	kg	7.44E-01	0	0	3.54E-02	0	-2.33E-01	
				Bauxite	kg	1.22E+00	0	0	Use	-3.95E+00		
	tion	ole ss		Nickel ore	kg	7.72E-02	0	0			-7.06E-02	
	dwn	Exhaustible resources		Chromium ore	kg	1.11E-01	0	0		_	-1.04E-01	
	Sons	Exha		Manganese ore	kg	1.09E-01	0	0			-2.74E-02	
	rce (M	aterial	Plumbous ore	kg	3.13E-02	0	0			-7.64E-03	
	esou om t			Tin ore	kg	0	0	0			0	
	à ±			Zinc ore			0	0		_		
				Gold ore	kg	3.08E-01					-7.52E-02	
					kg	0	0	0			0	
				Silver ore	kg	0	0	0		_	0	
				Silica sand	kg	1.57E+00	0	0			-5.76E-01	
S				Rock salt	kg	1.42E+01	3.35E-04	0			-7.58E+00	
analyses				Limestone	kg	4.47E+00	0	0			-4.21E+00	
				Natural soda ash	kg	1.42E-01	0	0		_	-4.59E-02	
Inventory		Renewab		Wood	kg	1.76E+01	0	0	9.77E+01		-4.61E+01	
Inve		resources		Water	kg	1.92E+04	3.65E+03	3.80E-01	6.77E+04	1.92E+02	−1.37E+04	
	Г			CO2	kg	2.39E+02	3.88E+01	1.53E+01	1.16E+03	2.92E+01	-2.29E+02	
				SOx	kg	1.72E-01	2.75E-02	8.57E-03	9.16E-01	1.55E-02	-2.30E-01	
				NOx	kg	3.10E-01	2.76E-02	6.00E-02	2.02E+00	3.66E-02	-3.86E-01	
				N2O	kg	2.17E-02	3.27E-03	2.74E-03	1.46E-01	4.47E-05	-2.70E-02	
		to Atmosp	phere	CH4	kg	2.08E-03	8.29E-04	9.10E-08	1.00E-02	4.17E-05	-6.06E-04	
				СО	kg	3.53E-02	5.83E-03	1.32E-02	3.63E-01	7.48E-03	-4.83E-02	
				NMVOC	kg	4.06E-03	1.62E-03	1.78E-07	1.96E-02	8.16E-05	-1.19E-03	
	ge t				СхНу	kg	1.04E-02	6.38E-04	1.99E-03			-1.24E-02
	char			dust	kg	3.42E-02	1.18E-03	6.04E-03			-4.44E-02	
	/Dis			BOD	kg	_	_	-	_	_	_	
	ssion ne er			COD	kg	_	_	_	_	_	_	
	Emi: to th	to Water :	system	N total	kg	_	_	_			_	
			,	P total	kg	_	_	_			_	
				SS	kg	_	_	_			_	
				Unspecified solid waste	kg	2.01E+00	1.68E-05	0			-2.76E+00	
				Slag		6.56E+00		0				
		to Soil au	etem		kg		0				-7.29E+00	
	Consumption Emission/Discharge Resource Consumption to the environment from the environment	to Soil sys	S(CIII	Sludge	kg	2.27E+00	U	0	1.80E+U1	U	-8.33E+00	
				Low emission radioactive waste	kg	5.49E-04	2.17E-04	2.38E-08	2.65E-03	1.09E-05	-1.77E-04	
	nsumption	Exhaus	etible	Energy resources (crude oil equivalent)	kg	7.91E+01	1.47E+01	4.78E+00	3.54E+02	8.93E-01	-6.96E+01	
•nt	Resource Co	resou		Mineral resources (Iron ore equivalent)	kg	2.54E+02	0	0	2.14E+02	0	−1.55E+02	
sesment	nption			01.1.1.								
				Global warming (CO2 equivalent)	kg	2.45E+02	3.97E+01	1.60E+01	1.20E+03	2.92E+01	-2.36E+02	
as		to		Acidification	kg	3.89E-01	4.69E-02	5.05E-02	2.33F+00	4 11F-02	-5.00E-01	
Impact	Sonsul	Atmos	pnere	(SO2 equivalent)	1,8	0.002 01	1.00L 0Z	0.00L 0Z	2.002.00	T.TTE UZ	0.00L 01	
=		to Wa										
		to S syste										

[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)
- C. "Use" stage is intended for use of the product (active mode, standby mode, etc.) and production, transportation to disposal/recycle of consumables
- D. "Disposition/Recycle" stage is intended for environmental impacts by product disposition/recycle, and deduction by recycling
- E. "Recycle Effect" illustrates an indirect environmental influences to other products/services by use of reclaimed materials/parts, and/or by supply of
- Case 1: Use of reclaimed materials/parts: Sum of increase of environmental impact by collection activities of used materials/parts, and decrease Case 2: Supply of used products to other businesses for material reclaim/parts reuse: Sum of increase of environmental impact by materials/parts

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,
- 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.)

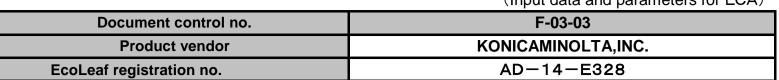
[Notes for readers: Target product specific]

- A."Raw material" in "Production" includes environmental impacts generated during mining transportation material production phases of the main body
- B. " Product" in "production" includes environmental impacts of processing of the parts (injection, blow-, press- and glass-molding).
- C. Regarding the basis and the basic units for calculations during distribution stages
- D. Regarding the basis and the basic units for calculations during use and consumption 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).
- F. The impacts of materilal production of recycled materials are included in the values with minus as a recycling effect.

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)





PCR name	EP and IJ printer(PCR-ID:AD-04)		Product type		bizhub	C3350	
LCA/LCIA in units of:	1	Product weight[kg]	45.0	Package[kg]	12.9	Weight total[kg]	57.9

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

	Breakdown of primary	/ materials		Math breakdown of part	ts, which need to apply	Processing / Assembly Ba	ase Units (Parts B, C)
Material name	Weight (kg)	Material name	Weight (kg)	Process name	Weight (kg)	Process name	Weight (kg)
Ordinary steel	1.92E+01	Rubber	2.41E-01	Press molding:Iron	1.73E+01	Parts assembly	9.53E-01
Stainless steel	4.86E-01	Semiconductor circuit board	1.77E+00	Press molding:Nonferro us metal	1.46E+00		
Aluminium	1.00E+00			Injection molding	2.14E+01		
Other metals	4.64E-01			Blow molding	2.76E-02		
Glass	1.16E+00						
Thermoplastic resin	2.23E+01						
Wood	5.68E+00						
Paper	5.59E+00						
Subtotal	5.59E+01	Subtotal	2.02E+00				
	Total		5.79E+01	Subtotal	4.02E+01	Subtotal	9.53E-01

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

SOx and NOx should be indicated in SO2, NO2 equivalent.

	Classification	Energy	Energy	Material	Material		
mption			Furnace urban	Industrial	Groundwater		
dung	Distribution	Electricity (kWh)	gas (m³)	water(kg)	(kg)		
Consul	Quantity	3.81E+01	9.95E-01	4.10E-01	1.77E+02		
O	Note						
Emission/ Discharge	Classification	To Water system					
issi	Distribution	Sewage(kg)					
Err Dis	Quantity	5.77E+01					
	Note						
3. Distribu	ition stage information (per unit): mea	ns, distance, loadir	ng ratio, consumpt	ions and emission	s/discharges.		
	Means of transportation	Freight by ship	Diesel truck	Diesel truck			
Ition	Widans of transportation	Treight by Ship	:20ton	:2ton			
Distribution	Conditions	Load(kg·km)	Load(kg·km)	Load(kg·km)			
Dis	Quantity	2.55E+05	2.83E+04	1.50E+03			
	Note						

4. Use stage (per unit): use condition (mode, term) including active mode, standby mode and maintenance.

4.1 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)
<u>~</u>	Quantity	6.70E+02	7.03E+00	2.32E+01	7.75E-01	3.69E+03	4.00E+01	6.22E-01	8.18E+00
	Note								
	Classification	Consumption	Consumption	Consumption	Consumption	Processing	Processing	Processing	Processing
Product	Distribution	Thermoplastic resin(kg)	Wood(kg)	Paper(kg)	Rubber(kg)	Press:Iron(kg)	Press: Nonferrous(kg)	Injection molding (kg)	Blow molding (kg)
Ā	Quantity	1.07E+02	8.57E+00	4.18E+01	2.00E+00	5.62E+01	2.81E+00	2.88E+01	4.41E+01
	Note								
	Classification	Assembly	To Water system						
Product	Distribution	Parts assembly (kg)	Sewage(kg)						
	Quantity	4.41E+01	2.03E+03						
	Note								
	Classification	Distribution	Distribution	Distribution					
Product	Distribution	Freight by ship(kg·km)	Diesel truck: 20ton (kg·km)	Diesel truck: 10ton (kg·km)					
	Quantity	7.22E+05	4.09E+05	2.15E+04					
	Note								

4.2 Disposition/Recycle information on consumables and replacement parts

S	Classification	Consumption	Consumption	Treatment	Treatment	Treatment	Treatment	Treatment	Treatment
Consumables 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)
Sons	Quantity	3.15E+00	4.80E-02	1.62E+01	3.27E+00	3.48E-02	3.03E+01	2.02E+01	8.64E-01
O	Note								
	Classification	Treatment	Treatment	Treatment	Deduction	Deduction	Deduction	Deduction	Deduction
ns	Distribution	Industrial waste inning(kg)	Waste destruction by fire(kg)	Waste inning(kg)	Iron(kg)	Aluminum(kg)	Copper(kg)	Plastics(kg)	Paper(kg)
S	Quantity	3.11E-01	7.73E+01	2.94E+01	-1.62E+01	−3.27E+00	-3.48E-02	-3.03E+01	-2.02E+01
	Note								
	Classification	Distribution	Distribution						
sumables	Distribution	Diesel truck: 10ton (kg•km)	Diesel truck: 4ton (kg·km)						
Ö	Quantity	8.54E+03	1.03E+04						
	Note								

5. Disposition/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 copper(kg)	Recycle: to Glass(kg)	Recycle: to plastics(kg)	Recycle: to Paper(kg)
Const	Quantity	1.02E+00	1.56E-02	7.85E+00	4.00E-01	4.27E-01	4.66E-01	8.83E+00	4.76E+00
O	Note								
	Classification	Treatment	Treatment	Treatment	Treatment	Treatment	Deduction	Deduction	Deduction
nsumables	Distribution	Recycle: to Assembled circuit board(kg)	Incineration: Industrial waste(kg)	Landfill: Industrial waste(kg)	Incineration to landfill (as ash)(kg)	Landfill: General waste(kg)	Iron(kg)	Aluminium (kg)	copper(kg)
Const	Quantity	2.41E-01	5.29E-01	1.46E-01	2.03E+01	1.42E+01	-7.85E+00	-4.00E-01	-4.27E-01
	Note								
	Classification	Deduction	Deduction	Deduction	Deduction	Distribution	Distribution		
Consumables	Distribution	Glass(kg)	Plastics(kg)	Paper(kg)	Recycle: to Assembled circuit board(kg)	Diesel truck: 10ton (kg·km)	Diesel truck: 4ton (kg·km)		
Ö	Quantity	-4.66E-01	-8.83E+00	-4.76E+00	-2.41E-01	2.78E+03	3.36E+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 735,000 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.

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.

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