Environmental Product Declaration

In accordance with ISO 14025 and EN 15804 for:

[Aluminum Conductor Steel Reinforced]

from

[*Jiangsu Zhongtian Technology Co., Ltd.*]

Programme:	The International EPD® System, www.environdec.com
Programme operator:	EPD International AB
EPD registration number:	S-P-05305
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Product image

Programme information

Programme:	The International EPD® System EPD International AB Box 210 60 SE-100 31 Stockholm Sweden www.environdec.com info@environdec.com

Product category rules (PCR): < *Construction products and construction services 2012:01 version 2.34 , NPCR 027 :2020 – Part B for electrical cables and wires V1.0, and UN CPC code(s) : 421 - Structural metal products and parts thereof.>*
PCR review was conducted by: < *Ms. Min Huang is company's review chair, wyjhm@vip.sina.comr>*
Independent third-party verification of the declaration and data, according to ISO 14025:2006: ☐ EPD process certification ☒ EPD verification
Third party verifier: < *Camilla Landén, Bureau Veritas Certification Sweden AB >* *In case of accredited certification bodies:* Accredited by: *<Bureau Veritas Certification Sweden AB ,accredited by SWEDAC with accreditation number 1236>* *In case of recognised individual verifiers:* Approved by:
Procedure for follow-up of data during EPD validity involves third party verifier: ☒ Yes ☐ No

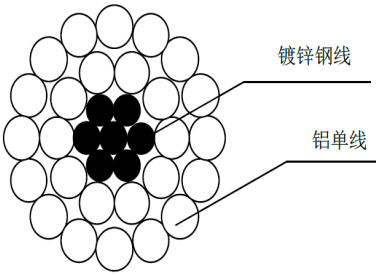
The EPD owner has the sole ownership, liability, and responsibility for the EPD. EPDs within the same product category but from different programmes may not be comparable. EPDs of construction products may not be comparable if they do not comply with EN 15804.

Company information

Owner of the EPD: [Ms. Yimei Ji, jym@chinaztt.com]
Description of the organisation: [Jiangsu Zhongtian Technology Co., Ltd (abbr. ZTT hereafter) is one of the key high-tech enterprises in China. It's headquarter is located in shanghai. ZTT become a public company in 2002 (stock code: 600522). ZTT specialized in the manufacturing of telecommunication optical cable, power cable, submarine cable and optical cable equipment. The cables for telecommunication system cover common optical wire, optical cable, FTTH solution, RF power cable, leaky power cable and their accessories. The cables for power system include ACSR, ADSS, OPGW, OPPC, ultra-high voltage conductor, lightning resistance cable, XLPE and relevant fittings etc.
ZTT possesses its stranding, drawing, casting and rolling machines, jacketing line and DTS (Distribution Temperature Sensing) machine. ZTT also produce and provides raw material of high-quality AA conductors, AS conductors and optical wire for fellow industry manufacturers.
ZTT had passed the KEMA certification, Poland Power Grid, PLP, Kinetic Lab and SGS. All of which are world famous certification laboratory and institution.
ZTT creates a development structure alliance with its Shanghai Headquarter, Nantong Research Center, Rudong Garden Factory Site to set up a sales distribution net for its Conductor, Telecom Optical Cable, Special Optical Cable, Power Cable, Broadband networks as well as an oversea department for export business. ZTT is specialized in research, development, production, marketing, service and support of conductors for electrical power lines.
ZTT has first-class equipment and quality management system. Our typical references include up to 1000kV and span length reach to 2746m in China. "Customer first", "Quality", and "innovation" drive us to be successful in the market.
With more than 70 years' experiences, ZTT can provide not only conventional conductor but also high capacities conductor. For conventional conductor, the products include: ACSR, AAAC, AAC and so on. And for high capacities conductor, the products include: GAP conductor, INVAR conductor, TACSR and ACSS. We have supplied each kind of conductors with 220 thousand tons for 500kV line as yet and have exported about 100 thousand tons to all over the world.
This declaration refers to ACSR products made in Nantong Jiangsu plant in China.
Product-related or management system-related certifications: [ZTT has got ISO 9001- 2015 QMS; 14001-2015 EMS and ISO45001:2018 OHS certificates, and SA 8000:2014 social responsibility certification, which issued by third party certification organizations]
Name and location of production site: [Zhongtian Village, Hekou Town, Rudong County, Jiangsu Province, P.R China..]

Product information

Product name: [Aluminum Conductor Steel Reinforced.]
Product identification: product type as follows :
ACSR 26-3.44+7-2.68 (EN 50182)
ACSR 26-3.72+7-2.89 (ASTM B232)
ACSR 26-4.44+7-3.45 (ASTM B232)
ACSR 45-3.38+7-2.25 (EN 50182)
ACSR 54-3.65+19-2.19(EN 50182)
ACSR 54-7-2.68 (EN 50182)
ACSR 54-7-3.08 (EN 50182
Product description: Aluminum Conductor Steel Reinforced is formed by twisting aluminum wire and steel wire, which is suitable for overhead transmission lines. It has a steel "core" inside, and the outside is wrapped around the steel core with aluminum wire by twisting; the steel core mainly serves to increase the strength, and the aluminum stranded wire mainly serves to transmit electric energy. The applicable outdoor ambient temperature of ACSR products: -40℃~50℃, and the passing voltage level range is 10kV~500kV. ACSR products are conducive to laying across rivers and valleys and other special geographical conditions.



Steel line

Aluminum line

Expected service life: According to China National Grid "Design and Construction of Transmission Line Life Cycle Technical Guidelines", the product expected service life is 40 years.
UN CPC code: 421 - Structural metal products and parts thereof.
Other codes for product classification: [N/A]
Geographical scope: [The product is manufactured in china and will be used in EU, and end-of-life the product's performance has been calculated.

LCA information

Functional unit / declared unit: [1 m long installed Aluminum Conductor Steel Reinforced (ACSR) with electricity transmission functions, from cradle to grave. The results should be displayed in function units based on the life cycle A1-A5, B1-B7, C1-C4, D scenarios.
1 m long installed cable with electricity transmission, from cradle to grave, with activities required during construction process including package within 100 years of use.

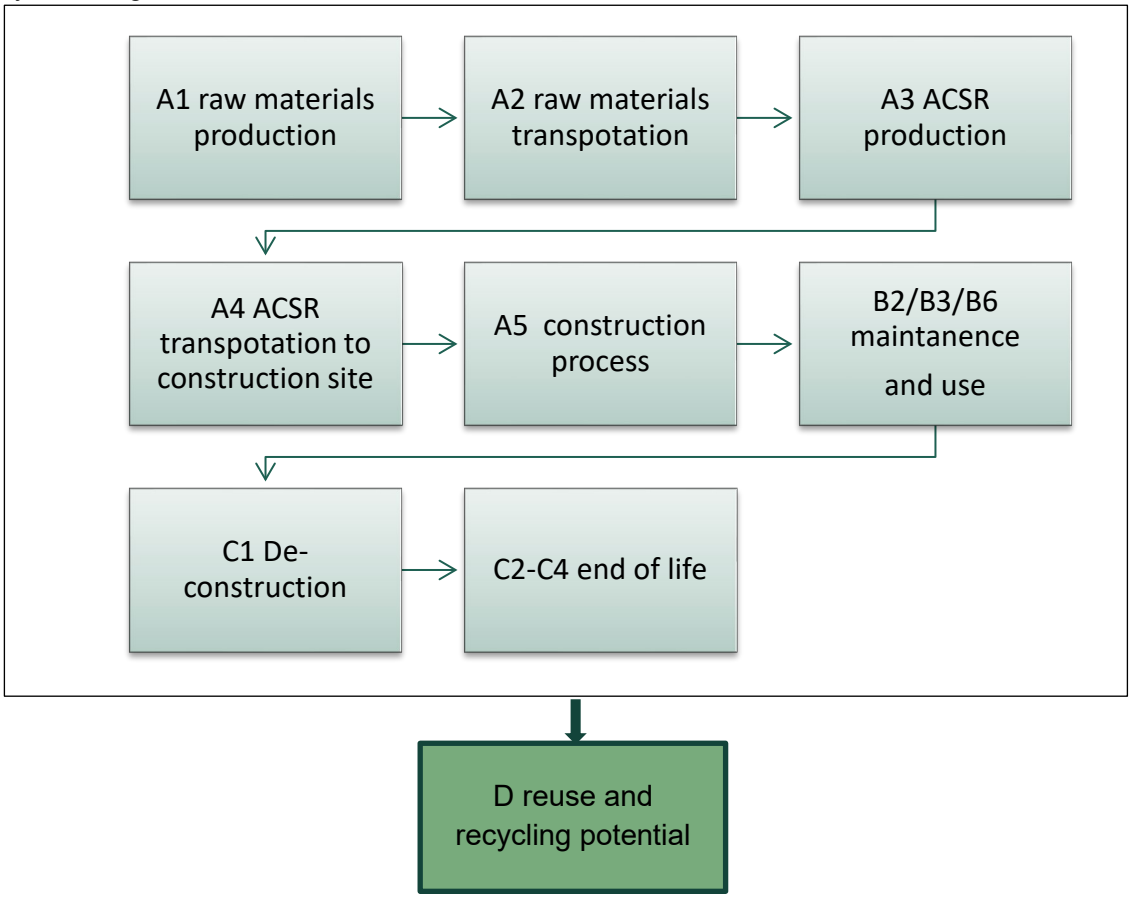
The weight considered for the products derives from the product technical standard and it is shown in the following table.

Product type	Product weight per unit length
ACSR 26-3.44+7-2.68	0.977 KG/m
ACSR 26-3.72+7-2.89	1.139 KG/m
ACSR 26-4.44+7-3.45	1.6264 KG/m
ACSR 45-3.38+7-2.25	1.340 KG/m
ACSR 54-3.65+19-2.19	2.123 KG/m
ACSR 54-7-2.68	1.1512 KG/m
ACSR 54-7-3.08	1.5205 KG/m

Reference service life: According to China electricity grid regulations, the product RSL is 40 years
Time representativeness: The Declaration product manufacturing data, key primary raw material manufacturing data, packaging material manufacturing data, and raw material transportation data are all based on actual survey data. The Declaration product of the year(s) covered by the data used for the LCA calculation from 2020.Jan.1st to 2020.Dec. 31st.

Database(s) and LCA software used: Generic data including material, energy, regional electricity and transportation are taken from the CLCD china local database and Ecoinvent 2.0 database . For LCI calculation, the Sichuan university E-balance software (version 4.7 updated 2021/5/18) was used.

System diagram:



Description of system boundaries: [The system boundary considered in this LCA study is from cradle to grave. According to the PCR, the life cycle stage must refer to segmentation in the following processes:

1. A1-3 product process: which includes all the processes of the production of ACSR and raw materials transport to the Nantong plant. According to the PCR, the gate in this study is defined as the fence of Nantong plant. The upstream includes extraction and processing of raw materials (A1), transportation of the raw material to the plant (A2), manufacturing of ACSR with the supply of the energy and auxiliary material inputs, emissions (A3).

China's power grid is divided into 6 regional electricity grids, and different suppliers plant and Nantong plant are located in different regional electricity grids. The LCA factors of different regional power grids of CLCD are used for data calculation.

2. A4-A5 Construction process: which includes all the relevant processes managed by the Organization proposing the EPD. The transportation from the manufacturing site to the construction site is calculated based on specific statistical information related to the European market provided by ZTT. For exported products, the distance refers to the transportation distance from the manufacturing location to the location specified by customer, plus the transportation distance from the specified location to the construction location (300 kilometers).

The construction process stage includes: Transportation from the production gate to the construction site (A4); On-site installation (A5) based on the actual construction data of the ZTT, there is 0.8%

product loss during ACSR construction process, product loss waste during construction process is collected for recycled.

3. B1-B7 Use process： According to the product hazardous substance monitoring report, the product does not contain toxic, harmful, volatile chemical substances, and the product will not emit pollutants into the environment during use. During the RSL (40 years) period, there will be no replacement and refurbishment during the use of the product, and there will be no consumption of water resources, so ACSR product is only relevant with B2,B3, and B6. Considering that the installation and operation is beyond the control of ZTT, for simplification purpose, assumption was made on the life cycle inventory (LCI) data and national gird maintenance regulations when setting scenario for stage B .

4. The End of life (C1-C4) stage includes following processes:

- De-construction, demolition (C1);
- Transport to waste processing (C2);
- Waste processing for reuse, recovery and/or recycling (C3)
- Disposal (C4).

For the waste scenario, De-construction (C1) during the disposal stage, according to “Metal Recycling Factsheet in EU , it is assumed that 90% of scrap metal can be collected, dismantled and recycled in EU . The waste management process energy consumption and pollutant emission data adopt the data in "Waste Resources and Waste Material Recycling and Processing Industry" in the "Manual of China's Industrial Pollution Source Production and Emission Coefficients".

5. D reuse and recycling potential process includes reuse, recovery and/or recycling potentials, expressed as net impacts and benefits. ACSR products are composed of aluminum wire and steel core, which can be 90% reused after being scrapped.

	Product stage			Construction process stage		Use stage							End of life stage				Resource recovery stage
	Raw material supply	Transport	Manufacturing	Transport	Construction installation	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	De-construction demolition	Transport	Waste processing	Disposal	Reuse-Recovery-Recycling-potential
Module	**A1**	**A2**	**A3**	**A4**	**A5**	**B1**	**B2**	**B3**	**B4**	**B5**	**B6**	**B7**	**C1**	**C2**	**C3**	**C4**	**D**
Modules declared	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	x
Geography	China	China	China	World	World	EU	EU	EU	EU	EU	EU	EU	EU	EU	EU	EU	EU
Specific data used	>90%					-	-	-	-	-	-	-	-	-	-	-	-
Variation – products	Worst-case product, resulting in the largest environmental impact per declared unit is ACSR 54-3.65+19-2.19. 56% variation in GWP-GHG between ACSR 54-3.65+19-2.19 and ACSR 26-3.44+7-2.68. 48% variation in GWP-GHG between ACSR 54-3.65+19-2.19. and ACSR 26-3.72+7-2.89 26% variation in GWP-GHG between ACSR 54-3.65+19-2.19. and ACSR 26-4.44+7-3.45 32% variation in GWP-GHG between ACSR 54-3.65+19-2.19. and ACSR 45-3.38+7-2.25 45% variation in GWP-GHG between ACSR 54-3.65+19-2.19. and ACSR 54-7-2.68 29% variation in GWP-GHG between ACSR 54-3.65+19-2.19. and ACSR 54-7-3.08					-	-	-	-	-	-	-	-	-	-	-	-
Variation – sites	Not relevent					-	-	-	-	-	-	-	-	-	-		

Excluded lifecycle stages:

According to NPCR and EN 15804, that processes and activities that do not contribute more than 1 % to the total environmental impact in some of the environmental impact categories can be left out. The following steps/stages were not included in the system boundary due to the reason:

- ZTT Production of infrastructure and capital equipment (buildings, machines etc.)
- The auxiliary materials in production such as: drawing oil, emulsion, grease consumption, because its quality rate is very small and lower than cut-off standard.
- Storage phases and sales of ACSR products due to no observable impact;
- Vehicle facilities in the life cycle of transportation such as: raw materials, manufacturing, maintenance, and disposal .

More information:

Data quality

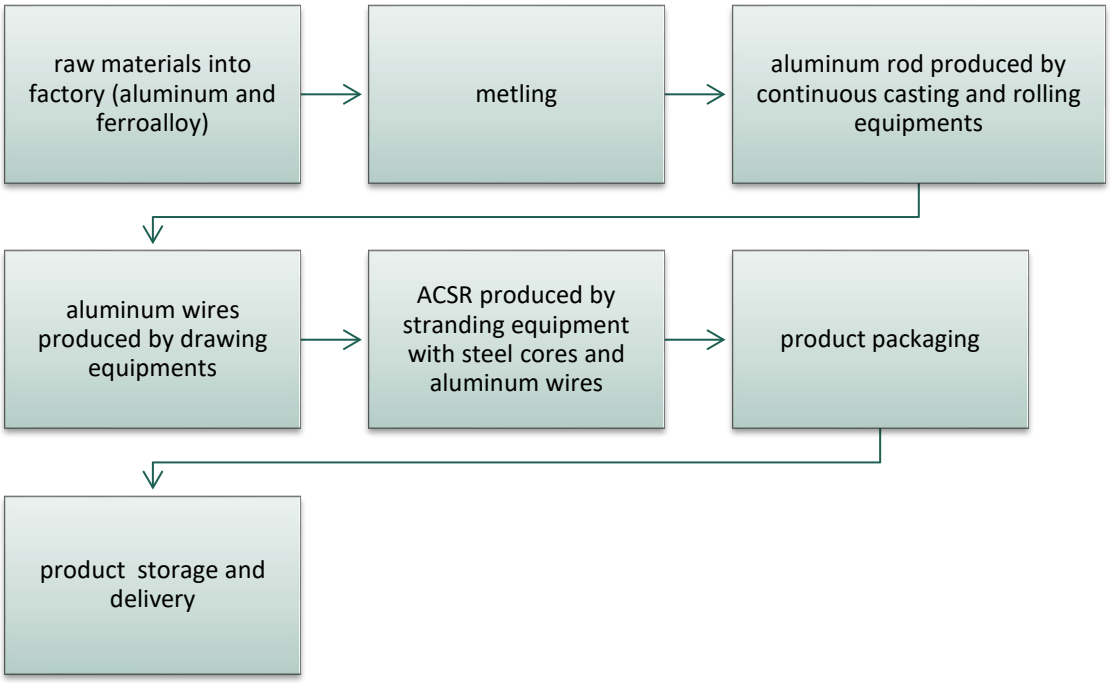
Inventory analysis was conducted using specific data from ZTT and it suppliers, relating to the year 2020 and to the production site of Nantong. The data refer to the consumption of raw materials and electricity, the production of the ACSR products, packages and environmental emission connected to it.

Selected generic data from China databases (CLCD) were used regarding the production processes of generation and distribution of electricity, means of transport and waste treatment processes related to the production in China.

Cut-off rules:

According to NPCR, that processes and activities that do not contribute more than 1 % to the total environmental impact in some of the environmental impact categories can be cut-off.

Production Process



Content declaration

Product Content

Content declaration of 1 m of ACSR 26-3.44+7-2.68 products

Product components	Weight, kg	weight-%
Aluminum alloy / Al & Fe	6.683E-01	68.4%
Steel core / Fe	3.087E-01	31.6%
Total	9.770E-01	100.0%
Packaging materials	**Weight, kg per uint**	**Weight-% (versus the product)**
steel	3.640E-02	3.7%
wood	4.510E-02	4.6%
paper	1.000E-03	0.1%
Total	8.250E-02	8.4%

Content declaration of 1 m of ACSR 26-3.72+7-2.89 products

Product components	Weight, kg	weight-%

Aluminum alloy / Al & Fe	7.799E-01	68.4%
Steel core / Fe	3.598E-01	31.6%
total	1.139E+00	100.0%
Packaging materials	**Weight, kg per uint**	**Weight-% (versus the product)**
steel	0.0425	3.7%
wood	3.893E-02	3.4%
paper	6.240E-04	0.1%
total	8.210E-02	7.2%

Content declaration of 1 m of ACSR 26-4.44+7-3.45 products

Product components	**Weight, kg**	**weight-%**
Aluminum alloy / Al & Fe	1.114E+00	68.5%
Steel core / Fe	5.140E-01	31.6%
total	1.627E+00	100.0%
Packaging materials	**Weight, kg per uint**	**Weight-% (versus the product)**
steel	7.250E-02	4.5%
wood	7.510E-02	4.6%
paper	1.370E-03	0.1%
total	1.490E-01	9.2%

Content declaration of 1 m of ACSR 45-3.38+7-2.25 products

Product components	**Weight, kg**	**weight-%**
Aluminum alloy / Al & Fe	1.115E+00	83.6%
Steel core / Fe	2.187E-01	16.4%
total	1.333E+00	100.0%
Packaging materials	**Weight, kg per uint**	**Weight-% (versus the product)**
steel	7.275E-02	5.5%
wood	6.046E-02	4.5%
paper	9.230E-03	0.7%
total	1.424E-01	10.7%

Content declaration of 1 m of ACSR 54-3.65+19-2.19 products

Product components	**Weight, kg**	**weight-%**
Aluminum alloy / Al & Fe	1.563E+00	73.6%
Steel core / Fe	5.605E-01	26.4%

total	2.123E+00	100.0%
Packaging materials	**Weight, kg per uint**	**Weight-% (versus the product)**
steel	1.133E-01	5.3%
wood	3.030E-02	1.4%
paper	1.500E-03	0.1%
total	1.451E-01	6.8%

Content declaration of 1 m of ACSR 54-7-2.68 products

Product components	Weight, kg	weight-%
Aluminum alloy / Al & Fe	8.427E-01	73.2%
Steel core / Fe	3.085E-01	26.8%
total	1.151E+00	100.0%
Packaging materials	**Weight, kg per uint**	**Weight-% (versus the product)**
steel	1.400E-01	12.2%
wood	5.450E-02	4.7%
paper	4.500E-03	0.4%
total	1.990E-01	17.3%

Content declaration of 1 m of ACSR 54-7-3.08 products

Product components	Weight, kg	weight-%
Aluminum alloy / Al & Fe	1.113E+00	73.2%
Steel core / Fe	4.075E-01	26.8%
total	1.521E+00	100.0%
Packaging materials	**Weight, kg per uint**	**Weight-% (versus the product)**
steel	5.525E-02	3.6%
wood	4.680E-02	3.1%
paper	1.310E-03	0.1%
total	1.034E-01	6.8%

According to the product monitoring report , There are no dangerous in the products that are listed in the “Candidate List of Substances of Very High Concern for Authorisation”.

Packaging

Distribution packaging: please refer to product content table above
Consumer packaging: please refer to product content table above

Recycled material

There are no recycled materials in ACSR product .

Environmental performance

Potential environmental impact indicator

Environmental impact indicator	Indicator Unit	Reference Criteria
Global warming potential- total	kg CO2 eq.	EN15804:2012
Global warming potential - biogenic	kg CO2 eq.	
Acidification potential AP	Kg SO2 eq.	
Eutrophication potential EP	kg PO43- eq.	
Photochemical oxidant formation potential POCP	kg ethylene-Eq	
Abiotic depletion potential – Elements ADP	kg Sb eq.	
Abiotic depletion potential – Fossil fuels ADP	MJ, net calorific value	
Depletion potential of the stratospheric ozone layer, ODP	kg CFC 11 eq	

Note : ODP and POCP use CML 2001 method to calculate environmental impact .

Potential environmental impact

Results per functional or declared unit of ACSR 26-3.44+7-2.68 in 100 years										
Indicator	**Unit**	**A1**	**A2**	**A3**	**A1-A3**	**A4**	**A5**	**B1-B7**	**C1-C4**	**D**
GWP-fossil	kg CO2 eq.	4.55E+01	1.27E-01	8.83E-01	4.65E+01	8.42E-01	9.33E-01	3.30E+03	1.50E-01	-3.43E+01
GWP-biogenic	kg CO2 eq.	2.50E-04	8.23E-07	5.15E-07	2.53E-04	5.50E-06	6.75E-06	3.83E+00	4.38E-06	-1.82E-04
GWP-total	kg CO2 eq.	4.55E+01	1.27E-01	8.83E-01	4.65E+01	8.42E-01	9.33E-01	3.33E+03	1.50E-01	-3.43E+01
ADP-minerals& metals*	kg Sb eq.	4.60E-04	4.30E-07	7.83E-07	4.60E-04	2.88E-06	3.55E-06	8.10E-03	1.23E-07	-3.78E-04
ADP-fossil*	MJ	9.33E+02	1.52E+01	1.72E+01	9.67E+02	1.02E+02	1.25E+02	1.46E+05	4.05E+00	-7.20E+02
EP	kg PO43- eq.	1.58E-02	4.60E-04	1.82E-04	1.64E-02	3.08E-03	2.39E-03	9.43E+00	2.17E-04	-1.22E-02
EP-marine	kg N-Eq	4.23E+01	1.17E-01	8.30E-01	4.33E+01	7.83E-01	8.00E-01	3.55E+03	1.47E-01	-3.18E+01
EP - freshwater	kg P-Eq	4.23E+01	1.17E-01	8.30E-01	4.33E+01	7.83E-01	8.00E-01	3.58E+03	1.47E-01	-3.18E+01
AP	kg SO_2 eq.	2.15E-01	2.55E-03	2.50E-03	2.20E-01	1.72E-02	1.41E-02	1.39E+01	6.34E-04	-1.68E-01

POCP	kg C2H4eq.	7.47E-03	2.88E-05	7.28E-05	7.57E-03	1.92E-04	1.91E-04	5.82E-01	7.91E-06	-5.23E-03
ODP	kg CFC 11 eq.	3.58E-07	1.08E-08	2.29E-09	3.70E-07	7.25E-08	8.92E-08	1.12E-04	2.81E-09	-2.90E-07

Results per functional or declared unit of ACSR 26-3.72+7-2.89 in 100 years										
Indicator	**Unit**	**A1**	**A2**	**A3**	**A1-A3**	**A4**	**A5**	**B1-B7**	**C1-C4**	**D**
GWP-fossil	kg CO2 eq.	5.30E+01	1.48E-01	1.03E+00	5.43E+01	9.75E-01	9.25E-01	3.88E+03	4.69E-01	-4.00E+01
GWP-biogenic	kg CO2 eq.	2.90E-04	9.58E-07	6.00E-07	2.93E-04	6.35E-06	6.75E-06	4.50E+00	7.15E-06	-2.12E-04
GWP-total	kg CO2 eq.	5.30E+01	1.48E-01	1.03E+00	5.43E+01	9.75E-01	9.25E-01	3.92E+03	4.69E-01	-4.00E+01
ADP-minerals&metals*	kg Sb eq.	5.38E-04	5.00E-07	9.17E-07	5.40E-04	3.30E-06	3.55E-06	9.55E-03	1.21E-06	-4.43E-04
ADP-fossil*	MJ	1.09E+03	1.77E+01	2.00E+01	1.13E+03	1.17E+02	1.25E+02	1.72E+05	4.23E+01	-8.42E+02
EP	kg PO43- eq.	1.83E-02	5.35E-04	2.12E-04	1.91E-02	3.53E-03	2.39E-03	1.11E+01	1.39E-03	-1.42E-02
EP-marine	kg N-Eq	4.93E+01	1.37E-01	9.67E-01	5.03E+01	9.00E-01	7.95E-01	4.18E+03	4.43E-01	-3.70E+01
EP - freshwater	kg P-Eq	4.93E+01	1.37E-01	9.67E-01	5.03E+01	9.00E-01	7.95E-01	4.18E+03	4.43E-01	-3.70E+01
AP	kg SO2 eq.	2.50E-01	2.98E-03	2.93E-03	2.58E-01	1.97E-02	1.41E-02	1.64E+01	7.09E-03	-1.96E-01
POCP	kg C2H4eq	8.75E-03	3.36E-05	8.56E-05	8.87E-03	2.22E-04	1.90E-04	6.83E-01	8.07E-05	-6.11E-03
ODP	kg CFC 11 eq.	4.18E-07	1.27E-08	2.68E-09	4.33E-07	8.33E-08	8.92E-08	1.32E-04	3.02E-08	-3.40E-07

Results per functional or declared unit of ACSR 26-4.44+7-3.45 in 100 years										
Indicator	**Unit**	**A1**	**A2**	**A3**	**A1-A3**	**A4**	**A5**	**B1-B7**	**C1-C4**	**D**
GWP-fossil	kg CO2 eq.	7.60E+01	2.11E-01	1.48E+00	7.78E+01	1.42E+00	9.92E-01	5.60E+03	6.23E-01	-5.70E+01
GWP-biogenic	kg CO2 eq.	4.18E-04	1.38E-06	8.58E-07	4.20E-04	9.25E-06	6.75E-06	6.50E+00	1.02E-05	-3.03E-04
GWP-total	kg CO2 eq.	7.60E+01	2.11E-01	1.48E+00	7.78E+01	1.42E+00	9.92E-01	5.61E+03	6.23E-01	-5.70E+01
ADP-minerals &metals*	kg Sb eq.	7.70E-04	7.15E-07	1.31E-06	7.73E-04	4.80E-06	3.58E-06	1.38E-02	1.73E-06	-6.33E-04
ADP-fossil*	MJ	1.57E+03	2.53E+01	2.85E+01	1.62E+03	1.70E+02	1.26E+02	2.48E+05	6.05E+01	-1.20E+03
EP	kg PO43- eq.	2.63E-02	7.65E-04	3.03E-04	2.73E-02	5.15E-03	2.42E-03	1.61E+01	1.99E-03	-2.03E-02
EP-marine	kg N-Eq	7.05E+01	1.95E-01	1.38E+00	7.20E+01	1.31E+00	8.20E-01	6.03E+03	5.85E-01	-5.28E+01

EP - freshwater	kg P-Eq	7.05E+01	1.95E-01	1.38E+00	7.20E+01	1.31E+00	8.20E-01	6.03E+03	5.85E-01	-5.28E+01
AP	AP (kg SO2 eq)	3.60E-01	4.28E-03	4.20E-03	3.68E-01	2.88E-02	1.42E-02	2.37E+01	1.01E-02	-2.80E-01
POCP	kg C2H4 eq	1.25E-02	4.81E-05	1.21E-04	1.27E-02	3.23E-04	2.02E-04	9.85E-01	1.15E-04	-8.71E-03
ODP	kg CFC 11 eq.	5.98E-07	1.82E-08	3.83E-09	6.20E-07	1.22E-07	8.92E-08	1.90E+00	4.32E-08	-4.85E-07

Results per functional or declared unit of ACSR 45-3.38+7-2.25 products in 100 years

Indicator	Unit	A1	A2	A3	A1-A3	A4	A5	B1-B7	C1-C4	D
GWP-fossil	kg CO2 eq.	7.00E+01	1.83E-01	1.21E+00	7.15E+01	1.18E+00	9.75E-01	5.73E+03	5.29E-01	-5.70E+01
GWP-biogenic	kg CO2 eq.	3.85E-04	1.19E-06	7.00E-07	3.88E-04	7.68E-06	6.75E-06	6.68E+00	8.36E-06	-3.03E-04
GWP-total	kg CO2 eq.	7.00E+01	1.83E-01	1.21E+00	7.15E+01	1.18E+00	9.75E-01	5.74E+03	5.29E-01	-5.70E+01
ADP-minerals &metals*	kg Sb eq.	7.48E-04	6.20E-07	1.07E-06	7.50E-04	4.00E-06	3.55E-06	1.41E-02	1.41E-06	-6.33E-04
ADP-fossil*	MJ	1.47E+03	2.19E+01	2.33E+01	1.51E+03	1.41E+02	1.26E+02	2.55E+05	4.94E+01	-1.20E+03
EP	kg PO43- eq.	2.47E-02	6.63E-04	2.48E-04	2.55E-02	4.28E-03	2.42E-03	1.64E+01	1.62E-03	-2.03E-02
EP-marine	kg N-Eq	6.50E+01	1.69E-01	1.13E+00	6.63E+01	1.09E+00	8.15E-01	6.18E+03	4.98E-01	-5.28E+01
EP - freshwater	kg P-Eq	6.50E+01	1.69E-01	1.13E+00	6.63E+01	1.09E+00	8.15E-01	6.18E+03	4.98E-01	-5.28E+01
AP	AP (kg SO2 eq)	3.38E-01	3.70E-03	3.43E-03	3.45E-01	2.38E-02	1.42E-02	2.43E+01	8.27E-03	-2.80E-01
POCP	kg C2H4 eq.	1.14E-02	4.18E-05	9.86E-05	1.15E-02	2.68E-04	1.98E-04	1.01E+00	9.41E-05	-8.71E-03
ODP	kg CFC 11 eq.	5.78E-07	1.57E-08	3.13E-09	5.98E-07	1.01E-07	8.92E-08	1.95E-04	3.53E-08	-4.85E-07

Results per functional or declared unit of ACSR 54-3.65+19-2.19 products in 100 years

Indicator	Unit	A1	A2	A3	A1-A3	A4	A5	B1-B7	C1-C4	D
GWP-fossil	kg CO2 eq.	1.03E+02	2.80E-01	1.92E+00	1.06E+02	1.81E+00	9.08E-01	8.20E+03	7.76E-01	-8.00E+01
GWP-biogenic	kg CO2 eq.	5.68E-04	1.83E-06	1.12E-06	5.70E-04	1.18E-05	6.75E-06	9.53E+00	1.33E-05	-4.25E-04
GWP-total	kg CO2 eq.	1.03E+02	2.80E-01	1.92E+00	1.06E+02	1.81E+00	9.08E-01	8.21E+03	7.76E-01	-8.00E+01
ADP-minerals&metals*	kg Sb eq.	1.07E-03	9.50E-07	1.70E-06	1.07E-03	6.15E-06	3.55E-06	2.02E-02	2.25E-06	-8.83E-04
ADP-fossil*	MJ	2.14E+03	3.38E+01	3.73E+01	2.21E+03	2.17E+02	1.25E+02	3.63E+05	7.87E+01	-1.68E+03

EP	kg PO43-eq.	3.60E-02	1.02E-03	3.95E-04	3.75E-02	6.58E-03	2.39E-03	2.35E+01	2.59E-03	-2.85E-02
EP-marine	kg N-Eq	9.58E+01	2.60E-01	1.80E+00	9.75E+01	1.68E+00	7.93E-01	8.83E+03	7.27E-01	-7.40E+01
EP - freshwater	kg P-Eq	9.58E+01	2.60E-01	1.80E+00	9.75E+01	1.68E+00	7.93E-01	8.83E+03	7.27E-01	-7.40E+01
AP	AP (kg SO2 eq)	4.93E-01	5.68E-03	5.45E-03	5.05E-01	3.65E-02	1.41E-02	3.48E+01	1.32E-02	-3.93E-01
POCP	kg C2H4 eq.	1.69E-02	6.41E-05	1.57E-04	1.71E-02	4.14E-04	1.90E-04	1.44E+00	1.50E-04	-1.22E-02
ODP	kg CFC 11 eq.	8.28E-07	2.41E-08	4.95E-09	8.58E-07	1.55E-07	8.92E-08	2.78E+00	5.62E-08	-6.80E-07

Results per functional or declared unit of ACSR 54-7-2.68 products in 100 years										
Indicator	**Unit**	**A1**	**A2**	**A3**	**A1-A3**	**A4**	**A5**	**B1-B7**	**C1-C4**	**D**
GWP-fossil	kg CO2 eq.	5.63E+01	1.52E-01	1.04E+00	5.75E+01	1.08E+00	9.58E-01	4.28E+03	4.72E-01	-4.30E+01
GWP-biogenic	kg CO2 eq.	3.10E-04	9.92E-07	6.05E-07	3.13E-04	7.03E-06	6.78E-06	4.95E+00	7.21E-06	-2.28E-04
GWP-total	kg CO2 eq.	5.63E+01	1.52E-01	1.04E+00	5.75E+01	1.08E+00	9.58E-01	4.28E+03	4.72E-01	-4.30E+01
ADP-minerals&metals*	kg Sb eq.	5.83E-04	5.15E-07	9.25E-07	5.85E-04	3.65E-06	3.55E-06	1.05E-02	1.22E-06	-4.78E-04
ADP-fossil*	MJ	1.17E+03	1.82E+01	2.02E+01	1.21E+03	1.29E+02	1.26E+02	1.89E+05	4.27E+01	-9.08E+02
EP	kg PO43-eq.	1.97E-02	5.50E-04	2.14E-04	2.04E-02	3.90E-03	2.42E-03	1.22E+01	1.41E-03	-1.53E-02
EP-marine	kg N-Eq	5.23E+01	1.41E-01	9.75E-01	5.33E+01	1.00E+00	8.10E-01	4.60E+03	4.46E-01	-4.00E+01
EP - freshwater	kg P-Eq	5.23E+01	1.41E-01	9.75E-01	5.33E+01	1.00E+00	8.10E-01	4.60E+03	4.46E-01	-4.00E+01
AP	AP (kg SO2 eq)	2.68E-01	3.08E-03	2.95E-03	2.75E-01	2.18E-02	1.42E-02	1.81E+01	7.15E-03	-2.12E-01
POCP	kg C2H4 eq.	9.38E-03	3.45E-05	8.54E-05	9.50E-03	2.45E-04	1.97E-04	7.51E-01	8.14E-05	-6.58E-03
ODP	kg CFC 11 eq.	4.53E-07	1.30E-08	2.70E-09	4.68E-07	9.25E-08	8.92E-08	1.45E+00	3.05E-08	-3.68E-07

Results per functional or declared unit of ACSR 54-7-3.08 products in 100 years										
Indicator	**Unit**	**A1**	**A2**	**A3**	**A1-A3**	**A4**	**A5**	**B1-B7**	**C1-C4**	**D**
GWP-fossil	kg CO2 eq.	7.38E+01	2.00E-01	1.38E+00	7.53E+01	1.29E+00	9.42E-01	5.70E+03	5.88E-01	-5.70E+01
GWP-biogenic	kg CO2 eq.	4.05E-04	1.30E-06	8.00E-07	4.08E-04	8.42E-06	6.75E-06	6.63E+00	9.53E-06	-3.03E-04
GWP-total	kg CO2 eq.	7.38E+01	2.00E-01	1.38E+00	7.53E+01	1.29E+00	9.42E-01	5.71E+03	5.88E-01	-5.70E+01

ADP-minerals&metals*	kg Sb eq.	7.60E-04	6.80E-07	1.22E-06	7.63E-04	4.40E-06	3.55E-06	1.40E-02	1.61E-06	-6.30E-04
ADP-fossil*	MJ	1.53E+03	2.39E+01	2.68E+01	1.58E+03	1.55E+02	1.25E+02	2.53E+05	5.64E+01	-1.20E+03
EP	kg PO43- eq.	2.55E-02	7.25E-04	2.83E-04	2.65E-02	4.70E-03	2.39E-03	1.63E+01	1.86E-03	-2.03E-02
EP-marine	kg N-Eq	6.83E+01	1.85E-01	1.29E+00	6.98E+01	1.20E+00	8.03E-01	6.13E+03	5.53E-01	-5.28E+01
EP - freshwater	kg P-Eq	6.83E+01	1.85E-01	1.29E+00	6.98E+01	1.20E+00	8.03E-01	6.13E+03	5.53E-01	-5.28E+01
AP	AP (kg SO2 eq)	3.50E-01	4.05E-03	3.90E-03	3.60E-01	2.63E-02	1.41E-02	2.42E+01	9.45E-03	-2.80E-01
POCP	kg C2H4 eq.	1.20E-02	4.55E-05	1.12E-04	1.22E-02	2.95E-04	1.94E-04	1.00E+00	1.08E-04	-8.71E-03
ODP	kg CFC 11 eq.	5.88E-07	1.72E-08	3.55E-09	6.08E-07	1.12E-07	8.92E-08	1.94E+00	4.03E-08	-4.85E-07

Use of resources，waste production and outflow

PERE = Use of renewable primary energy excluding renewable primary energy resources used as raw materials; PERM = Use of renewable primary energy resources used as raw materials; PERT = Total use of renewable primary energy resources; PENRE = Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials; PENRM = Use of non-renewable primary energy resources used as raw materials; PENRT = Total use of non-renewable primary energy re-sources; SM = Use of secondary material; RSF = Use of renewable secondary fuels; NRSF = Use of non-renewable secondary fuels; FW = Use of net fresh water
HW = Hazardous waste disposed; NHW = Non-hazardous waste disposed; RW = Radioactive waste disposed； REUSE = Components for reuse; RECYCLE =Materials for recycling; EN-REC = Materials for energy recovery; EE-EL = Exported energy, electricity; EE,TH = Exported energy, thermal

Results of use of resources, waste and outflow of 1 m of ACSR 26-3.44+7-2.68 products in 100 years

Indicator	Unit	A1	A2	A3	A1-A3	A4	A5	B1-B7	C1-C4	D
PERE	MJ	2.00E+01	2.88E-03	1.25E-01	2.02E+01	1.93E-02	2.63E-02	5.98E+03	3.21E-03	-1.57E+01
PERM	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
PERT	MJ	2.00E+01	2.88E-03	1.25E-01	2.02E+01	1.93E-02	2.63E-02	5.98E+03	3.21E-03	-1.57E+01
PENRE	MJ	5.23E+02	1.22E+00	9.50E+00	5.33E+02	8.13E+00	1.02E+01	7.70E+04	1.64E-01	-3.88E+02
PENRM	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
PENRT	MJ	5.23E+02	1.22E+00	9.50E+00	5.33E+02	8.13E+00	1.02E+01	7.70E+04	1.64E-01	-3.88E+02
SM	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RSF	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NRSF	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
FW	m3	1.93E-01	1.58E-04	1.60E-03	1.95E-01	1.06E-03	1.57E-03	2.60E+01	2.75E-05	-1.38E-01

Waste production	Unit	A1	A2	A3	A1-A3	A4	A5	B1-B7	C1-C4	D

HW	kg	5.55E-05	1.19E-07	7.38E-07	5.63E-05	7.95E-07	9.75E-07	1.87E-06	1.13E-08	-1.07E-06
NHW	kg	9.83E+01	7.20E-04	1.19E-01	9.83E+01	4.83E-03	1.63E-02	1.27E-02	1.24E-03	-8.10E+01
RW	kg	2.33E-01	3.68E-07	2.08E-02	2.53E-01	2.46E-06	1.44E-04	3.38E+00	1.35E-05	-1.22E-03

outflow	unit	A1	A2	A3	A4	A5	B1-B7	C1-C4	D
reuse	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
recyle	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.20E+00
EN-REC	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
EE-EL	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
EE-TH	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Results of use of resources, waste and outflow of 1 m of ACSR 26-3.72+7-2.89 products in 100 years

Indicator	Unit	A1	A2	A3	A1-A3	A4	A5	B1-B7	C1-C4	D
PERE	MJ	2.30E+01	3.35E-03	1.46E-01	2.32E+01	2.22E-02	2.58E-02	7.05E+03	6.60E-03	-1.83E+01
PERM	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
PERT	MJ	2.30E+01	3.35E-03	1.46E-01	2.32E+01	2.22E-02	2.58E-02	7.05E+03	6.60E-03	-1.83E+01
PENRE	MJ	6.10E+02	1.42E+00	1.11E+01	6.23E+02	9.33E+00	1.02E+01	9.08E+04	1.40E+00	-4.53E+02
PENRM	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
PENRT	MJ	6.10E+02	1.42E+00	1.11E+01	6.23E+02	9.33E+00	1.02E+01	9.08E+04	1.40E+00	-4.53E+02
SM	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RSF	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NRSF	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
FW	m3	2.25E-01	1.84E-04	1.87E-03	2.28E-01	1.22E-03	1.53E-03	3.08E+01	1.89E-04	-1.62E-01

Waste production	Unit	A1	A2	A3	A1-A3	A4	A5	B1-B7	C1-C4	D
HW	kg	2.16E-05	4.63E-08	2.88E-07	2.19E-05	3.06E-07	3.25E-07	1.87E-06	1.31E-07	-4.16E-07
NHW	kg	3.81E+01	2.80E-04	4.63E-02	3.82E+01	1.85E-03	4.95E-03	1.27E-02	2.16E-03	-3.15E+01
RW	kg	9.08E-02	1.43E-07	6.76E-06	9.08E-02	9.42E-07	4.18E-05	3.98E+00	1.72E-05	-4.73E-04

outflow	unit	A1	A2	A3	A4	A5	B1-B7	C1-C4	D
reuse	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
recyle	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.58E+00
EN-REC	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
EE-EL	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
EE-TH	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Results of use of resources, waste and outflow of 1 m of ACSR 26-4.44+7-3.45 products in 100 years

Indicator	Unit	A1	A2	A3	A1-A3	A4	A5	B1-B7	C1-C4	D
PERE	MJ	3.35E+01	4.80E-03	2.08E-01	3.38E+01	3.23E-02	2.80E-02	1.02E+04	9.42E-03	-2.63E+01
PERM	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
PERT	MJ	3.35E+01	4.80E-03	2.08E-01	3.38E+01	3.23E-02	2.80E-02	1.02E+04	9.42E-03	-2.63E+01
PENRE	MJ	8.75E+02	2.03E+00	1.58E+01	8.92E+02	1.36E+01	1.03E+01	1.31E+05	2.00E+00	-6.45E+02
PENRM	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
PENRT	MJ	8.75E+02	2.03E+00	1.58E+01	8.92E+02	1.36E+01	1.03E+01	1.31E+05	2.00E+00	-6.45E+02
SM	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RSF	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NRSF	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
FW	m3	3.23E-01	2.63E-04	2.68E-03	3.25E-01	1.77E-03	1.74E-03	4.43E+01	2.70E-04	-2.31E-01

Waste production	Unit	A1	A2	A3	A1-A3	A4	A5	B1-B7	C1-C4	D
HW	kg	9.25E-05	1.99E-07	1.23E-06	9.42E-05	1.33E-06	9.75E-07	1.87E-06	1.88E-07	-1.78E-06
NHW	kg	1.63E+02	1.20E-03	1.98E-01	1.64E+02	8.08E-03	2.33E-02	1.27E-02	3.09E-03	-1.35E+02
RW	kg	3.90E-01	6.15E-07	2.37E-05	3.90E-01	4.13E-06	2.32E-04	5.75E+00	2.46E-05	-2.03E-03

outflow	unit	A1	A2	A3	A4	A5	B1-B7	C1-C4	D
reuse	**kg**	**0.00E+00**	**0.00E+00**	**0.00E+00**	**0.00E+00**	**0.00E+00**	**0.00E+00**	**0.00E+00**	**0.00E+00**
recyle	**kg**	**0.00E+00**	**0.00E+00**	**0.00E+00**	**0.00E+00**	**0.00E+00**	**0.00E+00**	**0.00E+00**	**3.68E+00**
EN-REC	**MJ**	**0.00E+00**	**0.00E+00**	**0.00E+00**	**0.00E+00**	**0.00E+00**	**0.00E+00**	**0.00E+00**	**0.00E+00**
EE-EL	**MJ**	**0.00E+00**	**0.00E+00**	**0.00E+00**	**0.00E+00**	**0.00E+00**	**0.00E+00**	**0.00E+00**	**0.00E+00**
EE-TH	**MJ**	**0.00E+00**	**0.00E+00**	**0.00E+00**	**0.00E+00**	**0.00E+00**	**0.00E+00**	**0.00E+00**	**0.00E+00**

Results of use of resources, waste and outflow of 1 m of ACSR 45-3.38+7-2.25 products in 100 years

Indicator	Unit	A1	A2	A3	A1-A3	A4	A5	B1-B7	C1-C4	D
PERE	MJ	3.28E+01	4.15E-03	1.70E-01	3.30E+01	2.68E-02	2.68E-02	1.04E+04	7.70E-03	-2.63E+01
PERM	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
PERT	MJ	3.28E+01	4.15E-03	1.70E-01	3.30E+01	2.68E-02	2.68E-02	1.04E+04	7.70E-03	-2.63E+01
PENRE	MJ	8.00E+02	1.76E+00	1.29E+01	8.15E+02	1.13E+01	1.02E+01	1.34E+05	1.63E+00	-6.45E+02
PENRM	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
PENRT	MJ	8.00E+02	1.76E+00	1.29E+01	8.15E+02	1.13E+01	1.02E+01	1.34E+05	1.63E+00	-6.45E+02
SM	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RSF	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NRSF	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
FW	m3	2.93E-01	2.28E-04	2.18E-03	2.95E-01	1.47E-03	1.69E-03	4.53E+01	2.20E-04	-2.31E-01

Waste production	Unit	A1	A2	A3	A1-A3	A4	A5	B1-B7	C1-C4	D

HW	kg	9.08E-05	1.72E-07	1.01E-06	9.25E-05	1.11E-06	9.75E-07	1.87E-06	1.53E-07	-1.78E-06
NHW	kg	1.59E+02	1.04E-03	1.62E-01	1.59E+02	6.70E-03	2.19E-02	1.27E-02	2.53E-03	-1.35E+02
RW	kg	3.85E-01	5.30E-07	3.38E-05	3.85E-01	3.43E-06	2.03E-04	5.88E+00	2.01E-05	-2.03E-03

outflow	unit	A1	A2	A3	A4	A5	B1-B7	C1-C4	D
reuse	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
recyle	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.00E+00
EN-REC	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
EE-EL	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
EE-TH	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Results of use of resources, waste and outflow of 1 m of ACSR 54-3.65+19-2.19 products in 100 years

Indicator	Unit	A1	A2	A3	A1-A3	A4	A5	B1-B7	C1-C4	D
PERE	MJ	4.45E+01	6.38E-03	2.70E-01	4.48E+01	4.10E-02	2.53E-02	1.49E+04	1.23E-02	-3.68E+01
PERM	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
PERT	MJ	4.45E+01	6.38E-03	2.70E-01	4.48E+01	4.10E-02	2.53E-02	1.49E+04	1.23E-02	-3.68E+01
PENRE	MJ	1.18E+03	2.70E+00	2.06E+01	1.21E+03	1.74E+01	1.02E+01	1.92E+05	2.60E+00	-9.08E+02
PENRM	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
PENRT	MJ	1.18E+03	2.70E+00	2.06E+01	1.21E+03	1.74E+01	1.02E+01	1.92E+05	2.60E+00	-9.08E+02
SM	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RSF	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NRSF	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
FW	m3	4.35E-01	3.50E-04	3.48E-03	4.40E-01	2.26E-03	1.48E-03	6.50E+01	3.51E-04	-3.25E-01

Waste production	Unit	A1	A2	A3	A1-A3	A4	A5	B1-B7	C1-C4	D
HW	kg	1.29E-04	2.65E-07	1.60E-06	1.31E-04	1.70E-06	9.75E-07	1.87E-06	2.44E-07	-2.50E-06
NHW	kg	2.27E+02	1.60E-03	2.58E-01	2.28E+02	1.03E-02	1.32E-02	1.27E-02	4.03E-03	-1.89E+02
RW	kg	5.40E-01	8.18E-07	2.75E-05	5.40E-01	5.28E-06	1.03E-04	8.43E+00	3.20E-05	-2.83E-03

outflow	unit	A1	A2	A3	A4	A5	B1-B7	C1-C4	D
reuse	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
recyle	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.78E+00
EN-REC	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
EE-EL	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
EE-TH	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Results of use of resources, waste and outflow of 1 m of ACSR 54-7-2.68 products in 100 years

Indicator	Unit	A1	A2	A3	A1-A3	A4	A5	B1-B7	C1-C4	D
PERE	MJ	2.53E+01	3.45E-03	1.47E-01	2.55E+01	2.45E-02	2.68E-02	7.73E+03	6.65E-03	-1.98E+01
PERM	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
PERT	MJ	2.53E+01	3.45E-03	1.47E-01	2.55E+01	2.45E-02	2.68E-02	7.73E+03	6.65E-03	-1.98E+01
PENRE	MJ	6.50E+02	1.46E+00	1.12E+01	6.63E+02	1.03E+01	1.02E+01	9.98E+04	1.41E+00	-4.88E+02
PENRM	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
PENRT	MJ	6.50E+02	1.46E+00	1.12E+01	6.63E+02	1.03E+01	1.02E+01	9.98E+04	1.41E+00	-4.88E+02
SM	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RSF	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NRSF	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
FW	m3	2.40E-01	1.89E-04	1.89E-03	2.43E-01	1.34E-03	1.64E-03	3.38E+01	1.91E-04	-1.74E-01

Waste production	Unit	A1	A2	A3	A1-A3	A4	A5	B1-B7	C1-C4	D
HW	kg	7.00E-05	1.43E-07	8.67E-07	7.10E-05	1.02E-06	9.75E-07	1.871E-06	1.32E-07	-1.34E-06
NHW	kg	1.23E+02	8.67E-04	1.40E-01	1.24E+02	6.13E-03	1.94E-02	1.27E-02	2.18E-03	-1.02E+02
RW	kg	2.95E-01	4.43E-07	4.40E-05	2.95E-01	3.13E-06	1.78E-04	4.38E+00	1.73E-05	-1.53E-03

outflow	unit	A1	A2	A3	A4	A5	B1-B7	C1-C4	D
reuse	**kg**	**0.00E+00**	**0.00E+00**	**0.00E+00**	**0.00E+00**	**0.00E+00**	**0.00E+00**	**0.00E+00**	**0.00E+00**
recyle	**kg**	**0.00E+00**	**0.00E+00**	**0.00E+00**	**0.00E+00**	**0.00E+00**	**0.00E+00**	**0.00E+00**	**2.60E+00**
EN-REC	**MJ**	**0.00E+00**	**0.00E+00**	**0.00E+00**	**0.00E+00**	**0.00E+00**	**0.00E+00**	**0.00E+00**	**0.00E+00**
EE-EL	**MJ**	**0.00E+00**	**0.00E+00**	**0.00E+00**	**0.00E+00**	**0.00E+00**	**0.00E+00**	**0.00E+00**	**0.00E+00**
EE-TH	**MJ**	**0.00E+00**	**0.00E+00**	**0.00E+00**	**0.00E+00**	**0.00E+00**	**0.00E+00**	**0.00E+00**	**0.00E+00**

Results of use of resources, waste and outflow of 1 m of ACSR 54-7-3.08 products in 100 years

Indicator	Unit	A1	A2	A3	A1-A3	A4	A5	B1-B7	C1-C4	D
PERE	MJ	3.23E+01	4.55E-03	1.94E-01	3.25E+01	2.95E-02	2.63E-02	1.04E+04	8.80E-03	-2.63E+01
PERM	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
PERT	MJ	3.23E+01	4.55E-03	1.94E-01	3.25E+01	2.95E-02	2.63E-02	1.04E+04	8.80E-03	-2.63E+01
PENRE	MJ	8.42E+02	1.92E+00	1.48E+01	8.67E+02	1.24E+01	1.02E+01	1.33E+05	1.86E+00	-6.45E+02
PENRM	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
PENRT	MJ	8.42E+02	1.92E+00	1.48E+01	8.67E+02	1.24E+01	1.02E+01	1.33E+05	1.86E+00	-6.45E+02
SM	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RSF	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NRSF	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
FW	m3	3.10E-01	2.50E-04	2.49E-03	3.13E-01	1.62E-03	1.58E-03	4.50E+01	2.52E-04	-2.31E-01

Waste production	Unit	A1	A2	A3	A1-A3	A4	A5	B1-B7	C1-C4	D
HW	kg	9.17E-05	1.88E-07	1.15E-06	9.33E-05	1.22E-06	9.75E-07	1.87E-06	1.75E-07	-1.78E-06
NHW	kg	1.62E+02	1.14E-03	1.85E-01	1.62E+02	7.38E-03	1.68E-02	1.27E-01	2.89E-03	-1.35E+02
RW	kg	3.85E-01	5.83E-07	2.38E-05	3.85E-01	3.78E-06	1.49E-04	5.85E+00	2.29E-05	-2.03E-03

outflow	unit	A1	A2	A3	A4	A5	B1-B7	C1-C4	D
reuse	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
recyle	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.43E+00
EN-REC	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
EE-EL	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
EE-TH	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Information on biogenic carbon content

Results per functional or declared unit in 100 years		
BIOGENIC CARBON CONTENT	Unit	QUANTITY
Biogenic carbon content in product ACSR 26-3.44+7-2.68	kg C	0.00E+00
Biogenic carbon content in packaging of ACSR 26-3.44+7-2.68	kg C	4.74E-02
Biogenic carbon content in product ACSR 26-3.72+7-2.89	kg C	0.00E+00
Biogenic carbon content in packaging of ACSR 26-3.72+7-2.89	kg C	4.09E-02
Biogenic carbon content in product ACSR 26-4.44+7-3.45	kg C	0.00E+00
Biogenic carbon content in packaging of ACSR 26-4.44+7-3.45	kg C	7.89E-02
Biogenic carbon content in product ACSR 45-3.38+7-2.25	kg C	0.00E+00
Biogenic carbon content in packaging of ACSR 45-3.38+7-2.25	kg C	6.35E-02
Biogenic carbon content in product ACSR 54-3.65+19-2.19	kg C	0.00E+00
Biogenic carbon content in packaging of ACSR 54-3.65+19-2.19	kg C	3.18E-02
Biogenic carbon content in product ACSR 54-7-2.68	kg C	0.00E+00
Biogenic carbon content in packaging of ACSR 54-7-2.68	kg C	5.73E-02
Biogenic carbon content in product ACSR 54-7-3.08	kg C	0.00E+00
Biogenic carbon content in packaging of ACSR 54-7-3.08	kg C	4.92E-02

Note: according to BS EN 16449:2014, 1 kg wood is equivalent to 0.5 biogenic carbon

Additional information

Since ISO 9001:2015 and ISO 14001 certified, the company offers a wide range of products that ensure quality, reliability and compliance with market standards. ACSR products also play a very important role in Power transmission.
ACSR products can be used normally after it is laid out. During the use, the inspection and maintenance should refer to local standard or China Electric Power Industry Standard DL/T 741-2019. The key components of ACSR are galvanized steel core and aluminum monofilament. The galvanized steel core is related to the durability of the product. The key indicators are tensile strength, torsion, winding, elongation, zinc layer weight, zinc Layer continuity, zinc layer adhesion. The key indicators of aluminum monofilament related to product durability are tensile strength, elongation, and winding.
NO hazardous substances are released into air, soil and water during the use phase.

References

1. ISO 14040:2006 Environmental management – Life cycle assessment - Principles and Framework
2. ISO 14044:2006 Environmental management – Life cycle assessment – Requirements and provides guidelines for life cycle assessment (LCA)
3. General Programme Instructions for Environmental Product Declarations
4. PCR 2019:14 Construction products; version 1.0 valid until 2024.12.20
5. NPCR 027 – Part B for electrical cables and wires, version 1.0 valid to 10.02.2025
6. Construction products and construction services 2012:01 version 2.34
7. ISO21930 :2017 Sustainability in buildings and civil engineering works — Core rules for environmental product declarations of construction products and services

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