

ROLLING STOCK

PRODUCT CATEGORY CLASSIFICATION: UN CPC 495

SPD-PCR 2023:01

VERSION 1.0.0

VALID UNTIL 2027-10-30



ROLLING STOCK

PRODUCT CATEGORY CLASSIFICATION: UN CPC 495

TABLE OF CONTENTS

Note to reader	3
1 Introduction	4
2 General information	5
2.1 Administrative information	5
2.2 Scope of PCR.....	5
3 PCR review and background information.....	7
3.1 Open consultation	7
3.2 PCR review	7
3.3 Reasoning for development of PCR.....	7
3.4 Underlying studies used for PCR development.....	7
4 Goal and scope, life cycle inventory and life cycle impact assessment	8
4.1 Stakeholders categories and subcategories to consider in the Social LCA	8
4.2 Functional unit	9
4.3 System boundary	9
4.4 Life-cycle inventory.....	11
4.5 Cut-off rules.....	13
4.6 Data quality requirements.....	13
4.7 Examples of databases for generic data.....	14
4.8 Impact categories and impact assessment	14
5 Content and format of SPD.....	16
5.1 SPD languages	16
5.2 Units and quantities	16
5.3 Use of images in SPD	17
5.4 SPD reporting format.....	17
6 List of abbreviations.....	22
7 References.....	23
8 Version history of PCR	24
Annex 1: Example of questionnaire to use in collecting data from suppliers	25
Annex 2: Examples of LCI indicators for assessing Social performance	29

ROLLING STOCK

PRODUCT CATEGORY CLASSIFICATION: UN CPC 495

NOTE TO READER

These Product Category Rules (PCR) were developed in a pilot study exploring the feasibility of Social Product Declarations (SPDs). SPDs are similar to Environmental Product Declarations (EPDs) but cover aspects of social sustainability instead of environmental sustainability. The pilot study is a first step in testing the feasibility of SPDs. Apart from publication of this SPD-PCR, the pilot study includes the registration and publication of SPDs, verified to this PCR document.

Please contact the Secretariat of the International EPD System if you are interested in developing an SPD, an SPD-PCR, or have any questions about SPD. Find contact information or read more about SPDs here: <https://www.environdec.com/spd>

ROLLING STOCK

PRODUCT CATEGORY CLASSIFICATION: UN CPC 495

1 INTRODUCTION

This document constitutes Product Category Rules (PCR) for Social Product Declarations (SPDs). SPDs are voluntary documents for an organisation to present transparent, consistent and verified information about the social sustainability performance of their products (goods or services). A PCR should enable different practitioners using the PCR to generate consistent results when assessing products of the same product category.

The rules for the overall administration and operation of the programme are the General Programme Instructions (GPI), publicly available at www.environdedec.com.

Within the present PCR, the following terminology is adopted:

- The term “shall” is used to indicate what is obligatory, i.e. a requirement.
- The term “should” is used to indicate a recommendation, rather than a requirement. Any deviation from a recommendation shall be justified in the EPD development process.
- The terms “may” or “can” is used to indicate an option that is permissible.

For definitions of further terms used in the document, see the normative standards.

A PCR is valid for a pre-determined period of time to ensure that it is updated at regular intervals. The latest version of the PCR is available at www.environdedec.com. Stakeholder feedback on PCRs is very much encouraged. Any comments on this PCR may be sent directly to the PCR Moderator and/or the Secretariat during its development or during its period of validity.

Any references to this document shall include the PCR registration number, name and version.


The programme operator maintains the copyright of the document to ensure that it is possible to publish, update, and make it available to all organisations to develop and register SPDs. Stakeholders participating in PCR development should be acknowledged in the final document and on the website.

ROLLING STOCK

PRODUCT CATEGORY CLASSIFICATION: UN CPC 495

2 GENERAL INFORMATION

2.1 ADMINISTRATIVE INFORMATION

Name:	Rolling stock
Registration number and version:	SPD-PCR 2023:01, version 1.0.0
Programme:	 The International EPD System
Programme operator:	EPD International AB, Box 210 60, SE-100 31 Stockholm, Sweden. Website: www.environdec.com E-mail: info@environdec.com
PCR Moderator:	Marzia Traverso Circular srl and RWTH Aachen, marzia.traverso@inab.rwth-aachen.de
PCR Committee:	Marzia Traverso, Circular srl and RWTH Aachen, and Davide Bonaffini, Hitachi Rail
Date of publication and last revision:	2023-10-30
Valid until:	2027-10-30
Schedule for renewal:	<p>A PCR is valid for a pre-determined time period to ensure that it is updated at regular intervals. When the PCR is about to expire, the PCR Moderator shall initiate a discussion with the Secretariat on how to proceed with updating the PCR and renewing its validity.</p> <p>A PCR may also be updated without prolonging its period of validity, provided significant and well-justified proposals for changes or amendments are presented.</p> <p>See www.environdec.com for the latest version of the PCR.</p> <p>When there has been an update of the PCR, the new version should be used to develop EPDs. The old version may however be used for 90 days after the publication date of the new version, as long as the old version has not expired.</p>
Standards conformance:	General Programme Instructions of the International EPD System, version 4.0, based on ISO 14025 and ISO 14040/14044
PCR language(s):	At the time of publication, this PCR was available in English. If the PCR is available in several languages, these are available at www.environdec.com . In case of translated versions, the English version takes precedence in case of any discrepancies.

2.2 SCOPE OF PCR

2.2.1 PRODUCT CATEGORY DEFINITION AND DESCRIPTION

This document provides Product Category Rules (PCR) for the assessment of the social sustainability performance of rolling stock and the declaration of this performance by a Social Product Declaration (SPD). The product category corresponds to UN CPC 495 Rolling stock.

ROLLING STOCK

PRODUCT CATEGORY CLASSIFICATION: UN CPC 495

This PCR is applicable for all rolling stock, including locomotives, freight and passenger carriage types of rolling stock, see examples in Table 1.

Table 1. Examples of types of rolling stock covered by this PCR. The list is non-exhaustive.

	CHARACTERISTICS	UTILIZED VEHICLES
A. Passengers service types		
Urban	<ul style="list-style-type: none"> - Inner city - Very short distance between stations - High passenger capacity 	<ul style="list-style-type: none"> - Totally low or partially low floor tramways - Light rail vehicles - Heavy rail vehicles - Metros - People movers
Suburban	<ul style="list-style-type: none"> - Mainline service - Short distance between stations - High train frequency - High passenger capacity - Short term on-board time 	<ul style="list-style-type: none"> - Heavy rail vehicles - Single- and double-deck electric multiple units - Hybrid vehicles such as tram-trains
Regional	<ul style="list-style-type: none"> - Mainline service - Medium to long distance between stations - Average train frequency - Average number of passengers 	<ul style="list-style-type: none"> - Single- and double-deck electric multiple units - Electric/diesel locomotives with single- and double-deck passenger coaches - Diesel multiple units for non-electrified lines - Coaches
Intercity	<ul style="list-style-type: none"> - Mainline service - Medium to long distance between stations - Direct city-to-city connections 	<ul style="list-style-type: none"> - Single- and double-deck electric multiple units - Electric/diesel locomotives with single- and double-deck passenger coaches - High performance diesel multiple units for non-electrified lines - Coaches
High / Very high speed	<ul style="list-style-type: none"> - Mainline service - Medium to long distance between stations - Direct main city connections 	<ul style="list-style-type: none"> - Single- and double-deck electric multiple units, specialized for high-speed service
B. Freight service types		
Mainline	<ul style="list-style-type: none"> - Mainline service - Long distance between stops 	<ul style="list-style-type: none"> - Electric/diesel locomotives and goods wagons in different typologies depending on the cargo

2.2.2 SPD VALIDITY

An SPD based on this PCR shall be valid for a 5-year period starting from the date of the verification report ("approval date"), or until the SPD has been de-registered from the International EPD System.

An SPD shall be updated and re-verified during its validity if changes in technology or other circumstances have led to:

- An increase of 10% or more of any of the declared quantitative indicators of social impact.
- When more than 5% of the number of declared qualitative indicators of social impact have changed their value in positive and/or negative direction, or one of the indicators has changed its value to very bad performance (-2).
- Errors in the declared information.
- Significant changes to the declared product information or content declaration.

If such changes have occurred, but the SPD is not updated, the SPD owner shall contact the Secretariat to de-register the SPD.

ROLLING STOCK

PRODUCT CATEGORY CLASSIFICATION: UN CPC 495

3 PCR REVIEW AND BACKGROUND INFORMATION

This PCR was developed in accordance with the PCR development process described in the GPI of the International EPD System, including open consultation and review.

3.1 OPEN CONSULTATION

3.1.1 VERSION 1.0

This PCR was available for open consultation from 2022-11-08 until 2023-01-07, during which any stakeholder was able to provide comments by contacting the PCR Moderator and/or the Secretariat.

Stakeholders were invited via e-mail or other means to take part in the open consultation and were encouraged to forward the invitation to other relevant stakeholders. No stakeholders provided comments during the open consultation and agreed to be listed as contributors in the PCR and at www.environdec.com.

3.2 PCR REVIEW

3.2.1 VERSION 1.0.0

PCR review panel:	The Technical Committee of the International EPD System. A full list of members is available at www.environdec.com . The review panel may be contacted via info@environdec.com . Members of the Technical Committee were requested to state any potential conflict of interest with the PCR Committee, and if there were conflicts of interest they were excused from the review.
Chairs of the PCR review:	Maurizio Fieschi and Claudia Peña
Review dates:	2023-03-27 until 2023-05-16

3.3 REASONING FOR DEVELOPMENT OF PCR

According to the chapter on communication of the Guidelines for Social Life Cycle Assessment (UNEP 2020) and a white paper on communicating products' social impacts (UNEP 2018), SPD with its characteristics (third-party verification, based on a PCR, etc.), has been identified as one of the best ways to communicate the social sustainability performance of products.

This PCR was developed to enable publication of SPDs for this product category (rolling stock) based on ISO 14040/14044 (ISO 2020a, 2020b) and, in the future, ISO 14075 Environmental management – Principles and framework for social life cycle assessment (ISO 2023). When ISO 14075 is published, the PCR will, if necessary, be updated to adapt to the rules established by the standard.

The PCR enables different practitioners to generate consistent results when assessing the social impact of products of the same product category, and thereby it supports comparability of products within a product category.

3.4 UNDERLYING STUDIES USED FOR PCR DEVELOPMENT

The methodological choices made during the development of this PCR (functional unit/declared unit, system boundary, impact categories, data quality rules, etc.) were based on UNEP (2020), UNEP (2021) and an S-LCA of the HMU hybrid regional train called Blues (Hitachi Rail 2023). The structure of this PCR is in accordance with the current scientific state of the art of the S-LCA methodology.

ROLLING STOCK

PRODUCT CATEGORY CLASSIFICATION: UN CPC 495

4 GOAL AND SCOPE, LIFE CYCLE INVENTORY AND LIFE CYCLE IMPACT ASSESSMENT

This section provides specific rules and guidelines for developing an SPD for the product category as defined in Section 2.2.1. In the goal and scope definition, stakeholder categories, subcategories, functional unit, system boundaries, type of data, reference scale, and life cycle impact assessment method shall be defined to make the study and the report comparable.

4.1 STAKEHOLDERS CATEGORIES AND SUBCATEGORIES TO CONSIDER IN THE SOCIAL LCA

The main stakeholder categories to consider are:

- **Workers.** In this case workers are defined as personnel working both in the extraction and processing stages of raw materials at the construction of the train and the use of the train.
Local community. Communities and organizations may share the use of material resources (natural and man-made) and have a mutual interest in protecting and enhancing the quantity and quality of local resources and infrastructure.
- **Users.** Users are all passengers of a train.

The subcategories (taken from UNEP (2020)) which shall or may be considered are reported in the following paragraphs.

For the stakeholder category **workers**, the following subcategories shall be considered:

- Health and safety
- Wages
- Social benefits
- Working conditions
- Discrimination
- Freedom of association and collective bargaining

For the stakeholder category **workers**, the following subcategories may be considered:

- Training and education
- Job satisfaction and involvement

For the stakeholder category **local community**, the following subcategory shall be considered:

- Local employment

For the stakeholder category **local community**, the following subcategories may be considered:

- Cultural heritage and land rights (presence of indigenous population in the area, involvement of local authorities/population in business decision-making processes, loss of space used for recreational activities)
- Poverty (activities proposed by the company to reduce poverty)

If the stakeholder category **users** is included (the use stage is optional to include, see Section 4.3), the following subcategories shall be assessed:

- Health and safety
- Feedback mechanisms
- Consumers privacy
- Transparency for consumers

4.2 FUNCTIONAL UNIT

The functional unit (FU) is the transport of **1 passenger per km or 1 tonne of cargo per km**¹ depending on whether the function of the train is transportation of passengers and/or cargo.

The characteristics of the train (e.g., electric or hybrid, for passengers or cargo), its average annual distance of km, and its number of years of use shall be described in direct connection to the description of the FU.

The chosen FU is mainly used to identify the system boundary, unit processes, the relevant material and energy flows, and stakeholders, which are the basis for the S-LCA. However, the results obtained from the social impact assessment do not depend on the FU, because the results are reported with a rating scale even if the value of the inventory are quantitative.

4.3 SYSTEM BOUNDARY

The system boundaries determine the parts of the product system that shall be included in the S-LCA. The boundaries of the system shall be consistent and relevant in relation to the objective of the study. They should be defined according to a life cycle logic, which includes all the processes of the upstream stage (i.e., processes related to raw materials, purchase of goods and services by the company) to downstream processes (i.e., related to distribution, use, and end of life of the product) that are needed to fulfil the functional unit. SPDs based on this PCR shall include all relevant processes of the upstream and core, and may include downstream stages up to the use and end-of-life of the rolling stock. The use and end-of-life stages of the rolling stock are not mandatory because they extend over a long period of time and therefore it may, for the developer/manufacturer of the rolling stock, be difficult to track/forecast the social impacts of these stages.

Figure 1 shows the main process of each life-cycle stage.

The social impacts are strongly related on the behavior of the companies and local conditions, so it is not enough to know the technology uses in the process to assess the impact (as is the case for environmental impacts declared in an EPD).

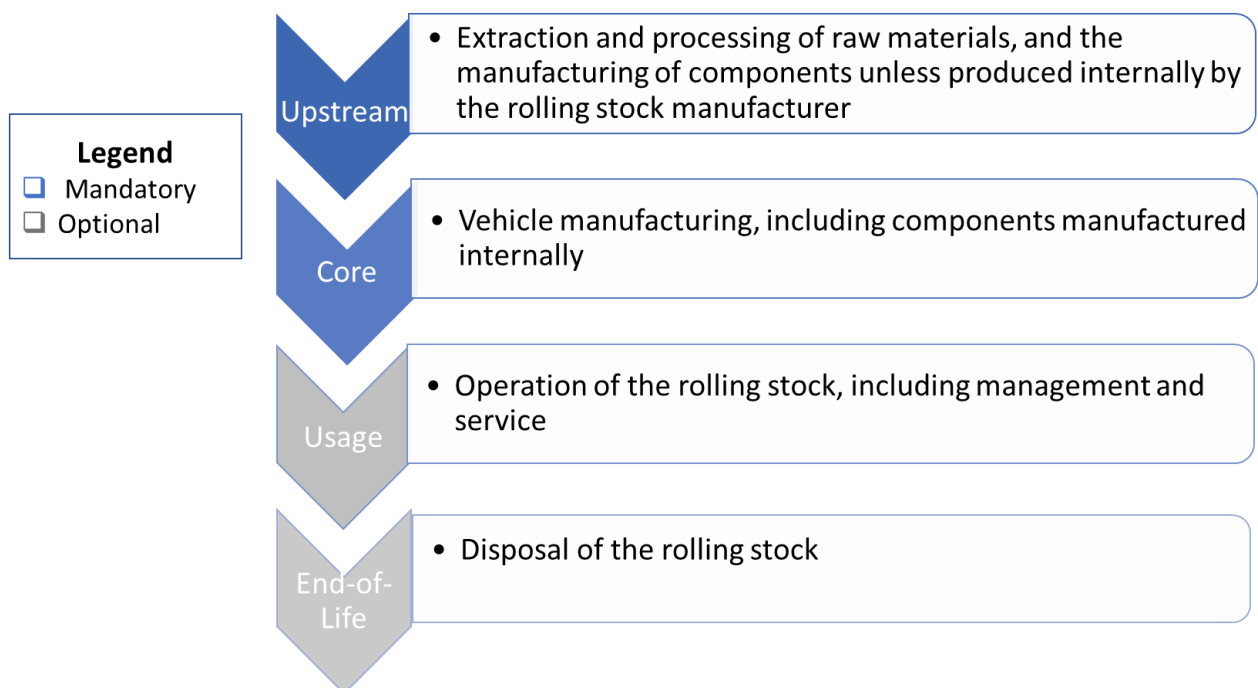


Figure 1. System boundary includes mandatory (upstream, core) and optional (use and end-of-life) stages.

¹ The FU has been defined according to the EPD-PCR for rolling stock (PCR 2009:05), to give the opportunity to present the environmental and social impact together consistently.

ROLLING STOCK

PRODUCT CATEGORY CLASSIFICATION: UN CPC 495

4.3.1 LIFE-CYCLE STAGES

For the purpose of different data-quality rules and for the presentation of results, the product life cycle is divided into four life-cycle stages:

- Upstream processes (from cradle-to-gate) – mandatory
- Core processes (from gate-to-gate) – mandatory
- Downstream: Use stage – optional
- Downstream: End-of-life stage – optional

In the SPD, the social performance associated with each of the four (included) life-cycle stages above shall be reported separately. The processes included in the scope of the PCR and belonging to each life-cycle stage are described in Sections 4.3.1.1-4.3.1.4.

4.3.1.1 Upstream processes

The upstream stage includes the extraction and processing of raw materials, and the manufacturing of components unless produced internally by the rolling stock manufacturer (such manufacturing is included in the core stage). Data for upstream processes should be collected through primary sources (such data is “specific data”, see definitions in Section 4.6). If specific data is not available, generic data may be used (for raw materials, generic data may be collected in the form of a hotspot analysis, see Section 4.4.1).

The following processes shall be excluded:

- Construction, maintenance and disposal of materials and energy for the machine and equipment at production plants
- Construction, maintenance and disposal of suppliers’ infrastructures
- Packaging production

The stakeholders that shall be considered in the upstream stage are workers and local community.

4.3.1.2 Core processes

The core module represents the internal production of components and the activities of train assembly, internal transport between the company plants, transport to the customer and the generation and treatment of plant waste.

Specifically, train assembly consists of three main phases:

- Phase 1: structural works
- Phase 2: painting
- Phase 3: assembly of the components, including the final train

The following processes shall be excluded:

- Construction, maintenance and disposal of production plants
- Packaging of components/assemblies/products used

The stakeholders that shall be considered in the core stage are workers and local community

4.3.1.3 Downstream processes (use stage)

The use stage of the train involves the commissioning company, which is particularly important for products such as trains whose main function is transportation of passengers or cargo.

If the usage stage is included, the stakeholders that shall be considered are workers and users.

4.3.1.4 Downstream processes (end-of-life)

The end-of-Life of the rolling stock may be considered. End-of-life includes the disposal of the rolling stock after its use stage (e.g., landfill, incineration, recycling, etc.).

ROLLING STOCK

PRODUCT CATEGORY CLASSIFICATION: UN CPC 495

If end-of-life is included, the end-of-life processes shall be described including all inputs and outputs of materials and energy, and the stakeholders that shall be considered are workers and local community.

4.4 LIFE-CYCLE INVENTORY

For the life-cycle inventory, specific data shall be used as far as possible. Specific data are data coming from questionnaires and/or specific reports of the company responsible for the unit process analysed (see Section 4.6 for definitions of specific data and generic data). When a unit process involves several companies, data representing all companies involved shall be collected.

If specific data cannot be obtained from suppliers, generic data from literature or databases should be used. Examples of databases to use are the Social Hotspots Database (SHDB) or the Product Social Impact Life Cycle Assessment database (PSILCA 2023). If generic data is used, it is preferable to know the countries where the unit process is located or where it is mainly located. If the country/countries of location are not known, the main location(s) of that process in general may be assumed.

If generic data is used to model upstream suppliers of raw materials, and when the country/countries of the supplier has/have been identified, a social hotspot analysis shall be carried out by considering the country- and sector-level data available in social risk databases such as SHDB and PSILCA, see Section 4.4.1.

A qualitative assessment of the quality of collected data shall be made for the S-LCA report and a declaration of the quality of data may be added in the SPD. See Section 4.6 for further data quality requirements.

Note: The data collected are not dependent on the FU, i.e., the collected inventory data and the subsequent impact assessment results shall not be expressed per FU.

More details are described in the sections below.

4.4.1 SOCIAL HOTSPOT ANALYSIS OF THE MAIN RAW MATERIALS

Input of raw materials used in the product system can have relevant social impacts. If specific data on social impacts of a raw material are not available, a social hotspot analysis shall be done for all such raw materials constituting more than 1% of the mass of the train. This allows an estimation of the main social hotspots/risks of these raw materials.

In the hotspot analysis, the social conditions of the country/countries from which the raw material is/are sourced shall as first choice be considered; if this is not known, the countries with the highest production volumes globally, for each raw material, shall be considered. In general, the raw materials used for the construction of trains are bronze, copper, carbon steel, cast iron, aluminum, cadmium, mica, lead, zinc, nickel, steel, silicon, and silver, as well as various types of plastics.

Two databases that may, for example, be used in the hotspot analysis are SHDB and PSILCA. Other databases may also be used.

In addition to the mandatory subcategories of Section 4.1, the hotspot analysis shall cover at least the following more specific categories related to human and labour rights: child labour, forced labour, fatal and non-fatal work accidents, and freedom of association.

4.4.2 SUPPLIERS (UPSTREAM AND CORE PROCESSES)

A questionnaire should be used to collect data on the following information about suppliers involved in the upstream and core processes. An example of questionnaire is provided in Annex 1.

For the stakeholder category **workers**, data collected shall regard the following indicators:

- Average rate of accidents at work
- Presence of Certifications on sites and personnel (i.e. ISO 9001, ISO 45001)
- Social benefits provided to workers
- Employee support – provision of subscriptions or accommodation
- Number of new employees hired in the past year
- Maternity coverage (yes or no)
- Parental leave and/or extraordinary leave covered (yes or no)
- Percentage of women in the workforce
- Share of employees registered in trade union

ROLLING STOCK

PRODUCT CATEGORY CLASSIFICATION: UN CPC 495

- Share of contracts covered by collective bargaining
- Minimum and average wages

Moreover, data collected may be collected on:

- Employee number of hours of training
- Number and results of job satisfaction survey

For the stakeholder category **local community**, data shall be collected on:

- Local employment

Moreover, data may be collected on:

- Cultural heritage and land rights (Presence of indigenous population in the area, Involvement of local authorities / population in business decision-making processes, Loss of space used for recreational activities)
- Poverty (Activities proposed by the company to reduce poverty)

Annex 2 lists the above mandatory and optional LCI indicators, along with additional optional LCI indicators and an example of a data collection structure.

4.4.3 MANUFACTURING OF ROLLING STOCK (CORE PROCESSES)

Inventory data for the company manufacturing the rolling stock (typically the SPD owner) shall be obtained through interviews, surveys, consultation of sustainability reports and other information published on the website of the company. Data collected shall regard the following indicators:

- Number of job injuries or frequency of job injuries
- General safety-related accidents data
- Provision of free meals for employees
- Definition of the main working time
- Documented working conditions (e.g. regular contracts)
- Stability of jobs (type of contracts if those are undetermined or determined, intern or extern workers and so on)
- Number of working hours performed by employees forced to leave personal documents to the employer (e.g. as done in the Kafala system²)
- Number and type of carried out audits and monitoring cycle on working conditions by external certifiers (e.g. by Ecovadis³)
- Actions taken to increase the diversity of personnel and/or to promote equal opportunities
- Share of employees registered in a trade union
- Share of contracts covered by collective bargaining
- Employees have the right to organize collective bargaining activities
- Employee salaries (minimum and average wages)
- Policy against the employment of children under the age of 15 years old
- Identified complaints related to discrimination

Further data may be regard:

- Data on job satisfaction and involvement survey
- Employee number of hours of training

² Website: <https://www.cfr.org/background/what-kafala-system> (accessed October 2023)

³ Website: <https://ecovadis.com/> (accessed October 2023)

ROLLING STOCK

PRODUCT CATEGORY CLASSIFICATION: UN CPC 495

4.4.4 USE STAGE: PASSENGERS AND WORKERS

For the inventory analysis of the use stage, the purchasing company (which may be the SPD owner) and its sustainability report shall be considered.

In the use stage, the main stakeholders are the consumers or users (of the train) and the workers involved in the service.

If the use stage is included, for workers the same indicators considered for the upstream and core process (supply chain and production) shall be considered and for users at least the following indicators shall be included:

- Presence of management measures to assess consumers health and safety
- Presence of a mechanism for consumers/users to provide feedback
- Publication of a sustainability/GRI report
- Certification/label obtained by the product/site organization

4.5 CUT-OFF RULES

The cut-off criteria should be based on the relevance of the materials and components in terms of mass, but also in terms of social hotspots related to the materials. It shall be possible to identify which of these materials are called "critical" according to the definition given by the European Commission in the Critical Raw Materials List (European Commission 2020). Quantity and criticality should be used as cut-off criteria capable of detecting the potential impacts and the most important social hotspots.

4.6 DATA QUALITY REQUIREMENTS

LCI data are classified into three categories: specific data, selected generic data, and proxy data, defined as follows:

- Specific data (also referred to as "primary data" or "site-specific data") are social data collected from the actual production facility where the product-specific processes take place and data from other parts of the life cycle that can be traced back to the specific product system under study, e.g., materials provided by a contracted supplier that can provide the data for the services actually provided, etc.
- Generic data (sometimes referred to as "secondary data"), divided into:
 - Selected generic data: data from commonly available data sources (e.g. commercial databases and free databases) that fulfil prescribed data quality characteristics for precision, completeness, and representativeness; and
 - Proxy data: data from commonly available data sources (e.g. commercial databases and free databases) that do not fulfil all of the data quality characteristics of "selected generic data".

As a general rule, specific data shall be used, if available. It is mandatory to use specific data for the core processes as defined above. For the upstream processes and downstream processes, generic data may be used if specific data are not available. See Section 4.4 for more detailed rules and guidance.

Any data used should preferably represent average values for a specific reference year. However, the way these data are generated could vary. Such deviations should be declared.

Generally, the generic data shall have been updated within the past 5 years. Older data in the database shall be updated with other literature sources and it should be transparently reported giving the year and the sources used.

4.6.1 RULES FOR USING GENERIC DATA

To allow the classification of generic data as "selected generic data", they shall fulfil selected prescribed characteristics for precision, completeness, and representativeness such as:

- The reference year must be as current as possible and preferably assessed to be representative for at least the validity period of the SPD.
- Completeness in which the inventory data set should, in principle, cover all elementary flows that contribute to a relevant degree of the impact categories.

Section 4.7 provides a list of examples of databases/datasets to be used for generic data.

ROLLING STOCK

PRODUCT CATEGORY CLASSIFICATION: UN CPC 495

4.7 EXAMPLES OF DATABASES FOR GENERIC DATA

Table 2 provides examples of databases to use for generic data. Please note that this listing does not imply that other data that fulfil the data quality requirements may not be used, and that data quality assessment shall also be performed if datasets from the databases listed in Table 2 are used. It is recommended to consistently use one database for the entire S-LCA.

Table 2 Examples of databases for generic data.

PROCESS	DATABASES
Production of bronze, copper, carbon steel, cast iron, aluminum, cadmium, mica, lead, zinc, nickel, steel, silicon, and silver	SHDB, PSILCA
Production of electronic components, plastic, glass	SHDB, PSILCA

4.8 IMPACT CATEGORIES AND IMPACT ASSESSMENT

The social performance indicators to use for SPDs developed according to this PCR are listed in Section 5.4.5.

The methods used to assess the social performance indicators shall be described in the SPD. Rules and guidance for the assessment is given in below subsections.

4.8.1 RATING SCALE

Rating scales shall be used for the impact assessment of the specific and generic LCI data collected. The default rating scale that shall be used (see Section 4.8.1.1), except for the social hotspots analysis, for which another rating scale may be used (see Section 4.8.1.2).

The definition of the reference values used in the rating scales shall, when possible, account for international and national laws, agreements and norms, as well as local conditions and sector characteristics (e.g., the average number of injuries in the electronics sector in China).

4.8.1.1 Default rating scale

The rating scale used shall be the one suggested by the Guidelines for Social Life Cycle Assessment of Products and Organizations (UNEP 2020), see Figure 2. This consists of a rating scale ranging from +2 to -2 where +2 represents the ideal condition according to the ILO conventions (Freedom of Association and Protection of the Right to Organise Convention, 1948 (No. 87), Right to Organise and Collective Bargaining Convention, 1949 (No. 98), Forced Labour Convention, 1930 (No. 29), Equal Remuneration Convention, 1951 (No. 100), Discrimination (Employment and Occupation) Convention, 1958 (No. 111), Occupational Safety and Health Convention, 1981 (No. 155)) or other international and national norms and -2 means that a non-compliance occurs in a subcategory which has recognized an social issue with high risk at local context.

Scale level	Description
+2	Ideal performance. Best in class
+1	Beyond compliance
0	Compliance with local and international laws and/or basic societal expectations
-1	Slightly below compliance level
-2	Starkly below compliance level

Figure 2 Rating scale for social performance of life-cycle phases (adapted from UNEP 2020).

ROLLING STOCK

PRODUCT CATEGORY CLASSIFICATION: UN CPC 495

Generally, the 0 or neutral value indicates when, for the specific indicator, values that comply with national and/or international regulations are reached. The value +1 is obtained when the company for that aspect has a proactive behavior that positively exceeds simple compliance with current national and international legislation (e.g., the number of working injuries is lower than the sector average). The value +2 is obtained when the indicator meets an ideal condition for that specific subcategory (e.g., 0 working injuries). The value -1 is obtained when there is one or more non-compliances for the social indicator, and the indicator does not represent a social hotspot for that subcategory in the geographical area of concern. The value -2 is when the non-compliance occurs in a subcategory which is a hotspot in the geographical area of concern.

The choice of the score assigned to each indicator shall be made based on the answers given to the questionnaires or other data collected in the the LCI, and on the national and international reference value. For each indicator, the reference value which defines the zero level and its meaning (e.g., national law, international law or sector average), and the source used, shall be transparently reported in the SPD. The reason why each score has been assigned shall be reported transparently in the SPD.

No aggregation of results shall be made and all indicators with evaluations of -1 and -2 shall be highlighted and related improvement actions (if any) shall be reported.

For example, considering the health and safety impact category, for workers. When the company complies with the national laws of the state where its plant is located, the score shall be 0. If the company have characteristics that are slightly better than the national laws, the score shall be +1. The score shall be +2 when the company have ideal performance characteristics that are superior to the laws of the state where the plant is located. The score shall be -1 when the company does not comply with national laws and the specific aspect is not recognized to be a hotspot in the geographical area where the plant is located, and the score shall be -2 if the company does not comply with national laws and the specific aspect is recognized to be a hotspot in the geographical area.

4.8.1.2 Rating scale for social hotspots analysis

The risk scale used in the SHDB may be used as the rating scale for the social hotspots analysis, instead of the above default rating scale. This is based on a scale of 1 to 4 where 1 represents the lowest risk value (in green) and 4 represents the highest risk value (in red), see Table 3

Table 3 Social hotspot rating scale.

1	Low
2	Medium
3	High
4	Very High

4.8.1.3 Interpretation of the results obtained from the social impact assessment

In this phase, the results of the impact assessment should be checked and discussed to set the basis for conclusions, recommendations and decisions based on the definition of the objective and scope of the study.

Considering the rolling stock product along its life cycle, the interpretation of the results should be carried out starting from the stage of extraction of the train construction materials to the end of the life cycle of the considered product.

Interpretation of the results should consider:

- the results obtained from the analysis done for the extraction and processing of materials (one should see which countries present more risks from the social point of view),
- the results obtained from the analysis of suppliers, in which case distinctions should be made between suppliers whose data were found in sustainability reports and those to whom questionnaires were administered,
- the results obtained from the interviews posed to the train manufacturing company, and
- the results obtained for the use stage of the train.

ROLLING STOCK

PRODUCT CATEGORY CLASSIFICATION: UN CPC 495

5 CONTENT AND FORMAT OF SPD

SPDs based on this PCR shall contain the information described in this section. Flexibility is allowed in the formatting and layout provided that the SPD still includes the prescribed information.

The SPD content shall:

- be in line with the requirements in UNEP (2020) and ISO 14020 (ISO 2000).
- be verifiable, accurate, relevant and not misleading, and
- not include rating, judgements or direct comparison with other products⁴.

An SPD should be made with a reasonable number of pages for the intended audience and use.

The content of SPDs published in machine-readable format shall correspond with the content of the underlying SPD.

5.1 SPD LANGUAGES

SPDs should be published in English but may also be published in additional languages. If the SPD is not available in English, it shall contain an executive summary in English including the main content of the SPD. This summary is part of the SPD and, thus, also subject to the verification process.

5.2 UNITS AND QUANTITIES

The following requirements apply for units and quantities:

- Health and safety, regarding quantifiable indicators, may be expressed for activity variable (e.g., working hours necessary for running a process or manufacturing a component) in: frequency of injuries per year and per activity variable.
- Salary, regarding quantifiable indicators, should be expressed in: €/month, €/year.
- Social benefits should be expressed in: % of employees, number of programs for employees.
- Working conditions, regarding quantifiable indicators, should be representative to all workers' conditions that occurred in the production of raw materials, components, train, etc., needed to fulfil the FU: number of working hours, % of female employees.
- Discrimination, regarding quantifiable indicators, should be expressed in: number of actions/year, ratio (women/men)/year, number of complaints per year.
- Freedom of associations and collective bargaining, regarding quantifiable indicators, should be expressed in: % of employees.
- Training and education, regarding quantifiable indicators, should be expressed in: number of apprenticeships/year, % of employees/year, hours of training/year.
- Time should be expressed in the unit most practical, e.g., seconds, minutes, hours, days or years.
- The thousand separator and decimal mark in the SPD shall follow one of the following styles (a number with six significant figures shown for illustration):
 - SI style (French version): 1 234,56
 - SI style (English version): 1 234.56

In case of potential confusion or intended use of the SPD in markets where different symbols are used, the SPD shall state what symbols are used for thousand separator and decimal mark.

- Dates and times presented in the SPD should follow the format in ISO 8601. For years, the prescribed format is YYYY-MM-DD, e.g., 2017-03-26 for March 26th, 2017.
- The result tables shall:

⁴ Therefore, results of normalization are not allowed to be reported in the SPD.

ROLLING STOCK

PRODUCT CATEGORY CLASSIFICATION: UN CPC 495

- Only contain values or the letters “ND” (Not Declared). It is not possible to specify ND for mandatory indicators. ND shall only be used for voluntary parameters that are not quantified because no data is available.⁵
- Contain no blank cells, hyphens, less than or greater than signs or letters (except “ND”).

5.3 USE OF IMAGES IN SPD

Images used in the SPD, especially pictures featured on the cover page, may in themselves be interpreted as a social claim. Images that are not related to the declared product (e.g. generic images of smiling workers) shall therefore be used with caution and in compliance with national legislation and best available practices in the markets in which the SPD is intended to be used.

5.4 SPD REPORTING FORMAT

The reporting format of the SPD shall include the following sections:

- Cover page (see Section 5.4.1)
- Programme information (see Section 5.4.2)
- Product information (see Section 5.4.3)
- Content declaration (see Section 5.4.4)
- Social performance (see Section 5.4.5)
- References (see Section 5.4.6)

The following sections shall be included, if relevant:

- Executive summary in English (see Section 5.4.7)

5.4.1 COVER PAGE

The cover page shall include:

- Product name and image
- Name and logotype of SPD owner
- The text “Social Product Declaration” and/or “SPD”
- Programme: The International EPD System, www.environdec.com
- Programme operator: EPD International AB
- Logotype of the International EPD System
- SPD registration number as issued by the programme operator⁶
- Date of publication (issue): 20XX-YY-ZZ
- Date of revision: 20XX-YY-ZZ, when applicable
- Date of validity: 20XX-YY-ZZ
- A note that *“An SPD should provide current information and may be updated if conditions change. The stated validity is therefore subject to the continued registration and publication at www.environdec.com.”*
- A statement of conformity with ISO 14040

⁵ This requirement does not intend to give guidance on what indicators are mandated (“shall”) or voluntary.

⁶ The SPD shall not include a “registration number” if such is provided by the certification body, as this may be confused with the registration number issued by the programme operator.

ROLLING STOCK

PRODUCT CATEGORY CLASSIFICATION: UN CPC 495

- In the case of SPDs registered through a regional hub (a regional or national programme based on and fully aligned with the International EPD System through an agreement with the programme operator), “Programme”, “Programme operator”, and “Logotype” shall be expanded to include a reference to the regional programme and the organisation responsible for it.

Where applicable, the cover page shall also include the following information:

- Information about dual registration of SPD in another programme, such as registration number and logotype.
- A statement of conformity with other standards and methodological guides, e.g., ISO/CD 14075, Principles and framework for S-LCA (under development).

5.4.2 PROGRAMME INFORMATION

The programme information section of the SPD shall include:

- Address of programme operator: *EPD International AB, Box 210 60, SE-100 31 Stockholm, Sweden, E-mail: info@environdec.com.*
- The following statement on the requirements for comparability of SPDs, adapted from ISO 14040: “*SPDs within the same product category but from different programmes may not be comparable. For two SPDs to be comparable, they shall be based on the same PCR (including the same version number) or be based on fully aligned PCRs or versions of PCRs; cover products with identical functions, technical performances and use (e.g. identical declared/functional units); have equivalent system boundaries and descriptions of data; apply equivalent data quality requirements, methods of data collection, and allocation methods; apply identical cut-off rules and impact assessment methods (including the same version of characterisation factors); have equivalent content declarations; and be valid at the time of comparison.*”
- A statement that the SPD owner has the sole ownership, liability and responsibility of the SPD.
- Information about verification⁷ and the PCR in a table with the following format and contents:

Accountabilities for PCR, S-LCA and independent, third-party verification
Product Category Rules (PCR)
PCR: <name, registration number, version and UN CPC code(s)>
PCR review was conducted by: <name and organisation of the review chair, and information on how to contact the chair through the programme operator>
Social Life cycle assessment (S-LCA)
S-LCA accountability: <name, organization>
Third-party verification
Independent third-party verification of the declaration and data, according to ISO 14040:2006, via:
<input type="checkbox"/> SPD verification by individual verifier
Third-party verifier: <name, organisation, and signature of the third-party verifier>
Approved by: The International EPD System
OR

⁷ If the SPD has been verified by an approved individual verifier who has received contractual assistance from a certification body that is not accredited, this certification body shall not be included in this table.

ROLLING STOCK

PRODUCT CATEGORY CLASSIFICATION: UN CPC 495

<p>Independent third-party verification of the declaration and data, according to ISO 14040:2006, via:</p> <p><input type="checkbox"/> SPD verification by accredited certification body</p> <p>Third-party verification: <i><name, organisation></i> is an approved certification body accountable for the third-party verification</p> <p>The certification body is accredited by: <i><name of accreditation body & accreditation number, where applicable></i></p>
OR
<p>Independent third-party verification of the declaration and data, according to ISO 14040:2006 via:</p> <p><input type="checkbox"/> SPD verification by SPD Process Certification*</p> <p>Internal auditor: <i><name, organisation></i></p> <p>Third-party verification: <i><name, organisation></i> is an approved certification body accountable for third-party verification</p> <p>Third-party verifier is accredited by: <i><name of accreditation body & accreditation number, where applicable></i></p> <p><small>*For SPD Process Certification, an accredited certification body certifies and reviews the management process and verifies SPDs published on a regular basis. For details about third-party verification procedure of the SPDs, see GPI v4, Section 7.5.</small></p>
<p>Procedure for follow-up of data during SPD validity involves third-party verifier:</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No</p>

5.4.3 PRODUCT INFORMATION

The product information section of the SPD shall include:

- address and contact information to SPD owner,
- description of the organisation of the SPD owner. This may include information on products- or management system-related certifications (e.g. ISO 9001) and other relevant work the organisation wants to communicate (e.g. SA 8000, supply-chain management and corporate social responsibility),
- name and location of the site(s) for the manufacturing of the rolling stock,
- product identification by name, and an unambiguous identification of the product by standards, concessions or other means,
- identification of the product according to the UN CPC scheme system. Other relevant codes for product classification may also be included, e.g.
 - Common Procurement Vocabulary (CPV),
 - United Nations Standard Products and Services Code® (UNSPSC),
 - Classification of Products by Activity (NACE/CPA),
 - Australian and New Zealand Standard Industrial Classification (ANZSIC), or
 - Global Trade Item Number (GTIN).
- a description of the product,
- a description of the technical purpose of the product, including its application/intended use,
- a description of the background system, including the main technological aspects,

ROLLING STOCK

PRODUCT CATEGORY CLASSIFICATION: UN CPC 495

- geographical scope of the SPD, i.e., for which geographical location(s) of use and end-of-life the product's performance has been calculated,
- declared/functional unit,
- technical/actual lifespan, if relevant,
- declaration of the year(s) covered by the data used for the S-LCA calculation and other relevant reference years,
- reference to the main database(s) for generic data and S-LCA software used, if relevant,
- system diagram of the processes included in the S-LCA, divided into the life cycle stages,
- description if the SPD system boundary is "cradle-to-gate", "cradle-to-gate with options" or "cradle-to-grave",
- information on which product life-cycle stages are not considered (if any), with a justification of the omission, and
- references to any relevant websites for more information or explanatory materials.

This section may also include:

- name and contact information of organisation carrying out the underlying S-LCA study,
- any additional information about the underlying S-LCA-based information, such as cut-off rules, data quality, allocation methods, and other methodological choices and assumptions, and
- if end-of-life treatment is not included, the SPD shall contain a statement that it shall not be used for communicating social information to consumers/end users of the product.

5.4.4 CONTENT DECLARATION

The content declaration shall have the form of a list of materials and chemical substances including information on their performance and social risks. The gross weight of the material declared in the SPD must cover at least 95 percent of a unit of product, or at least 100% of materials and components which have the most relevant social impacts according to the social hotspot analysis.

Materials used for rolling stock shall be classified into the following categories and included in the SPD:

- metals (ferrous metals or non-ferrous metals),
- elastomers,
- polymers (thermosets or thermoplastics),
- composites (e.g., fibre reinforced polymers or others),
- electric and electronic equipment,
- glass,
- safety glass,
- oil, grease or similar,
- acids, cooling agents or similar,
- other inorganic materials (e.g., ceramics),
- mineral wool, and
- modified organic natural materials (MONM), including wood.

With regard to the materials used in the manufacture of rolling stock, mentioned above, the countries where they are produced should be considered and the social risks in these countries should be reported in the hotspot analysis (see Section 4.4.1).

5.4.5 SOCIAL PERFORMANCE

Section 4.1 lists the mandatory and optional stakeholder categories and subcategories that the declared social performance indicators shall cover. The declared social performance results shall be declared per life-cycle stage.

ROLLING STOCK

PRODUCT CATEGORY CLASSIFICATION: UN CPC 495

5.4.6 REFERENCES

A reference section shall be included, including a list of all sources referred to in the SPD, for example including the PCR (registration number, name, and version), the General Programme Instructions (including version number), the underlying S-LCA report, references to methods used in the social impact assessment (including version number), standards used, and other documents that complement the SPD.

5.4.7 EXECUTIVE SUMMARY IN ENGLISH

For SPDs published in another language than English, an executive summary in English shall be included.

The executive summary should contain relevant summarised information related to the programme, product, social performance, additional information, information related to sector SPDs, references, and differences versus previous versions.

ROLLING STOCK

PRODUCT CATEGORY CLASSIFICATION: UN CPC 495

6 LIST OF ABBREVIATIONS

ANZSIC	Australian and New Zealand Standard Industrial Classification
CPC	Central product classification
CPV	Common procurement vocabulary
EPD	Environmental product declaration
FU	Functional unit
GPI	General programme instructions
ISO	International Organization for Standardization
LCA	Life cycle assessment
LCI	Life cycle inventory
ND	Not declared
PCR	Product category rules
PSILCA	Product Social Impact Life Cycle Assessment database
SHDB	Social Hotspots Database
S-LCA	Social life cycle assessment
SPD	Social product declaration
UN	United Nations
UNSPSC	United Nations standard products and services code

ROLLING STOCK

PRODUCT CATEGORY CLASSIFICATION: UN CPC 495

7 REFERENCES

Benoît-Norris, C, Cavan DA, Norris G, 2012. Identifying social impacts in product supply chains: overview and application of the Social Hotspot Database. MDPI, Sustainability 4(9), 1946–1965.

Benoît-Norris C., Aulio D, Norris GA, 2014. Efficient assessment of social hotspots in the supply Chains of 100 product categories using the Social Hotspots Database. Sustainability 6(10), 6973–6984.

EPD International, 2023. PCR 2009:05 Rolling stock, version 4.0.1, dated 2023-07-31. www.environdec.com

EPD International, 2021. General Programme Instructions for the International EPD System. Version 4.0, dated 2021-03-29. www.environdec.com

European Commission, 2020. Critical raw materials. https://single-market-economy.ec.europa.eu/sectors/raw-materials/areas-specific-interest/critical-raw-materials_en, accessed October 2023.

ISO, 2000. ISO 14020, Environmental labels and declarations – General principles.

ISO, 2004. ISO 8601:2004, Data elements and interchange formats – Information interchange – Representation of dates and times.

ISO, 2006. ISO 14025:2006, Environmental labels and declarations - Type III environmental declarations - Principles and procedures.

ISO, 2020a. ISO 14040:2006/A1:2020, Environmental management – Life cycle assessment – Principles and framework.

ISO, 2020b. ISO 14044:2006/A1:2020, Environmental management – Life cycle assessment – Requirements and guidelines.

ISO, 2023. ISO 14075, Environmental management – Principles and framework for social life cycle assessment. Status: under development. <https://www.iso.org/standard/61118.html>, accessed October 2023.

Hitachi Rail, 2023. HMU Masaccio social life cycle assessment of Blues. Note: the report is not publicly available.

PSILCA, 2023. PSILCA. <https://psilca.net/>, accessed October 2023.

SHDB, 2023. Social hotspot database. <http://www.socialhotspot.org/>, accessed October 2023.

UNEP, 2018. Shout it out: communicating products' social impacts – a white paper of the One Planet Network consumer information programme https://www.oneplanetnetwork.org/sites/default/files/white_paper_-_communicating_products_social_impacts_ciscp_2018.pdf, accessed October 2023.

UNEP, 2020. Guidelines for social life cycle assessment of products and organizations 2020. Benoît Norris C, Traverso M, Neugebauer S, Ekener E, Schaubroeck T, Russo Garrido S, Berger M, Valdivia S, Lehmann A, Finkbeiner M, Arcese G (eds.). United Nations Environment Programme (UNEP).

UNEP, 2021. Methodological sheets for subcategories in social life cycle assessment (S-LCA) 2021. Traverso M, Valdivia S, Luthin A, Roche L, Arcese G, Neugebauer S, Petti L, D'Eusario M, Tragnone BM, Mankaa R, Hanafi J, Benoît Norris C, Zamagni A (eds.). United Nations Environment Programme (UNEP).

ROLLING STOCK

PRODUCT CATEGORY CLASSIFICATION: UN CPC 495

8 VERSION HISTORY OF PCR

VERSION 1.0.0, 2023-10-30

Original version of the PCR.

ROLLING STOCK

PRODUCT CATEGORY CLASSIFICATION: UN CPC 495

Salary of female employees (€/year specified by category of employees)			
Bonus paid	yes <input type="checkbox"/> no <input type="checkbox"/>	yes <input type="checkbox"/> no <input type="checkbox"/>	yes <input type="checkbox"/> no <input type="checkbox"/>
Overtime paid	yes <input type="checkbox"/> no <input type="checkbox"/>	yes <input type="checkbox"/> no <input type="checkbox"/>	yes <input type="checkbox"/> no <input type="checkbox"/>
Social benefits	Process 1	Process n	Process n
Social benefits provided to employees (e.g, unemployment benefits, health insurance, pension, ect.) <i>Specify the type of service or list if more than one</i>	yes <input type="checkbox"/> no <input type="checkbox"/>	yes <input type="checkbox"/> no <input type="checkbox"/>	yes <input type="checkbox"/> no <input type="checkbox"/>
Support for employees - provision of subscriptions (e. g. gym) or accomodation (e. g. apartmet) <i>Specify the type of medium and if monetary include the value</i>	yes <input type="checkbox"/> no <input type="checkbox"/>	yes <input type="checkbox"/> no <input type="checkbox"/>	yes <input type="checkbox"/> no <input type="checkbox"/>
Family benefits	yes <input type="checkbox"/> no <input type="checkbox"/>	yes <input type="checkbox"/> no <input type="checkbox"/>	yes <input type="checkbox"/> no <input type="checkbox"/>
Parental leave and/or special leave (for disability, bereavement, etc.)	yes <input type="checkbox"/> no <input type="checkbox"/>	yes <input type="checkbox"/> no <input type="checkbox"/>	yes <input type="checkbox"/> no <input type="checkbox"/>
Nursery facilities available for employees' children <i>Specify the cost per child.</i>	yes <input type="checkbox"/> no <input type="checkbox"/>	yes <input type="checkbox"/> no <input type="checkbox"/>	yes <input type="checkbox"/> no <input type="checkbox"/>
Transparency of employer vis-à-vis employees (e. g. working conditions, wages, conditions of trainees, holidays, etc.) Attach documentation	yes <input type="checkbox"/> no <input type="checkbox"/>	yes <input type="checkbox"/> no <input type="checkbox"/>	yes <input type="checkbox"/> no <input type="checkbox"/>
Compliance with human rights legislation <i>Specify available documentation</i>	yes <input type="checkbox"/> no <input type="checkbox"/>	yes <input type="checkbox"/> no <input type="checkbox"/>	yes <input type="checkbox"/> no <input type="checkbox"/>
Definition of main working time <i>Specifying the time frame</i>	yes <input type="checkbox"/> no <input type="checkbox"/>	yes <input type="checkbox"/> no <input type="checkbox"/>	yes <input type="checkbox"/> no <input type="checkbox"/>

Working conditions	Process 1	Process n
Overtime - regular overtime of 48 hours per week (Average number of overtime/type of employees (year or week))		
Weekly working time from contract of employment (Average number of hours from contract/types of workers per week)		
Flexible working hours (% of employees with flexible hours)		
Documented working conditions (e. g. regular contracts) (% of outside workers)		
Permanent workers (% of permanent employees)		
Holidays (Average number of days/year)		
Maternity cover (% of women and/or men (differentiated) with maternity/paternity leave		
Number of audits and monitoring cycle on working conditions by external certifiers		

ROLLING STOCK

PRODUCT CATEGORY CLASSIFICATION: UN CPC 495

(Number/year) (please indicate the certifying body)		
Violations of laws and regulations on employees at the workplace (Cases/year)		
Local employees (% of local employees)		
Hours worked by trainees between 15 and 18 years of age (average hours/year)		
Average salary expected for trainees (€/year)		

Discrimination	Process 1	Process n
Actions taken to increase staff diversity and/or promote equal opportunities (Number of actions/year) <i>Please indicate the type of actions</i>		
Women employed in the labour force (%)		
Identified complaints related to discrimination (Number of complaints per year) <i>Please indicate the type of discrimination complained of</i>		
Employees know how to file a complaint or raise doubts about any action by management that violates non-discrimination	yes <input type="checkbox"/> no <input type="checkbox"/>	yes <input type="checkbox"/> no <input type="checkbox"/>
Does the company have policies against employing children under the age of 15?	yes <input type="checkbox"/> no <input type="checkbox"/>	yes <input type="checkbox"/> no <input type="checkbox"/>

Training and education	Process 1	Process n
Training of annual employees	yes <input type="checkbox"/> no <input type="checkbox"/>	yes <input type="checkbox"/> no <input type="checkbox"/>
Appropriate training before entering employment	yes <input type="checkbox"/> no <input type="checkbox"/>	yes <input type="checkbox"/> no <input type="checkbox"/>
	yes <input type="checkbox"/> no <input type="checkbox"/>	yes <input type="checkbox"/> no <input type="checkbox"/>
Freedom of association and collective bargaining	yes <input type="checkbox"/> no <input type="checkbox"/>	yes <input type="checkbox"/> no <input type="checkbox"/>
Employees have the right to form associations	yes <input type="checkbox"/> no <input type="checkbox"/>	yes <input type="checkbox"/> no <input type="checkbox"/>
Employees have the right to organise collective bargaining activities	yes <input type="checkbox"/> no <input type="checkbox"/>	yes <input type="checkbox"/> no <input type="checkbox"/>
Employees have the right to strike	yes <input type="checkbox"/> no <input type="checkbox"/>	yes <input type="checkbox"/> no <input type="checkbox"/>
The employer does not hinder or interfere but proactively informs employees about their right to join unions and to organize themselves in collective bargaining	yes <input type="checkbox"/> no <input type="checkbox"/>	yes <input type="checkbox"/> no <input type="checkbox"/>
Job satisfaction and involvement	Process 1	Process n
Survey on job satisfaction and involvement	yes <input type="checkbox"/> no <input type="checkbox"/>	yes <input type="checkbox"/> no <input type="checkbox"/>

LOCAL COMMUNITY

Health and safety	Process 1	Process n
Impact on the local community due to pollution and noise generated, or to harmful substances released into the environment (Number of cases per year)		

ROLLING STOCK

PRODUCT CATEGORY CLASSIFICATION: UN CPC 495

<i>Please indicate the type of impact</i>		
Accidental ecosystem impacts caused by activity (specify type of environmental incident) (Number of cases per year)		
Improvement of local infrastructure (e.g. telecommunications, road network, energy and water supply) to support activities <i>Please indicate the type of improvement</i>	yes <input type="checkbox"/> no <input type="checkbox"/>	yes <input type="checkbox"/> no <input type="checkbox"/>
Improvements in education and knowledge of the population due to activity <i>Please indicate the type of improvement</i>	yes <input type="checkbox"/> no <input type="checkbox"/>	yes <input type="checkbox"/> no <input type="checkbox"/>
Improvement of local health services due to activities <i>Please indicate the type of improvement</i>	yes <input type="checkbox"/> no <input type="checkbox"/>	yes <input type="checkbox"/> no <input type="checkbox"/>
Programmes to improve health and safety for the local community (for example building a hospital) (Number of programmes) <i>Please indicate the type of programme</i>	yes <input type="checkbox"/> no <input type="checkbox"/>	yes <input type="checkbox"/> no <input type="checkbox"/>
Does the work done contribute to the sustainability of the local economy?	yes <input type="checkbox"/> no <input type="checkbox"/>	yes <input type="checkbox"/> no <input type="checkbox"/>
Local employment		
Local job creation/increase of employment rate through the enterprise (direct job creation). (Number of new jobs/year)		
Loss of jobs typical of that area (e. g. agriculture or tourism) due to activity (Number of jobs lost/year)		
Business and employment opportunities in other sectors (e. g. waste management) arising from company activity (Number of additional jobs created/year)		

Cultural heritage and land rights	Process 1	Process n
Loss of space used for recreational activities (e. g. sports) (km ² /lost/year) <i>Please indicate the type of space</i>		
Presence of indigenous population in the area	yes <input type="checkbox"/> no <input type="checkbox"/>	yes <input type="checkbox"/> no <input type="checkbox"/>
Involvement of local authorities/population in decision-making on the activity	yes <input type="checkbox"/> no <input type="checkbox"/>	yes <input type="checkbox"/> no <input type="checkbox"/>
Poverty		
Activities proposed by the company to reduce poverty (Number of activities/year) <i>Please indicate type of activity</i>		

ROLLING STOCK
PRODUCT CATEGORY CLASSIFICATION: UN CPC 495

ANNEX 2: EXAMPLES OF LCI INDICATORS FOR ASSESSING SOCIAL PERFORMANCE

Table 4 Indicators for the social health and safety theme.

				FRLS																	Phase 4: Testing and acceptance
				PHASE 1: Structural work				STEP 2: Painting		STEP 3: Assembly of components											Testing
				frame assembly	imperial assembly	Car assembly	finishing	painting	filming	toilet mounting	floor mounting	mechanical systems mounting	pneumatic systems mounting	internal equipment	windows mounting	cables cutting	cables mounting	bogies	Testing		
Categories	Social issues	Indicator of performance	Unit of measurement	types of workers concerned	types of workers concerned	types of workers concerned	types of workers concerned	types of workers concerned	types of workers concerned	types of workers concerned	types of workers concerned	types of workers concerned	types of workers concerned	types of workers concerned	types of workers concerned	types of workers concerned	types of workers concerned	types of workers concerned	types of workers concerned		
Workers	Health and social welfare	Health and safety training for workers	number of training courses/year hours per worker per year																		
		average rate of accidents at work	Number/year																		
		Regular health checks for employees	Number/year																		
		Provision of free meals for employees	Number/month																		
		Provision of toilets for employees	yes/no																		
		Existence of a Health and Safety Commission	yes/no																		
		Existence of emergency plans (e.g. in case of fire)	yes/no																		
		Personal protective equipment (PPE) provided (e.g. safety glasses, earplugs)	yes/no																		
		Accidents due to the use of harmful substances	Number/year																		
		General safety-related accidents	Number/year																		
		The company/site complies with local regulations on employee health and safety	yes/no																		

PRODUCT CATEGORY CLASSIFICATION: UN CPC 495

[illegible][illegible]

PRODUCT CATEGORY CLASSIFICATION: UN CPC 495

Table 7 Performance indicators for the social issue working conditions.

[illegible]

ROLLING STOCK

PRODUCT CATEGORY CLASSIFICATION: UN CPC 495

Table 8 Performance indicators for the social issue working conditions.

				PHASE 1: Structural work				STEP 2: Painting			STEP 3: Assembly of components										Phase 4: Testing and acceptance
				frame assembly	imperial assembly	Car assembly	finishing	painting	filming	toilet mounting	floor mounting	mechanical systems mounting	pneumatic systems mounting	internal equipment	windows mounting	cables cutting	cables mounting	bogies	Testing		
Categories	Social issues	Indicator of performance	Unit of measurement	types of workers concerned	types of workers concerned	types of workers concerned	types of workers concerned	types of workers concerned	types of workers concerned	types of workers concerned	types of workers concerned	types of workers concerned	types of workers concerned	types of workers concerned	types of workers concerned	types of workers concerned	types of workers concerned	types of workers concerned	types of workers concerned		
Workers	Working conditions	Holiday days - number of regular holiday days	Average number of days/year																		

ROLLING STOCK

PRODUCT CATEGORY CLASSIFICATION: UN CPC 495

Table 9 Performance indicators for social discrimination.

				FAS																Phase 4: Testing and acceptance
				PHASE 1: Structural work				STEP 2: Painting		STEP 3: Assembly of components										
				frame assembly	imperial assembly	Car assembly	finishing	painting	filming	toilet mounting	floor mounting	mechanical systems mounting	pneumatic systems mounting	internal equipment	windows mounting	cables cutting	cables mounting	bogies	Testing	
Categories	Social issues	Indicator of performance	Unit of measurement	types of workers concerned	types of workers concerned	types of workers concerned	types of workers concerned	types of workers concerned	types of workers concerned	types of workers concerned	types of workers concerned	types of workers concerned	types of workers concerned	types of workers concerned	types of workers concerned	types of workers concerned	types of workers concerned	types of workers concerned	types of workers concerned	
W orkers	Discrimination	Actions taken to increase staff diversity and/or to promote equal opportunities	Number of actions/year																	
		Women in the workforce	Ratio/year																	
		Identified discrimination complaints	Number of complaints per year																	
		Employees know how to file a complaint or raise concerns about any management action that violates non-discrimination	yes/no																	

Table 10 Performance indicators for the social theme freedom of association and collective bargaining.

				FAS																	Phase 4: Testing and acceptance
				PHASE 1: Structural work				STEP 2: Painting		STEP 3: Assembly of components											
				frame assembly	imperial assembly	Car assembly	finishing	painting	filming	toilet mounting	floor mounting	mechanical systems mounting	pneumatic systems mounting	internal equipment	windows mounting	cables cutting	cables mounting	bogies	Testing		
Categories	Social issues	Indicator of performance	Unit of measurement	types of workers concerned	types of workers concerned	types of workers concerned	types of workers concerned	types of workers concerned	types of workers concerned	types of workers concerned	types of workers concerned	types of workers concerned	types of workers concerned	types of workers concerned	types of workers concerned	types of workers concerned	types of workers concerned	types of workers concerned	types of workers concerned		
Workers	Freedom of association and collective bargaining	Membership of trade unions	% of independents who are members of trade unions																		
		Employees have the right to form associations	yes/no																		
		Employees have the right to organise collective bargaining activities	yes/no																		
		Employees have the right to strike	yes/no																		
		The employer does not hinder or interfere but proactively informs employees of their right to join trade unions and to organise in collective bargaining	yes/no																		

PRODUCT CATEGORY CLASSIFICATION: UN CPC 495

[illegible]

ROLLING STOCK

PRODUCT CATEGORY CLASSIFICATION: UN CPC 495

© EPD INTERNATIONAL AB 2023

YOUR USE OF THIS MATERIAL IS SUBJECT TO THE GENERAL TERMS OF USE PUBLISHED ON BY EPD INTERNATIONAL AB:S HOMEPAGE AT [HTTPS://WWW.ENVIRONDEC.COM/CONTACT/GENERAL-TERMS-OF-USE/](https://www.environdec.com/contact/general-terms-of-use/). IF YOU HAVE NOT REGISTERED AND ACCEPTED EPD INTERNATIONAL AB:S THE GENERAL TERMS OF USE, YOU ARE NOT AUTHORIZED TO EXPLOIT THIS WORK IN ANY MANNER.

COVER IMAGE © HITACHI RAIL

