

Product Environmental Aspects Declaration



No. BK-05-001

Touch and close fastener (PSC No. BK-01)

KURARAY FASTENING CO., LTD.

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URL <http://www.magic-tape.com>

<MAGIC TAPE>

A03800 / B10000

ITEM : PAIR OF HOOK TAPE AND LOOP TAPE

TYPE : HOOK AND LOOP

MATERIAL : POLYAMIDE



<MAGIC TAPE> A03800 / B10000

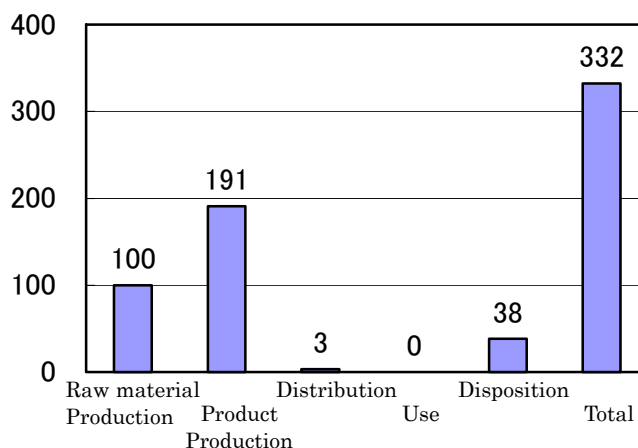
- Standard type
- Back coated by polyurethane

Life Cycle Emissions/Consumption

1)	Global Warming (CO ₂ equivalent)	332 g
2)	Acidification (SO ₂ equivalent)	0.534 g
3)	Energy Consumption	5.53 MJ

Base of Emission data : W 25mm, L 1m,
Pair of Hook tape and Loop tape

Global Warming (CO₂ equivalent) [g]



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 *PSC: Product Specification Criteria*. Visit *EcoLeaf* website under JEMAI homepage at http://www.jemai.or.jp/ecoleaf_e/ for details.

[Supplemental environmental information]

This product is manufactured in the factory certified with ISO 14001 registered. (Except dye process)

Product Environmental Information Data Sheet (PEIDS)



Document control no.	F-02As-02
Product vendor	KURARAY FASTENING CO., LTD.
EcoLeaf registration no.	BK-05-001

Unit Function DB version	v2.0s
Characterization Factor DB version	v2.0s

PSC name	Touch and close fastener		Product type	MAGIC TAPE A03800/B10000			
PSC code	BK-01	Product weight (kg)	0.0147	Package (kg)	0.0095	Weight total (kg)	0.0242

In/Out items	Life Cycle Stage	Unit	Production		Distribution	Use	Disposition	Total			
			Raw material	Product							
Energy Consumption											
		MJ	2.14E+00	3.29E+00	4.93E-02	0	4.80E-02	5.53E+00			
		Mcal	5.11E-01	7.86E-01	1.18E-02	0	1.15E-02	1.32E+00			
Inventory analyses	Impact by Resource Consumption	Energy resource	Coal	kg	8.13E-03	9.33E-03	1.15E-07	0	2.72E-04	1.77E-02	
			Crude oil (for fuel)	kg	2.59E-02	4.24E-02	1.08E-03	0	5.44E-04	6.99E-02	
			LNG	kg	2.48E-03	5.24E-03	1.67E-05	0	1.41E-04	7.88E-03	
			Uranium content of an ore	kg	2.66E-07	6.32E-07	7.80E-12	0	1.84E-08	9.16E-07	
			Crude oil (for material)	kg	1.05E-02	5.38E-03	0	0	0	1.59E-02	
		Exhaustible resources	Mineral resources	Iron content of an ore	kg	0	0	0	0	0	0
				Cu content of an ore	kg	0	0	0	0	0	0
				Al content of an ore	kg	0	0	0	0	0	0
				Ni content of an ore	kg	0	0	0	0	0	0
				Cr content of an ore	kg	0	0	0	0	0	0
	Mn content of an ore			kg	0	0	0	0	0	0	
	Pb content of an ore			kg	0	0	0	0	0	0	
	Sn content of an ore			kg	0	0	0	0	0	0	
	Zn content of an ore			kg	0	0	0	0	0	0	
	Au content of an ore			kg	0	0	0	0	0	0	
	Ag content of an ore			kg	0	0	0	0	0	0	
	Silica Sand			kg	0	0	0	0	0	0	
	Halite			kg	2.01E-03	1.14E-03	0	0	2.43E-05	3.17E-03	
	Limestone			kg	5.09E-04	8.72E-04	0	0	1.57E-03	2.96E-03	
	Natural soda ash			kg	0	0	0	0	0	0	
Renewable resources	Wood	kg	2.04E-02	2.95E-03	0	0	0	2.33E-02			
	Water	kg	6.92E+00	1.25E+01	8.67E-05	0	2.30E-01	1.97E+01			
Impact by Emission/Discharge to the environment	to Atmosphere	CO2	kg	9.79E-02	1.85E-01	3.47E-03	0	3.84E-02	3.25E-01		
		SOx	kg	4.52E-05	1.07E-04	4.27E-06	0	2.01E-05	1.76E-04		
		NOx	kg	1.27E-04	2.82E-04	5.33E-05	0	4.86E-05	5.11E-04		
		N2O	kg	7.75E-06	2.10E-05	6.27E-08	0	8.80E-08	2.89E-05		
		CH4	kg	7.12E-07	1.69E-06	2.09E-11	0	4.93E-08	2.45E-06		
		CO	kg	7.66E-06	2.10E-05	2.13E-05	0	4.93E-06	5.49E-05		
		NMVOc	kg	1.39E-06	3.31E-06	4.10E-11	0	9.67E-08	4.80E-06		
		CxHy	kg	3.45E-06	1.03E-05	1.08E-06	0	4.13E-08	1.49E-05		
		Dust	kg	8.99E-06	2.87E-05	4.27E-06	0	7.51E-08	4.20E-05		
		to Water system	to Water domain	BOD	kg	-	7.39E-04	-	-	-	-
	COD			kg	-	-	-	-	-	-	
	N total			kg	-	-	-	-	-	-	
	P total			kg	-	-	-	-	-	-	
	SS			kg	-	3.69E-05	-	-	-	-	
	to Soil system	Wast water	kg	2.54E+00	5.08E+00	-	-	-	-		
		Unspecified Solid Waste	kg	4.14E-03	1.65E-03	0	0	7.95E-07	5.79E-03		
		Slag	kg	0	0	0	0	0	0		
		Sludge	kg	0	0	0	0	0	0		
		Low level radio-active waste	kg	1.86E-07	4.41E-07	5.47E-12	0	1.29E-08	6.39E-07		
	Landfill: Industrial waste	kg	4.17E-04	-	-	-	-	-			
Impact assessment by Emission/Discharge to environment	to Exhaustible resources	Energy resources (crude oil equivalent)	kg	3.62E-02	5.99E-02	1.10E-03	0	1.04E-03	9.83E-02		
		Mineral resources (Iron ore equivalent)	kg	5.78E-03	2.96E-03	0	0	0	8.74E-03		
	to Atmosphere	Global Warming (CO2 equivalent)	kg	1.00E-01	1.91E-01	3.49E-03	0	3.84E-02	3.33E-01		
		Acidification (SO2 equivalent)	kg	1.34E-04	3.04E-04	4.16E-05	0	5.41E-05	5.34E-04		
		Ozone Depletion (CFC-11 equivalent)	kg	0	0	0	0	0	0		
		Photochemical Oxidant	kg	5.63E-06	1.72E-05	2.18E-06	0	8.74E-08	2.51E-05		
		to Water system	Eutrophication (Phosphate equivalent)	kg	0	0	0	0	0	0	

[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).
- 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 "NA" if calculation nor estimation can not be done, in order to differentiate to indicate "zero".
 - D. Row total of the data is automatically calculated, excluding a row includes "NA" item. Row total of such is presented as a blank (no data).
(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]

Raw material production life cycle stage includes spinning process. Inventories of spinning process are calculated based on PSC No.BK-01.

Product data sheet

(Input data and parameters for LCA)



Document control no.	F-03s-02
Product vendor	KURARAY FASTENING CO., LTD.
EcoLEaf registration no.	BK-05-001

PSC name	Touch and close fastener	Product type	MAGIC TAPE A03800/B10000				
LCA/LCIA in units of:	W 25mm L 1m, Pair of Hook tape and Loop tape	Product weight (kg)	0.0147	Package (kg)	0.0095	Weight total (kg)	0.0242

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

Product	Breakdown of primary materials				Math breakdown of parts, which need to apply Processing / Assembly Base Units (Parts B, C)			
	Material name	Weight (kg)	Material name	Weight (kg)	Process name	Weight (kg)	Process name	Weight (kg)
	Nylon fiber	1.32E-02						
	Adhesive	1.46E-03						
	Dye	1.00E-04						
	Wood, Paper	9.50E-03						
	Subtotal	2.42E-02	Subtotal	0				
	Total			2.42E-02	Subtotal	0	Subtotal	0

Note MAGIC TAPE A03800/B01000 . Pair of Hook tape and Loop tape.

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.

Consumption	Classifier	Material	Material	Material	Material	Material	Material	Energy	Energy
	Distribution		PA66 (Polyamide 66) (kg)	Expandable hard polyurethane (Hard) (kg)	Ink (kg)	Corrugated cardboard (kg)	Cardboard (kg)	Industrial water (kg)	Electricity (kwh)
Quantity		5.02E-03	8.22E-04	1.28E-03	1.21E-03	1.68E-04	7.62E+00	1.61E-01	2.58E-02
Note		(5.44E-05)					(2.54E+00)	(1.38E-02)	
Emission/Discharge	Classifier	Energy	Energy	Energy	Energy	Condition			
	Distribution		Heavy oil (kg)	Coal (kg)	Oil coke (kg)	LPG (kg)	Diesel truck: 4 ton (kg.km)		
Quantity		3.52E-03	4.17E-03	7.07E-04	2.54E-04	1.33E+00			
Note		(3.52E-03)	(4.17E-03)	(7.07E-04)	(2.54E-04)				
Emission/Discharge	Classifier	Atmosphere	Atmosphere	Atmosphere	Water system	Water system	Water system	Soil system	Soil system
	Distribution		CO2	SOx	NOx	Wast water	BOD	SS	Incineration: Industrial waste (kg)
Quantity		2.44E-02	6.64E-06	1.34E-05	7.62E+00	7.39E-04	3.69E-05	9.12E-03	4.17E-04
Note		(2.44E-02)	(6.64E-06)	(1.34E-05)	(2.54E+00)			(5.44E-05)	(4.17E-04)

Note Data in () are inventories of spinning process, that decided in PSC.

3. Distribution stage information (per unit): means, distance, loading ratio, consumptions and emissions/discharges.

Distribution	Means of transportation	Diesel truck: 4 ton (kg.km)	Diesel truck: 4 ton (kg.km)	Diesel truck: 4 ton (kg.km)	Diesel truck: 4 ton (kg.km)				
	Conditions	Weight (kg)	Distance (km)	Loading ratio (%W)	Load (kg.km)				
Quantity		2.24E-02	5.00E+02	3.64E+01	3.33E+01				
Note									

Note The distance is 500km, in case of domestic logistics by PSC BK-01.

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

Product	Classifier								
	Distribution								
	Quantity								
	Note								

Note Not considered in accordance with the PSC.

4.2 Disposition/Recycle information on consumables and replacement parts

Consumables	Classification								
	Distribution								
	Quantity								
	Note								

Note Not considered in accordance with the PSC.

5. Disposition/Recycle stage information (per product): process method and scenarios

Scenario	Classification	Process							
	Distribution		Incineration: Industrial waste (kg)						
Quantity		2.43E-02							
Note									

Note

6. Others