ENVIRONMENTAL PRODUCT DECLARATION

as per ISO 14025 and EN 15804

Owner of the Declaration

tion ASSA ABLOY

Programme holder

Institut Bauen und Omweit e.v. (IBO)

Publisher

Institut Bauen und Umwelt e.V. (IBU)

Declaration number

EPD-ASA-20150081-IBA1-EN

Issue date

10.04.2015

Valid to

09.04.2020

Hinges and Handles – McKinney Door Hinge ASSA ABLOY



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1. General Information

ASSA ABLOY

Programme holder

IBU - Institut Bauen und Umwelt e.V. Panoramastr. 1 10178 Berlin

Germany

Declaration number

EPD-ASA-20150081-IBA1-EN

McKinney Door Hinge

Owner of the Declaration

ASSA ABLOY 225 Episcopal Road Berlin, CT 06037

Declared product / Declared unit

This declaration represents 1 McKinney Door Hinge 4-1/2" x 4-1/2" TA2714 US26D, consisting of the following items:

-2 hinge leafs, one pin, one plug, two bearing assemblies

This Declaration is based on the Product Category Rules:

Locks and fittings , 07.2014 (PCR tested and approved by the independent expert committee (SVR))

Issue date

10.04.2015

Valid to

09.04.2020

Menmanes

Prof. Dr.-Ing. Horst J. Bossenmayer (President of Institut Bauen und Umwelt e.V.)

Dr.-Ing. Burkhart Lehmannt (Managing Director IBU)

Scope:

This declaration and its LCA study are relevant to the McKinney Door Hinge 4-1/2" x 4-1/2" TA2714 US26D in which the manufacturing of the components and final assembly take place in Taiwan.

Verification

The CEN Standard EN 15804 serves as the core PCR
Independent verification of the declaration
according to ISO 14025

internally

externally



2. Product

2.1 Product description

Product name: McKinney Door Hinge 4-1/2" x 4-1/2" TA2714 US26D

Marin

Product characteristics:

- 5 Knuckle Full Mortise Bearing Hinge
- Standard Weight
- Steel
- 4-1/2" x 4-1/2"
- Meets or exceeds ANSI A156.1 Standard
- Used on standard weight medium frequency doors
- Used on doors with closing devices

2.2 Application

McKinney Door Hinge 4-1/2" x 4-1/2" TA2714 US26D is recommended for standard weight, medium

frequency doors or doors with closing devices. Used on common flush door/ frame/ wall applications.

2.3 Technical Data

For the declared product, the following technical data in the delivery status must be provided with reference to the test standard:

Technical data

Parameter	Value
Available Finishes:	US26D
Available Sizes:	4-1/2" x 4-1/2"
Width:	4-1/2"
Height:	4-1/2"

2.4 Placing on the market / Application rules The standards that can be applied for the McKinney

The standards that can be applied for the McKinne Door Hinge 4-1/2" x 4-1/2" TA2714 US26D are:

- ANSI/BHMA A156.1 Butts and Hinges - Certified

- ANSI/BHMA A156.7 Template Hinge Dimensions
- ANSI/BHMA A156.18 Materials and Finishes

2.5 **Delivery status**

McKinney Door Hinge 4-1/2" x 4-1/2" TA2714 US26D is delivered 3 per box, 48 per carton. Machine and wood screws for installation are included in the box.

Base materials / Ancillary materials

The composition of the McKinney Door Hinge 4-1/2" x 4-1/2" TA2714 US26D is as following:

Component	Percentage in mass (%)
Brass	1.63%
Plastics	0.28%
Steel	98.09%
Total	100.0

Manufacture

The primary manufacturing processes of components and the final assembly processes occur in the factory in Taiwan. The hinge production process consists of metal stamping, machining, polishing, plating, assembly and packaging.

Environment and health during 2.8 manufacturing

ASSA ABLOY is committed to producing and distributing door opening solutions with minimal environmental impact, where health & safety is the primary focus for all employees and associates.

- Environmental operations, GHG, energy, water, waste, VOC, surface treatment and H&S are being routinely monitored. Inspections, audits, and reviews are conducted periodically to ensure that applicable standards are met and Environment Management program effectiveness is evaluated.
- Code of Conduct covers human rights, labor practices and decent work. Management of ASSA ABLOY is aware of their environmental roles and responsibilities, providing appropriate training, supporting accountability and recognizing outstanding performance.
- Any waste metals during machining are separated and recycled. The waste from the water-based painting process is delivered to waste treatment plant.

Product processing/Installation

McKinney Door Hinges are distributed through hardware distributors and installed by trained installation technicians, such as locksmiths, carpenters etc. adhering to local, state, and national standards and requirements.

2.10 Packaging

McKinney Door Hinges are packed in a cardboard box and a cardboard carton. The packaging is fully recyclable.

Box - 5-5/8" L x 2-1/2" H x 3" W Carton - 12-1/2" L x 7" H x 10-3/4" W

Material	Value (%)
Cardboard/paper	100
Total	100.0

2.11 Condition of use

Hinges must be free swinging without any binding. To align the hinges to prevent binding the use of shims is recommended, if required. If the hinges begin to make noise, remove any binding conditions, grease or lubricate all moving parts, re-mount the hinge and readjust the hinge with the proper shims. McKinney hinges come "greased" from the factory, but should be checked on a regular basis for lubrication. McKinney recommends that hinges used in commercial, high frequency applications or in extreme environmental conditions be lubricated annually to ensure long life and quiet operation.

2.12 Environment and health during use

There is no harmful emissive potential. No damage to health or impairment is expected under normal use corresponding to the intended use of the product.

2.13 Reference service life

McKinney Door Hinge 4-1/2" x 4-1/2" TA2714 is made to comply to and is BHMA Certified to ANSI/BHMA A156.1. If installed properly it can last 30 years or longer.

2.14 Extraordinary effects

Meets NFPA 80 Requirements for fire rated doors. Suitable for use on Fire Rated Doors, up to 3 hours.

Contain no substances that have any impact on water in case of flood. Steel hinges subjected to unforeseeable flooding conditions will increase the potential for the hinge to rust.

Mechanical destruction

No danger to the environment can be anticipated during mechanical destruction.

2.15 Re-use phase

It is possible to reuse the product during the reference service life and be moved from one similar door opening to another. The majority, by weight, of the hinge is steel which can be recycled.

The hinges can be mechanically dissembled to separate the different materials. 100% of the materials used are recyclable.

2.16 Disposal

No disposal is foreseen for the hinges nor for the corresponding packaging.

2.17 Further information

ASSA ABLOY 225 Episcopal Road Berlin, CT 06037

3. LCA: Calculation rules

3.1 Declared Unit

The declaration refers to the functional unit of 1 piece of Hinge as specified in Part B requirements on the EPD for PCR Locks and fittings: (mechanical & electromechanical locks & Fittings).

Declared unit

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Name	Value	Unit
Declared unit	1	1 piece of Hinge
Packaging	kg	0.005
Conversion factor to 1 kg	2.01	-

3.2 System boundary

Type of the EPD: cradle to grave - with Options The following life cycle phases were considered:

Production stage:

- A1 Raw material extraction and processing
- A2 Transport to the manufacturer and
- A3 Manufacturing

Construction stage:

- A4 Transport from the gate to the site
- A5 Packaging waste processing

End-of-life stage:

- C2 Transport to waste processing
- C3 Waste processing for recycling and
- C4 Disposal (landfill)

This includes provision of all materials, products and energy, packaging processing and its transport, as well as waste processing up to the end-of-waste state or disposal of final residues.

 D - Declaration of all benefits or recycling potential from End-of-Life and A5.

3.3 Estimates and assumptions

Transport:

For materials and pre-products the actual means of transport and distances, provided by the suppliers, were considered

E₀L:

In the End-of-Life phase a recycling scenario with 100% collection rate was assumed.

3.4 Cut-off criteria

In the assessment, all available data from the production process are considered, i.e. all raw materials used, auxiliary materials (e.g. lubricants), thermal energy consumption and electric power consumption - including material and energy flows contributing less than 1% of mass or energy (if available). In case a specific flow contributing less than 1% in mass or energy is not available, worst case assumption proxies are selected to represent the respective environmental impacts.

Impacts relating to the production of machines and facilities required during production are out of the scope of this assessment.

3.5 Background data

For life cycle modeling of the considered products, the GaBi 6 Software System for Life Cycle Engineering, developed by PE INTERNATIONAL AG, is used /GaBi 6 2013/. The GaBi-database contains consistent and documented datasets which are documented in the online

GaBi-documentation /GaBi 6 2013D/.

To ensure comparability of results in the LCA, the basic data of GaBi database were used for energy, transportation and auxiliary materials.

3.6 Data quality

The requirements for data quality and background data correspond to the specifications of the /IBU PCR PART A/

PE INTERNATIONAL performed a variety of tests and checks during the entire project to ensure high quality of the completed project. This obviously includes an extensive review of project-specific LCA models as well as the background data used.

The technological background of the collected data reflects the physical reality of the declared products. The datasets are complete and conform to the system boundaries and the criteria for the exclusion of inputs and outputs.

All relevant background datasets are taken from the GaBi 6 software database. The last revision of the used background data has taken place not longer than 10 years ago.

3.7 Period under review

The period under review is 2013/14 (12 month average).

3.8 Allocation

Regarding incineration, the software model for the waste incineration plant (WIP) is adapted according to the material composition and heating value of the combusted material. In this EPD the following specific life cycle inventories for the WIP are considered:

- · Waste incineration of plastic
- · Waste incineration of paper
- · Waste incineration of wood

Regarding the recycling material of metals, the metal parts in the EoL are declared as end-of-waste status. Thus, these materials are considered in module D. Specific information on allocation within the background data is given in the GaBi dataset documentation.

3.9 Comparability

Basically, a comparison or an evaluation of EPD data is only possible if all the data sets to be compared were created according to /EN 15804/ and the building context, respectively the product-specific characteristics of performance, are taken into account.

4. LCA: Scenarios and additional technical information

The following technical information is a basis for the declared modules or can be used for developing specific scenarios in the context of a building assessment if modules are not declared (MND).

Installation into the building (A5)

Name	Value	Unit
Output substances following waste treatment on site (Paper packaging)	0.0052	kg

Reference service life

Name	Value	Unit
Reference service life	30	а

End of life (C1-C4)

Name	Value	Unit
Collected separately Steel, Brass,	0.4924	kg
plastics	0.4324	ĸg

Reuse, recovery and/or recycling potentials (D), relevant scenario information

Name	Value	Unit
Collected separately waste type (including packaging)	0.4976	kg
Recycling Brass	1.61	%
Recycling Steel	97.07	%
Thermal treatment Plastics	0.28	%
Reuse Paper packaging (from A5)	1.04	%



5. LCA: Results

Results shown below were calculated using CML Methodology.

DESC	CRIPT	ION O	F THE	SYST	ЕМ В	OUND	ARY (X = IN	NCLUDI	ED IN	LCA;	MND =	MOD	ULE 1	NOT DE	CLARED)
PROI	DUCT S	TAGE	CONST ON PRO	OCESS	USE STAGE END OF LIFE STAGE							BENEFITS AND LOADS BEYOND THE SYSTEM BOUNDARYS				
Raw material supply	Transport	Manufacturing	Transport from the gate to the site	Assembly	nse	Maintenance	Repair Replacement ¹⁾ Refurbishment ¹⁾ Operational energy use Operational water use De-construction demolition Transport Waste processing		Disposal	Reuse- Recovery- Recycling- potential						
A1	A2	A3	A4	A5	B1	B2	В3	B4	B5	В6	В7	C1	C2	C3	C4	D
Х	Х	Х	Х	Χ	MND	MND	MND	MND	MND	MND	MND	MND	Χ	Х	Х	Χ
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			meter			Unit		1-3	A4		A5	C2	C	3	C4	D
	Glo	bal warn	ning pote	ntial		[kg CO ₂ Eq.]	1.2	5E+00	1.53E-0)1 7.	34E-03	1.17E-02	0.00	E+00	3.50E-03	3 -7.02E-01
Deple	etion pote		the strato yer	spheric o	ozone [kg CFC' Eq.]	8.8	3E-11	5.47E-1	3 3.	36E-14	5.58E-14	0.00	E+00	1.05E-14	4 6.23E-12
Ac	idificatio		ial of land	and wa		[kg SO ₂ Eq.]	8.7	5E-03	4.47E-0	03 1.	67E-06	5.33E-05	0.00	E+00	8.91E-07	7 -2.63E-03
	Eu	trophicat	tion poter	ntial		[kg (PO ₄) Eq.]	8.0	8E-04	4.55E-0	04 2.	92E-07	1.22E-05	0.00	E+00	6.74E-08	3 -2.20E-04
Fo			of troposp nical oxida		ne	[kg Ethe	en 8.0	8E-04	2.54E-0)4 1.	19E-07	-1.72E-05	0.00	E+00	4.33E-08	3 -4.05E-04
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Abioti	c deplet		ntial for fo	ssil reso	urces	[MJ]	1.42	2E+01	1.88E+0	00 2.	06E-03	1.61E-01	0.00	E+00	1.48E-03	3 -6.46E+00
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			ameter			Unit	A1-	3	A4	A5		C2	С	:3	C4	D
			energy a			[MJ]	8.73E	-01	-	-		-		-	-	-
		materia		on		[MJ]	0.00E	+00	-	-		-	-		-	-
10	material utilization Total use of renewable primary energy							8.73E-01 6.63E-03			1.92E-04		3 0.00E+00			
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Non Tota	Use of use of no UJLTS (Haz Non h Rad	e primar able primar util non rer res e of secc renewal nor renewal se of ne OF TH Par ardous azardous ioactive ompone	range of the secondary	ras energy as me primary material modary functional modary functional modary functional modary water modary w	rgy carrier attention atte	E	1.52E- 0.00E- 1.52E- 8.33E 0.00E- 0.00E- 4.73E 4.79E 2.03E 3.95E 0.00E- 0.00E-	+01 +00 +01 -02 (1 +00 (2 +00 (3 -04 -02 -04 -02 -04 -02 -04 -02 -04 -02 -04 -04 -05 -06 -07 -07 -08 -08 -09 -09 -09 -09 -09 -09 -09 -09	- 1.89E+00 0.00E+00 0.00E+00 0.00E+00 1.33E-05 A4 2.22E-06 1.74E-05 2.32E-06 0.00E+00 0.00E+00	2.41E 0.00E-0.00E-0.00E-0.00E-0.00E-0.00E-0.00E+	-03 -000 -000 -005 -000 -005 -000 -005 -000 -005 -000 -005 -000 -005 -000 -0	- 1.61E-01	0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000	E+00 E+00 E+00 E+00 E+00 E+00 E+00 Hinge +00 +00 +00 -01	1.64E-03 0.00E+00 0.00E+00 0.00E+00 8.54E-06 2 McKin C4 1.15E-07 3.26E-04 6.55E-08 0.00E+00	
Non Tota	Use of Use of Non h	e primar able primar util non rer res e of secc renewal se of ne Par ardous azardou ioactive ompone flaterials	produces by energy analy energy energ	ras energy as more regional primary material and region dary function dark function da	rgy carrier attention atte	Marcolong	1.52E- 0.00E- 1.52E- 8.33E 0.00E- 0.00E- 4.73E 4.79E 2.03E 3.95E 0.00E- 0.00E- 0.00E-	+01	- 1.89E+00 0.00E+00 0.00E+00 0.00E+00 1.33E-05 STE C A4 2.22E-06 1.74E-05 2.32E-06 0.00E+00 0.00E+00	2.41E 0.00E- 0.00E- 0.00E- 2.14E ATEG A5 1.66E-C 1.84E-C 0.00E+C	-03 -00 -00 -005 -005 -005 -005 -005 -00	- 1.61E-01 0.00E+00 0.00E+00 0.00E+00 4.47E-06 3: 1 piec 67E-07 03E-05 11E-07 00E+00 00E+00	0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000	E+00 E+00 E+00 E+00 E+00 E+00 Hinge +00 +00 +00 +00 +00 -01	1.64E-03 0.00E+00 0.00E+00 0.00E+00 8.54E-06 MCKIN C4 1.15E-07 3.26E-04 6.55E-08 0.00E+00 0.00E+00	
Non Tota	Haz Non h Rad Mate	e primar able primar util non rer res e of secc renewal nor renewal se of ne OF TH Par ardous azardous ioactive ompone Materials rials for	range of the secondary	ras energy as m primary naterial ndary fue condary vater - OU sposed disposed sposed e-use cling recovery	rgy carrier attention atte	E	1.52E- 0.00E- 1.52E- 8.33E 0.00E- 0.00E- 4.73E 4.79E 2.03E 3.95E 0.00E- 0.00E-	+01	- 1.89E+00 0.00E+00 0.00E+00 0.00E+00 1.33E-05 A4 2.22E-06 1.74E-05 2.32E-06 0.00E+00 0.00E+00	2.41E 0.00E-0.00E-0.00E-0.00E-0.00E-0.00E-0.00E+	-03 -000 -000 -005 -000 -005 -000 -000 -	- 1.61E-01	0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000	E+00 E+00 E+00 E+00 E+00 E+00 E+00 Hinge +00 +00 +00 +00 +00 +00 +00	1.64E-03 0.00E+00 0.00E+00 0.00E+00 8.54E-06 2 McKin C4 1.15E-07 3.26E-04 6.55E-08 0.00E+00	

6. LCA: Interpretation

This chapter contains an interpretation of the Life Cycle Impact Assessment categories. Stated percentages in the whole interpretation are related to the overall life cycle, excluding credits (module D).

Production phase (module A1-A3) contributes between 63 and 100% to total impact assessment. This stage is dominated by upstream emissions associated with steel- and secondary aluminum manufacturing processes.

Steel accounts with app. 98% to the overall mass of the product, therefore, the impacts are in line with the mass composition of the product. The

environmental impacts for the transport (A2) have a negligible impact within this stage.

Transport to the installation site (Module A4) contributes between 11 and 36% to total impact assessment for all considered impact categories beside the ODP and ADPE (< 1%).

In module D the benefits (negative values) and loads beyond the system boundary are declared for the recycling potential of the metals and for the credits from the incineration process (energy substitution) within A5.

7. Requisite evidence

Not applicable in this EPD.

8. References

Institut Bauen und Umwelt

Institut Bauen und Umwelt e.V., Berlin (pub.): Generation of Environmental Product Declarations (EPDs);

General principles

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IBU PCR Part A

Institut Bauen und Umwelt e.V., Berlin (pub.): Product Category Rules for Construction Products from the range of Environmental Product Declarations of Institut Bauen und Umwelt (IBU), Part A: Calculation Rules for the Life Cycle Assessment and Requirements on the Background Report. April 2013 www.bau-umwelt.de

IBU PCR Part B

IBU PCR Part B: PCR Guidance-Texts for Building-Related Products and Services. From the range of Environmental Product Declarations of Institute Construction and Environment e.V. (IBU). Part B: Requirements on the EPD for Locks and fittings. www.bau-umwelt.com

ISO 14025

DIN EN ISO 14025:2011-10: Environmental labels and declarations — Type III environmental declarations — Principles and procedures

EN 15804

EN 15804:2012+A1:2014: Sustainability of construction works - Environmental product declarations - Core rules for the product category of construction products

DIN EN 1154

DIN EN 1154: Building hardware - Controlled door closing devices - Requirements and test methods (includes amendment A1:2002)

DIN EN ISO 14001

Environmental management systems - Requirements with guidance for use (ISO 14001:2004 + Cor. 1:2009)

ANSI A250.13-2003

ANSI A250.13-2003: Testing and Rating of Severe Windstorm Resistant Components for Swinging Door Assemblies

ANSI /BHMA 156.1

ANSI /BHMA 156.1: Butts and Hinges

ANSI/BHMA 156.7

ANSI/BHMA 156.7: Template Hinge Dimensions

ANSI/BHMA 156.18

ANSI/BHMA 156.18: Materials and Finishes



9. Annex

Results shown below were calculated using TRACI Methodology.

DESC	CRIPT	TION O	F THE	SYST	ГЕМ В	OUN	DAR	Y (X = II	NCL	UDE	D IN	LCA	; MND	= MOE	ULE N	OT D	ECL/	ARED)
PROI	DUCT S	STAGE	CONST ON PRO	OCESS		USE STAGE								END OF I	BEY S	EFITS AND OADS OND THE YSTEM JNDARYS		
Raw material supply	Transport	Manufacturing	Transport from the gate to the site	Assembly	Use	Maintenance	Repair	Replacement ¹⁾	0.6hioh	Keluibisiimeni	Operational energy use	Operational water	De-construction	Transport	Waste processing			Recovery- Recycling- potential
A1	A2	А3	A4	A5	B1	B2	В	3 B4	В	55	В6	В7	C1	C2	C3	C4		D
Х	Х	Х	Х	Х	MND	MNE) MN	D MNE	1M	ND I	MND	MNE	O MN	D X	Х	Х		Χ
RESU	JLTS	OF TH	E LCA	- EN	VIRON	MEN	ITAL	IMPAC	T: 1	piec	e of	Hing	e McK	inney i	A2714			
Param				meter				Unit		1-3	А		A5	C2	С3		C4	D
GWI	Р	Gl	obal warr	ming pot	ential		[kg C	CO ₂ -Eq.]	1.2	5E+00	1.53	E-01	7.34E-03	1.17E-0	2 0.00E+	-00 3.5	0E-03	-7.02E-01
ODF	>	Depletion		l of the s e layer	tratosphe	eric	[kg CF	-C11-Eq.]	9.3	9E-11	5.81	E-13	3.57E-14	5.93E-1	4 0.00E+	-00 1.1	2E-14	6.62E-12
AP	,	Acidificati	on poten	tial of lar	nd and wa	ater	[kg S	SO ₂ -Eq.]	-	2E-03	4.72	-	2.03E-06				04E-06	-2.68E-03
EP		Е	utrophica	tion pote	ential			N-eq.]		8E-04	1.56		1.17E-07				8E-08	-1.64E-04
Smo	g	Ground-	level smo	g formati	on potenti	ial	[kg	O ₃ -eq.]		7E-01	8.64		4.73E-05				1E-06	-4.03E-02
Resour	rces							[MJ]	6.3	5E-01	2.71	E-01	2.41E-04	2.31E-0	2 0.00E+	-00 1.5	2E-04	1.22E-01
RESU	JLTS	OF TH	E LCA	- RE	SOUR	CE U	SE: 1	piece	of H	inge	Mck	(inne	y TA2	714				
Parameter Parameter						Unit A1-3			A4				C2 C3		C3 C4		_	
Farai	illetei		Pai	ameter			Unit	A1	-3	Α	4	A5	•	C2	C3	C	4	D
	RE	Rene	ewable p	rimary e	energy a	s	[MJ]	8.73E		A	4	A5						-
PE		Re	ewable p ener newable	orimary e gy carrie primary	er energy				≣-01)					
PE PE	RE	Re resou	ewable pener ener newable irces as use of r	orimary of gy carrio primary material	er energy utilization le primai	on	[MJ]	8.73E	E-01 E+00	6.63								
PE PE	RE RM	Re resou Total	ewable pener newable irces as use of renergy	orimary or gy carried primary material enewab r resource primary	er v energy utilization le primar ces v energy	on ry	[MJ]	8.73E	E-01 E+00 E-01	-		-		-	-		E-04	-
PE PE PE	RE RM :RT	Re resou Total	ewable penergy newable irces as use of renergy enewable energenewable	primary of gy carried primary material enewaby resource primary gy carried	er v energy utilization le primar ces v energy er v energy	on ry as	[MJ]	8.73E	E+00 E+00 E-01	-		- - 1.92E		- - .34E-03	- - 0.00E+00	1.08	E-04	- - 1.75E-01
PE PE PEN	RE RM RT NRE	Re resou Total Non re Non re	ewable pener newable urces as use of renergy enewable energy enewable materia se of nor energy	orimary egy carried primary material enewaby resource primary egy carried primary al utilizar reneway resource promary egy carried primary egy egy egy egy egy egy egy egy egy eg	er venergy utilization le primar ces venergy er venergy er venergy tion able prim ces	on ry as as	[MJ] [MJ]	8.73E 0.00E 8.73E 1.52E	E-01 E+00 E-01 E+01 E+01	-	E-03	- - 1.92E	-04 6	- - .34E-03	- - 0.00E+00	1.08	E-04	- - 1.75E-01
PE PEN PEN S	RE RM RT NRE NRM NRT	Re resou Total Non re Non re Total us	ewable penery energy energy enewable energy energy energy	orimary egy carriegy carriegy carriegy carriegy carriegy carriegy resource primary al utilizator renewar resourcendary r	er venergy utilization to be venergy energy	as as anary	[MJ] [MJ] [MJ]	8.73E 0.00E 8.73E 1.52E 0.00E	E-01 E+00 E-01 E+01 E+01	6.63	E-03	- 1.92E -	-04 6	- - .34E-03	- - 0.00E+00 -	1.08	E-04	- - 1.75E-01 -
PE PEN PEN S	RE RM RT NRE NRM	Re resou Total Non re Non re Total us Use of	ewable peneral energy energy enewable material energy enewable material energy enewable energy enewable material energy energy energy energy enewable energy	orimary of gy carried primary material enewable primary gy carried primary al utilizar n renewar resourd ondary ruble secondary ruble secondary of gy carried primary al utilizar n renewar resourd primary ruble secondary ru	er venergy utilization le primar ces venergy er venergy er venergy et contable primar ces material undary fundary fund	as as as as els	[wn] [wn] [wn] [wn] [wn] [wn]	8.73E 0.00E 8.73E 1.52E 0.00E	E-01 E+00 E-01 E+01 E+01 E+01 E+01 E-02	6.63	E-03 E+00 E+00	1.92E	-04 6 -03 1 +00 0	- -34E-03 - -	- 0.00E+00 - - 0.00E+00	1.08	E-04 E-03 E+00	- 1.75E-01 - - -6.01E+00
PEPPEN SS RS	RE RM RT NRE NRM NRT	Re resou Total Non re Non re Total us Use of	ewable peneral newable irces as use of renewable energy enewable material se of nor energy enewable fron rer	orimary of gy carried primary material enewable primary gy carried primary al utilizar n renewar resourd ondary ruble secondary ruble secondary of gy carried primary al utilizar n renewar resourd primary ruble secondary ru	er venergy utilization to be venergy energy	as as as as els	[MJ] [MJ] [MJ]	8.73f 0.00E 8.73f 1.52E 0.00E 1.52E	E-01 E+00 E-01 E+01 E+00 E+01 E-02 E+00	6.63 - - 1.898 0.008	E-03 E+00 E+00 E+00	1.92E 2.41E 0.00E-	-04 6 -03 1 +00 0 +00 0		- 0.00E+00 - - 0.00E+00	1.08	E-04 E-03 E+00 E+00	- 1.75E-01 - - -6.01E+00 0.00E+00
PE PE PE PE PE RI RI NR	RE RM RT NRE NRM NRT M SF	Re resou Total Non re Non re Total us Use of Use o	ewable pener newable irces as use of renergy enewable materia se of nor energy e of sec	primary e gy carrie primary material enewab r resource primary gy carrie e primary al utilizar ondary r ble secondary r ble secondary r ble secondary r ble secondary r ble secondary r	er venergy utilization le primal ces venergy energy evenergy evene	as as hary els	[MJ] [MJ] [MJ]	8.738 0.00E 8.738 1.52E 0.00E 1.52E 8.338 0.00E 0.00E	=-01 =-01 =-01 =+01 =+01 =+01 =-02 =+00 =-03	1.89E 0.00E 0.00E 0.00E	E-03 E+00 E+00 E+00 E+00 E+00	1.92E - 2.41E 0.00E- 0.00E- 2.14E	-04 6 -03 1 +00 0 +00 0 +00 0		- 0.00E+00 - - 0.00E+00 0.00E+00 0.00E+00 0.00E+00	1.08 1.64 0.000 0.000 0.000	E-04 E-03 E+00 E+00 E+00 E-06	- 1.75E-01
PE PE PE PE PE RI RI NR	RE RM RT NRE NRM NRT M SF	Re resou Total Non re Non re Total us Use of Use o	ewable pener newable irces as use of renergy enewable materia se of nor energy e of sec	primary e gy carrie primary material enewab r resource primary gy carrie e primary al utilizar ondary r ble secondary r ble secondary r ble secondary r ble secondary r ble secondary r	er venergy utilization le primal ces venergy energy evenergy evene	as as hary els	[MJ] [MJ] [MJ]	8.738 0.00E 8.738 1.52E 0.00E 1.52E 8.338 0.00E 0.00E	=-01 =-01 =-01 =+01 =+01 =+01 =-02 =+00 =-03	1.89E 0.00E 0.00E 0.00E	E-03 E+00 E+00 E+00 E+00 E+00	1.92E - 2.41E 0.00E- 0.00E- 2.14E	-04 6 -03 1 +00 0 +00 0 +00 0		- 0.00E+00 - - 0.00E+00 0.00E+00 0.00E+00 0.00E+00	1.08 1.64 0.000 0.000 0.000	E-04 E-03 E+00 E+00 E+00 E-06	- 1.75E-01 - - -6.01E+00 0.00E+00 0.00E+00
PE PE PE PE PE RI RI NR	RE RM RT NRE NRM NRT M SF RSF W	Re resour Total Non re Total us Use of Use o	ewable pener newable irces as use of renergy enewable materia se of nor energy e of sec renewal f non rer	primary egy carries primary material enewable primary egy carries primary egy carries primary en pr	er v energy utilization le primario es v energy utilization le primario es vy energy er vy energy tion able primable pri	as as as as pary	[MJ] [MJ] [MJ]	8.738 0.00E 8.738 1.52E 0.00E 1.52E 8.338 0.00E 0.00E	=-01 =-01 =-01 =+01 =+01 =+01 =-02 =+00 =-03	1.890 0.000 0.000 1.331	E-03 E+00 E+00 E+00 E+00 E+00	1.92E 2.41E 0.00E- 0.00E- 0.00E-	-04 6 -03 1 +00 0 +00 0 +00 0		- 0.00E+00 - - 0.00E+00 0.00E+00 0.00E+00 0.00E+00	1.08 1.64 0.001 0.001 0.001 8.54	E-04 E-03 E+00 E+00 E+00 E-06	- 1.75E-01
PE PE PE PE PE PE RI RESU	RE RM RT NRE NRM NRT M SF SF W JLTS	Re resour Total Non re Total us Use of Use o	ewable pener newable irces as use of renergy enewable materia se of nor energy e of sec renewal f non rer	primary egy carries primary material enewable resource primary gy carries primary aprimary are primary are primary and utilization renewable fuels et fresh	er v energy utilization le primario es v energy utilization le primario es vy energy er vy energy tion es es material andary fu seconda water TPUT ter e dispose	as as as as pary	[MJ] [MJ] [MJ]	8.73E 0.00E 8.73E 1.52E 0.00E 1.52E 8.33E 0.00E 0.00E 4.73E	E-01 E+00 E+01 E+01 E+01 E+01 E+01 E+00 E+00	1.890 0.000 0.000 1.331	E-03 E=00 E=00 E=00 E=00 E-05 A44	1.92E 1.92E 2.41E 0.00E- 0.00E- 0.00E- 0.00E- 0.00E	-04 6 -03 1 +00 0 +00 0 +00 0 -05 4		- 0.00E+00 0.00E+00 0.00E+00 0.00E+00 0.00E+00 Hinge C3	1.08 1.64 0.000 0.000 0.000 8.54	E-04 E-03 E+00 E+00 E+00 E-06	- 1.75E-01
PE PE PE PE PE PE RS RS RS RS RS HW	RE RM RT NRE NRM NRT M SF RSF W JLTS	Re resour Total Non re Total us Use of Use o	ewable rener newable irces as use of rener enewable materia se of nor energy enewable fron renewal fron renew	primary egy carries primary en pr	er v energy utilization le primario es v energy utilization le primario es vy energy er vy energy tion able primario es material andary fu seconda water TPUT ter e disposaste disp	as as as as as party FLO	[MJ] [MJ] [MJ]	8.73E 0.00E 8.73E 1.52E 0.00E 1.52E 8.33E 0.00E 4.73E VInit [kg] [kg]	E-01 E+00 E+01 E+01 E+01 E+01 E+01 E+00 E+00	6.631 1.896 0.006 0.006 1.333 1.336 CA	E+00 E+00 E+00 E+00 E+00 E+00 A4	1.92E 1.92E 2.41E 0.00E- 0.00E- 0.00E- 0.00E- 0.00E	-04 6 -03 1 +00 0 +00 0 +00 0 -05 4 S:1 p			1.08 1.64 0.000 0.000 0.000 8.54	E-03 E+00 E+00 E-06 E-06 E-06	- 1.75E-01
PE PE PE PE PE PE RS RS RS RS HW RMH RW	RE RM RT NRE NRM NRT M SF RSF W JLTS	Re resour Total Non re Total us Use of Use o	ewable rener newable irces as use of rener energy enewable materia se of nor energy enewable fron rer	primary egy carries primary expression primary expression primary exprimary exprimary exprimary exprimary exprimary exprimary exprimary exprimary exprimary expression primary expression e	er v energy utilization le primario es v energy utilization le primario es vy energy er vy energy tion ces material undary fu seconda water ter e disposaste disposaste disposa energy te disposaste d	as a	[MJ] [MJ] [MJ]	8.73E 0.00E 8.73E 1.52E 0.00E 1.52E 8.33E 0.00E 4.73E Unit [kg] [kg]	E-01 E+00 E+01 E+01 E+01 E+01 E+02 E+00 E+00 E+00 E-03 STE A1 4.79 2.03 3.95	6.631 1.899 0.000 0.000 1.333 E CA -3 E-04 E-02 E-04	E-03 E=00 E=00 E=00 E=00 E-05 A44	2.41E 0.00E- 0.00E- 2.14E 0.00E- 0.00E- 0.00E- 0.00E 0.00E	-04 6 -03 1 +00 0 +00 0 -05 4 -05 4 -066E-07 -084E-04 -41E-07		- 0.00E+00	1.08 1.64 0.000 0.000 0.000 8.54 MCKi 000 1.1	E-04 E-03 E+00 E+00 E-06 E-06 CC4	- 1.75E-01
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