ENVIRONMENTAL PRODUCT DECLARATION

IN ACCORDANCE WITH ISO 14025

Mooring Offshore H type Shackles from R3R3S, R4 and R4SR5 quality steel

VICINAYmooring connectors®

EPD®

THE INTERNATIONAL EPD® SYSTEM

PROGRAMME	The International EPD® System, www.environdec.com
PROGRAMME OPERATOR	EPD International AB
PCR	PCR 2014:10 Fabricated steel products, except construction products, machinery and equipment. Product Category Classification: UN CPC 412, 422, 429. Version 2.12
SYSTEM BOUNDARIES	Cradle to gate
EPD REGISTRATION NO.	S-P-00637
DATE OF PUBLICATION	2014/12/15
DATE OF REVISION	2021/12/02
DATE OF VALIDITY	2026/12/01

An EPD 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."

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Programme operator: EPD International AB, Box 210 60, SE-100 31 Stockholm, Sweden, E-mail: info@environdec.com
Product category rules (PCR): PCR 2014:10 Fabricated steel products, except construction products, machinery and equipment, version 2.12, UN CPC 412, 422, 429.
PCR review was conducted by: The Technical Committee of the International EPD® System. Review chair: Massimo Marino. Contact via info@environdec.com.
Independent third-party verification of the declaration and data, according to ISO 14025:2006: ☐ EPD process certification ☒ EPD verification
Third party verifier: Eva Larzabal. TECNALIA R&I CERTIFICACION S.L. Accredited by: ENAC nº125/C-PR283 accreditation.
Procedure for follow-up of data during EPD validity involves third party verifier: ☒ Yes ☐ No
EPD owner: Vicinay Mooring Connectors, S.A., Polígono Industrial La Aceña, nº3, pabellón 12. 48191 Galdames, Bizkaia, Spain. Tlf: +34 946100016 - info@vicinayconnectors.com - https://vicinayconnectors.com/
EPDs within the same product category but from different programmes may not be comparable. The EPD owner has the sole ownership, liability and responsibility of the EPD.

01 VICINAY MARINE GROUP

VICINAY MARINE is the first producer of mooring lines worldwide, providing solutions tailored to meet the needs of each customer. After more than 200 years of work and effort, Vicinay Marine has achieved a world leader in the supply chain and mooring lines for offshore industry.

VICINAY MOORING CONNECTORS, S.A. has been the first company in the mooring sector to verify an Environmental Product Declaration (EPD) for its products. This study was carried out in order to understand the environmental impact of mooring chain accessories throughout its entire life-cycle, considering in house and subcontracted manufacturing phases.

We have carried out a complete life cycle analysis (LCA) on our full range of products of chain and accessories, in accordance with the guidelines of ISO 14040 and 14044, taking data for the environmental impact of each product and developing and EPD with an independent external third party verification (International EPD System) in accordance with ISO 14025.

They are publicly available in the official pages of the International EPD System, a worldwide EPD certification Program.

This study implies the setting-up of a systematic process of continuous improvement in the manufacturing phase.

At VICINAY MOORING CONNECTORS we are conscious that our industrial activity influences the Environment and for that reason our management focuses on minimizing this impact. We have implemented a rigorous operation of control in accordance with the guidelines of ISO 14001 supplemented by what we have learned from progressive organizations with related businesses or from comparable companies, as well as applying the best practices generated from our own internal studies.

We are founding members of the Basque Ecodesign Center, an entity unique of this type in Southern Europe, within which a limited number of private companies and the Basque Government are committed to design and execute innovative projects in accordance with Ecodesign (ISO 14006).

VICINAY mooring connectors®

Juan Ignacio Vicinay,
CEO of Vicinay Marine

We have a long tradition and proven experience in the manufacture and supply of mooring accessories to provide the highest security to all floating devices in the sea worldwide.

Along with the security, we assume the commitment to ensure the greatest respect for the environment in the development of our activities, as well as to minimize the negative effects that, eventually, these could cause. This environmental commitment implies the development of our business in a responsible and sustainable way, being respectful towards the environment, preventing and minimizing impacts, and carrying out an efficient management of resources and trying to reduce the waste produced.

Excellence achievement has been always our challenge, and always bearing in mind the unique needs of each client.

And all this would not be possible without the implication of all the people who are part of Vicinay Mooring Connectors.

José María Arroniz,
Managing Director
of Vicinay Mooring Connectors

For many years we have promoted the Advanced Management Model and it is a clear example of our conscious determination and commitment for the continuous improvement in our processes.

In Vicinay Mooring Connectors we promote this culture of continuous improvement in environmental management, which includes risk assessment, planning and prevention activities through control and continuous improvement processes, establishing measures and actions, including those for the allocation of human and/or material resources, aimed at efficiency, reducing impacts and the consumption of energy and resources associated with our activity, complying with the contractual commitments acquired and the applicable legal regulations.

We review the results of all these following management reference frameworks that take into account our talent, following advanced management models and applying lessons learnt.

We have the conviction that this great endeavor of all makes us being a recognized business reference, and reinforces our pride of belonging.

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At the end of the 1980s, companies with a vision of the future were aware of the need to implement international management standards in their organizations to guarantee the quality of their products and services. VICINAY MOORING CONNECTORS was one of the pioneers in its area in starting to implement these models, obtaining the first ISO 9001 certification in 1990.

Eleven years later, in 2001, reflecting its sensitivity towards the ecosystem in which it operates, the organization decided to improve its environmental management, and achieved the ISO 14001 certification.

In 2004, the challenge was to become a safe company. Progress in this area was demonstrated by obtaining the OSHAS 18001 certification. In later years, the philosophy of the company has followed the trend of considering management systems as a whole, leading to the launch of a new process that integrated the management systems (IMS).

So, due to **Vicinay Mooring Connectors**' desire to be a benchmark in terms of management, in 2007 it implemented a global excellence management model that combined the organization's most relevant areas with the **EFQM** model (European Foundation for Quality Management), and adhered to the UN Global Compact committing to sustainability and sharing responsibilities for achieving a better world.

In 2010 we develop and verify the first worldwide mooring chain and accessories **Environmental Product Declaration.**

In 2011, 2014 and 2017, Euskalit, the Basque Agency for quality, recognized all the advances made over recent years by the company **VICINAY MOORING CONNECTORS**, awarding it, the Silver Q, the Golden Q and the Silver A respectively, for Business Excellence.

In 2016 the company obtained the ISO 50001:2011 certification, which demonstrates its concern for the environmental friendly use of energy management. And in 2019 updated its HS management system to ISO 45001.

And now, in 2021, VICINAY MOORING CONNECTORS renews once again its EPD certifications, aligning

International Organization for Standardization ISO 9001 - 2015 QUALITY & PROCESS COMPLIANT

International Organization for Standardization ISO 14001

OCCUPATIONAL HEALTH & SAFETY OHSAS 18001

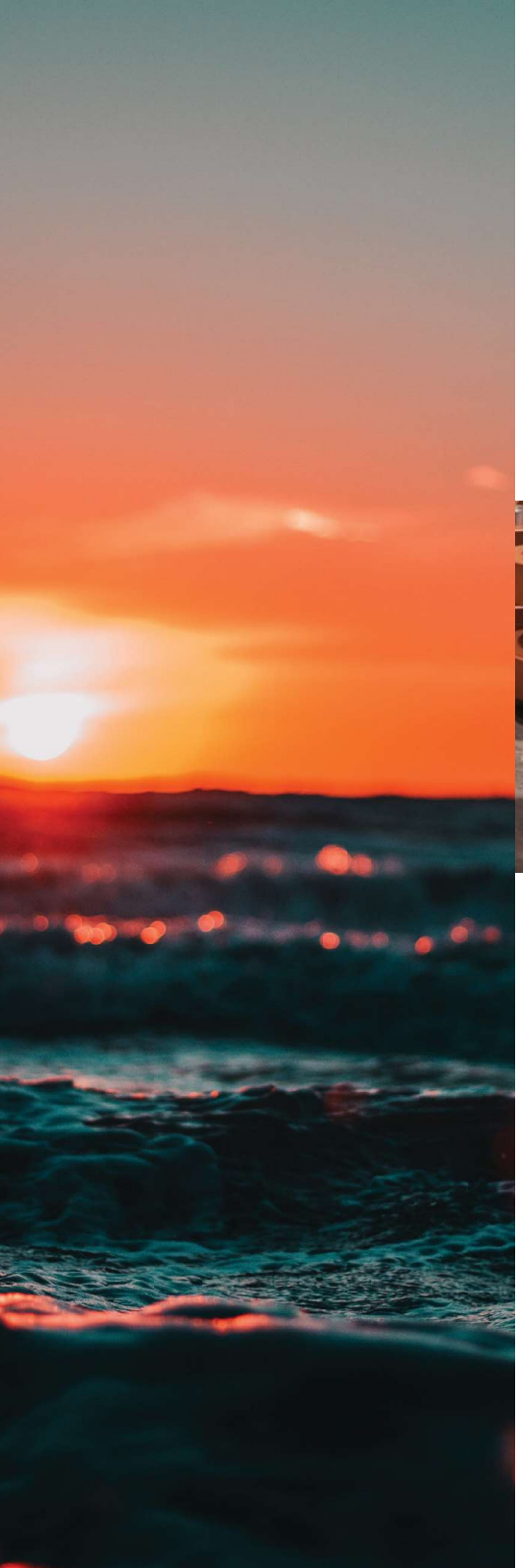
ISO 45001

EFQM Leading Excellence

ISO 50001 ENERGY MANAGEMENT

EPD® THE INTERNATIONAL EPD® SYSTEM

Q 2014 MEMORIA DE SOSTENIBILIDAD



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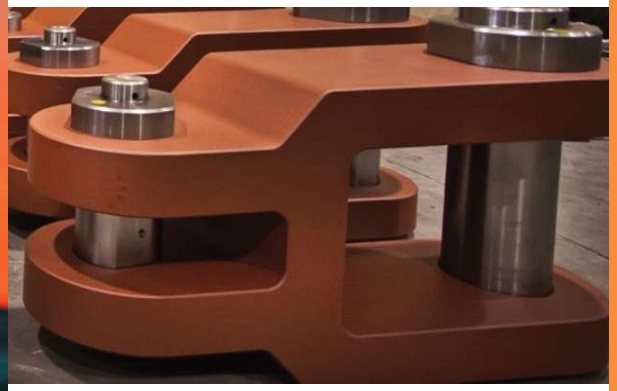

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02 LIFE CYCLE ASSESSMENT

This EPD was carried out based in the results of a LCA study. Both (LCA study and EPD) were developed in accordance with the following standards:

- ISO 14040:2006. Environmental management. Life cycle assessment. Principles and framework
- ISO 14044:2006. Environmental management. Life cycle assessment. Requirements and guidelines
- ISO 14025:2006 Environmental labels and declarations. Type III environmental declarations. Principles and procedures
- Version 3.01 General Programme Instructions for the International EPD® System
- PCR 2014:10 Fabricated steel products, except construction products, machinery and equipment. Product Category Classification: UN CPC 412, 422, 429. Version 2.12.

Vicinay supplies a wide range of anchor chain together with accessories and anchors for the shipping industry. The traditional high quality of our products is well known and preferred by the major shipping companies.

The products included in this EPD are Mooring H type Offshore Shackles, accessories for offshore chains between 40 and 220 mm. The CPC of these products is 42991,Chain and parts thereof, of iron or steel; chain and parts thereof, of copper. The average expected life of these shackles is of 20 years (from 15 to 40 years).

The Declared Unit of the present Environmental Product Declaration is the production of **1 ton (1000 Kg) of Mooring H type Offshore Shackles**. All possible diameters and sizes have been taken into account when developing the LCA. There have been considered three different steel qualities, in accordance with the mechanical properties of VICINAY MOORING CONNECTORS' Offshore accessories offered:

- R3-R3S quality steel
- R4 quality steel
- R4S - R5 quality steel

The design parameters of the accessories are influenced by the type of elements the accessories are going to connect and by that two main factors during operation: the tensile strength due to movement in the sea and natural agents such as hurricanes, typhoons, currents, etc. along with corrosion due to the saline and/or bacterial environment where the accessories will be placed.

The design characteristics of the accessories and chain must allow the mooring line to completely fulfill the requirements during the all the years of its useful life.

In accordance with the requirements for the reference PCR, similar products have been included in the same declaration but reported as separate results.

The system boundary of the EPD is "cradle to gate". A "cradle-to-grave" EPD requires a development of detailed information that defines the function of the product and scenarios for handling the usage and end of life stage in order to meet comparability within the specific application of the product group. As there are many possibilities for the use and end of life phases of our Offshore accessories (type of element to be moored, for example ships, platforms, buoys, vessels, etc., the location of the element to be moored, environmental use conditions, climatic, end of life treatment of the mooring chains by the customer…) no relevant use phase and end of life scenario could be defined.

The Geographical scope of the EPD is global, as the product is manufactured and meant to be used worldwide. Nevertheless, the EPD scope is cradle to gate, so end of life scenarios are not considered.

The Offshore accessory manufacturing plant included in the LCA study is located in Galdames (Bizkaia), in the north of Spain. This plant is known as VICINAY MOORING CONNECTORS' FORGING PLANT. Data for the LCA model corresponds to the year 2020.

System Boundaries

UPSTREAM PROCESSES

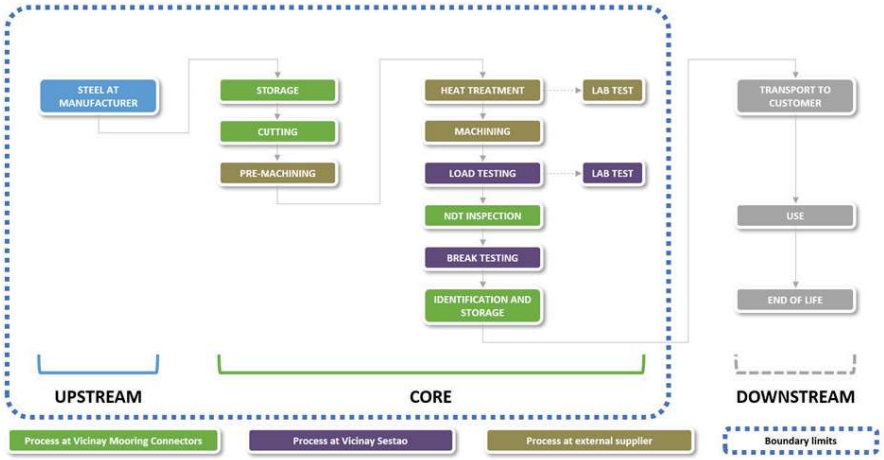
- Extraction and production of raw material for all main parts of the product
- Recycling process of recycled material used in the product

CORE PROCESSES

- Manufacturing process for main parts and components (including core process related material consumption, energy production and consumption, emissions to air, water and soil...). This includes inputs and outputs that take place in outsourced companies due to the production process
- Transportation of auxiliary materials and combustibles to the manufacturing plant
- All transportation carried out during the manufacturing process
- Impacts due to the production of electricity and fuels used in the core module
- Waste treatment of waste generated during the manufacturing process

DOWNSTREAM PROCESSES

- Not included in the system boundaries according to the Cradle to Gate scope.



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Production of Mooring Accessories

Mooring H Offshore Shackles

The life-cycle begins with the forged steel bloom, plate or round bar production at the steelmaker´s plant, which is located in Reinosa, northern Spain.

At this plant, starting from selected scrap metals the steel alloy, through a process of electric steel making plant, is produced to the "recipe" specified by VICINAY. The steel is forged in blooms, plates or bars in accordance to VICINAY purchase specifications which also establishes the steel dimensions that it has to be considered for obtaining the minimum excess of material.

The Iron used for the manufacturing of these special steel is 100% Recycled content.

Finally, the steel is transported by lorry to the accessories manufacturing plant, **VICINAY MOORING CONNECTORS' FORGING PLANT** in Galdames.

When the steel arrives at plant, the blooms, plates or bars are classified and storage in metallic pallets in the reception area. After that, the steel blooms, plates or bars are transported to the cutting area by crane where they are cut to required dimension. The steel excess is managed as new raw material or revalued waste.

After cutting the steel, the accessories are processed until the customer's requirements are satisfied. These operations take place either at **VICINAY MOORING CONNECTORS** or by outsourced enterprises.

In this case, after the steel has been cut the following pre-machining operations are applied to the products: turning, pieces adjustment and grinding repair of defects from the previous step, and turning.

Once the shackles are formed the first dimensional control is carried out.

The shackles then are transported to Sestao where VICINAY MARINE has got more facilities. There, the product is load tested to verify its resistance to traction according to the applicable specification. 100% of these products are load tested and then the final dimensional control is performed to check full dimensional and elongation conformity.

Finally, the pieces are inspected by Non Destructive Examination (visual, magnetic particle and ultrasonic test exams) in Galdames. One piece per batch is break tested in Sestao.

After final inspection the shackle is identified and stored in Galdames waiting for delivery.

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The organization's business is the Design, Manufacturing and Supply of high technology chains and accessories for the naval sector and the offshore industry.

Each of the processes from the buying of the raw material to the sale of the final product is subject to internal procedures which are the object of annual revision both by VICINAY and External Auditors.

The composition of the product is 100% recycled steel.

The steel specification gives detailed information regarding the chemical composition, tests for quality control, delivery method (dimensional requirements and packaging) and mechanical characteristics.

The exact composition of this steel is covered by exclusive legal rights including patent and trademarks, so no content declaration or list of materials and chemical substances is included in the EPD (as the reference PCR states and allows).

The products designed and made by VICINAY are prepared to be able to withstand stringent technical requirements and adverse environmental conditions during their calculated useful life-span of 20 years. When the useful life-span has concluded the product is then recycled.

There is currently no environmental legislation, in the countries in which we operate, known to VICINAY at the present time, to which the final product is subject.

VICINAY's Health and Safety, Quality and Environmental policies are kept up to date and are available for inspection by any interested party. These policies guarantee the fulfillment of both the client and the legal and environmental requirements applicable to its processes.

There is no radioactive contaminated waste generated during the production process of VICINAY MOORING CONNECTORS' products.

LCA Data Sources

The data used in modeling the processes refers to the period January-December of the year 2020. The data reflects the activities carried out by the company in the production of the mooring accessories which are the subject of the LCA study.

Primary data concerning the energy consumption, resource consumption and waste production on VICINAY MOORING CONNECTORS' FORGING PLANT is obtained from the consumption control tables created by the company, using information from natural gas, electricity and water from supply companies, the weight control by means of a properly calibrated scale and delivery notes of the diverse supplies reported according to the Environmental Management System certified according to ISO 14001:2004 procedure "Measuring and Follow-up".

The data provided by VICINAY MOORING CONNECTORS' FORGING PLANT are not broken down by the selected declared unit, but they are provided for the total of the company in the selected year. Therefore, distinction has been made between the specific characteristics of each operation, the quantity of material processed, and based on calculations it has been estimated the allocation of the proportional part to the environmental aspects per ton of manufactured accessories.

Primary data concerning the energy consumption, resource consumption and waste production from the intermediate manufacturing suppliers have been taken for the same period of January-December of the year 2020. This data has been "transformed" into the LCA Declared Unit data by comparing the collected data with the annual manufactured shackle amount for the same period. For allocating the data from the outsourced companies, economic allocation had to be adopted, due to the lack of data for performing a mass allocation.

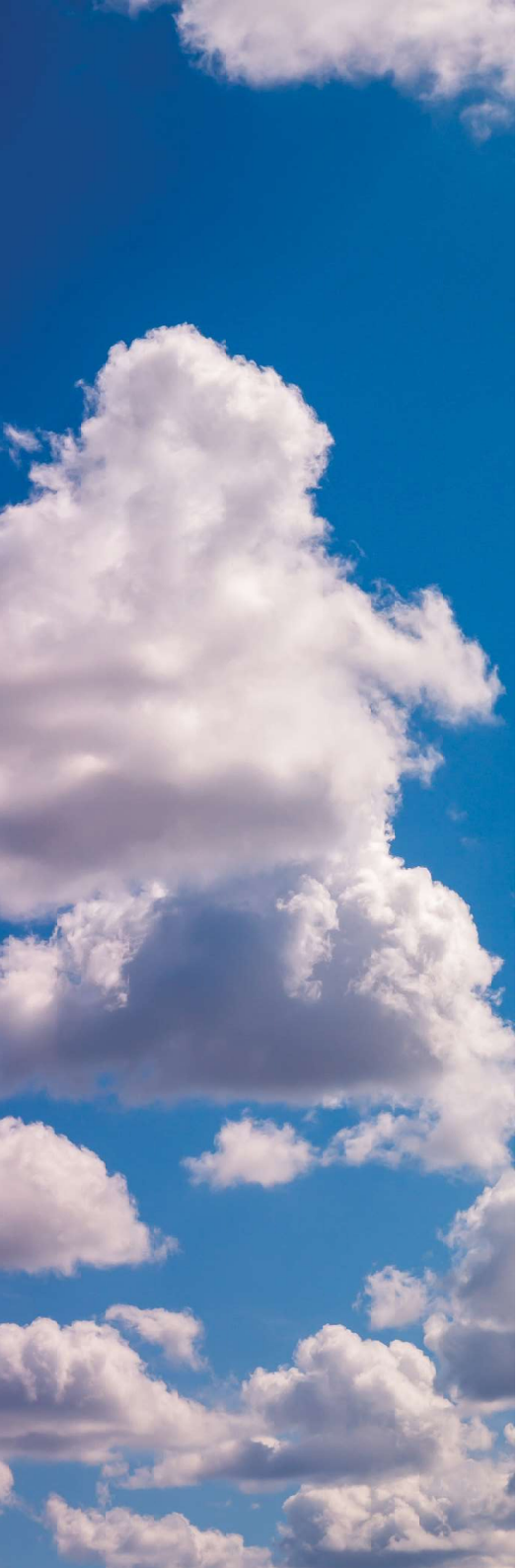
In those cases in which primary data for specific processes and/or materials was not available, theoretical calculations, estimations or the use of data from internationally renowned sources (ECOINVENT 3.6) has been used.

The analyzed life-cycle includes the collection of scrap metal by the supplier for the production of the special steel and transportation from their manufacturing plant to VICINAY MOORING CONNECTORS' FORGING PLANT, where the steel bars are processed and the shackles which are the subject of this declaration are produced.

No cut off rule has been taken into account on this study, so all the data compiled has been used for the LCA.

Data Quality

For assessing the quality of the data used for the assessment, the pedigree matrix method has been used. Due to the results of the analysis, the 100% of the data used can be considered of very high quality. About a 73% of the impacts are due to specific data, while selected generic data represent about 27% of the impacts.



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03 ENVIRONMENTAL PROFILE(*)

Environmental Impacts

Environmental profile			R3 R3S Quality			R4 Quality			R4S R5 Quality		
[1 ton (1000kg) Mooring Offshore H Type Shackles]			H Type Shackles			H Type Shackles			H Type Shackles		
Environmental Impact			Upstream	Core	Total	Upstream	Core	Total		Core	Total
Global warming potential (GWP)	Fossil	kg CO_2 eq.	1,44E+03	9,17E+02	**2,36E+03**	1,61E+03	9,17E+02	**2,53E+03**	1,93E+03	9,17E+02	**2,84E+03**
	Biogenic	kg CO_2 eq.	4,28E+00	8,46E+00	**1,27E+01**	4,81E+00	8,46E+00	**1,33E+01**	5,25E+00	8,46E+00	**1,37E+01**
	Land use and land transformation	kg CO_2 eq.	1,80E+00	4,64E+00	**6,43E+00**	1,99E+00	4,64E+00	**6,63E+00**	2,18E+00	4,64E+00	**6,82E+00**
	TOTAL	kg CO_2 eq.	1,45E+03	9,30E+02	**2,38E+03**	1,62E+03	9,30E+02	**2,55E+03**	1,94E+03	9,30E+02	**2,87E+03**
Acidification potential (AP)		kg SO_2 eq.	7,69E+00	2,88E+00	**1,06E+01**	1,00E+01	2,88E+00	**1,29E+01**	1,05E+01	2,88E+00	**1,34E+01**
Eutrophication potential (EP)		kg PO_4^3 eq.	8,87E+00	4,38E+00	**1,32E+01**	1,20E+01	4,38E+00	**1,64E+01**	1,33E+01	4,38E+00	**1,76E+01**
Formation potential of tropospheric ozone (POCP)		kg C_2H_4 eq.	6,92E+00	6,36E+00	**1,33E+01**	1,08E+01	6,36E+00	**1,71E+01**	1,04E+01	6,36E+00	**1,67E+01**
Abiotic depletion potential – Elements		kg Sb eq.	2,31E-01	1,11E-02	**2,42E-01**	3,65E-01	1,11E-02	**3,76E-01**	3,41E-01	1,11E-02	**3,52E-01**
Abiotic depletion potential – Fossil fuels		MJ, net calorific value	1,85E+04	1,21E+04	**3,06E+04**	2,02E+04	1,21E+04	**3,23E+04**	2,34E+04	1,21E+04	**3,55E+04**
Water scarcity potential		m^3 eq.	1,11E+03	1,08E+03	**2,19E+03**	1,21E+03	1,08E+03	**2,29E+03**	1,22E+03	1,08E+03	**2,30E+03**

GLOBAL WARMING (POTENTIAL): Greenhouse effect emissions into the atmosphere absorb some of the infrared solar radiation reflected on the earth's surface resulting in a troposphere temperature increase. The global warming potential is an index, in equivalent kg of CO_2, to measure the global warming contribution of a substance released into the atmosphere in a span of 100 years. Four GWP indicators shall be declared, which differentiates greenhouse gases depending on their origin: GWP-fossil, GWP-biogenic, GWP-land use and land use change (luluc), and GWP-TOTAL (the sum of the other three GWP indicators).

ACIDIFICATION (POTENTIAL): Acidification results from the emission of sulphur dioxide and nitrogen oxides. In the atmosphere, these oxides react with the existing steam, forming acids which fall back to the earth in the form of rain or snow, or as dry deposits. Its effect on the earth generally shows itself in the form of reduced forest development and in aquifer ecosystems affects to the disappearance of some living organisms. Acidification potential measures an emitting substance's contribution to acidification expressed in sulphur dioxide equivalents (SO_2).

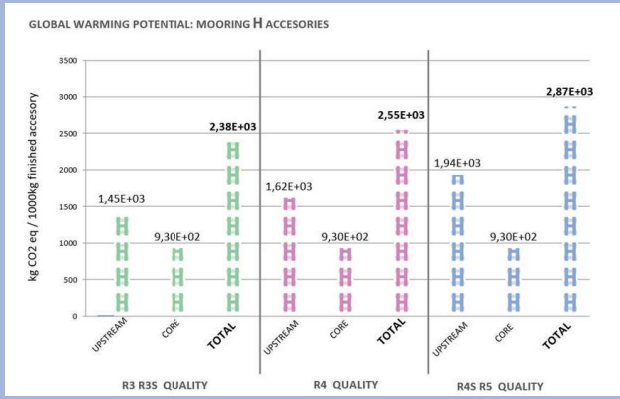
EUTROPHICATION (POTENTIAL): Eutrophication results in the enrichment of water ecosystems with organic compounds and nutrients, which give rise to an increased production of plankton, algae and other water plants with the resulting reduction in water quality. In this case the main sources related to this phenomenon are nitrogen and phosphorous. A secondary effect is the decomposition of dead organic material, a process which consumes oxygen and may result in anaerobic environments. The eutrophication potential, expressing in equivalent PO_4^3, quantifies nutrient enrichment via the release of a substance in water or land.

FORMATION POTENTIAL OF TROPOSPHERIC OZONE: The photo-chemical formation of the ozone in the troposphere is mainly provoked by the decomposition of volatile organic compounds (VOCs) in the presence of nitrogen oxides (NOx) and light. The formation of ozone by means of this process can be quantified by using the so-called ozone photo-chemical formation potentials (POCPs) expressed in equivalent kg of ethylene (C_2H_4).

ABIOTIC DEPLETION POTENTIAL – ELEMENTS: Availability of mineral and metal resources, related to the extraction of minerals due to the inputs in the system. The abiotic depletion factor is determined for each mineral extraction (kg of antimony equivalents / kg of extraction) on the basis of the concentration reserves and the decumulation rate.

ABIOTIC DEPLETION POTENTIAL – FOSSIL FUELS: Availability of fossil resources, related to the extraction of fossil resources due to inputs into the system. The abiotic depletion of fossil fuels is related to the Lower Calorific Value expressed in MJ per kg of m^3 of fossil fuel.

WATER SCARCITY POTENTIAL: Indicator of water use. Represents the relative remainder of water available per area in a watershed once the demand from humans and aquatic ecosystems has been satisfied. It assesses the potential for water deprivation, either for humans or ecosystems, assuming that the less water is available per area, the more likely it is that another user will be deprived



(*) PLEASE NOTE THAT ALL THE FIGURES IN THIS ENVIRONMENTAL PROFILE ARE EXPRESSED IN FRENCH STYLE

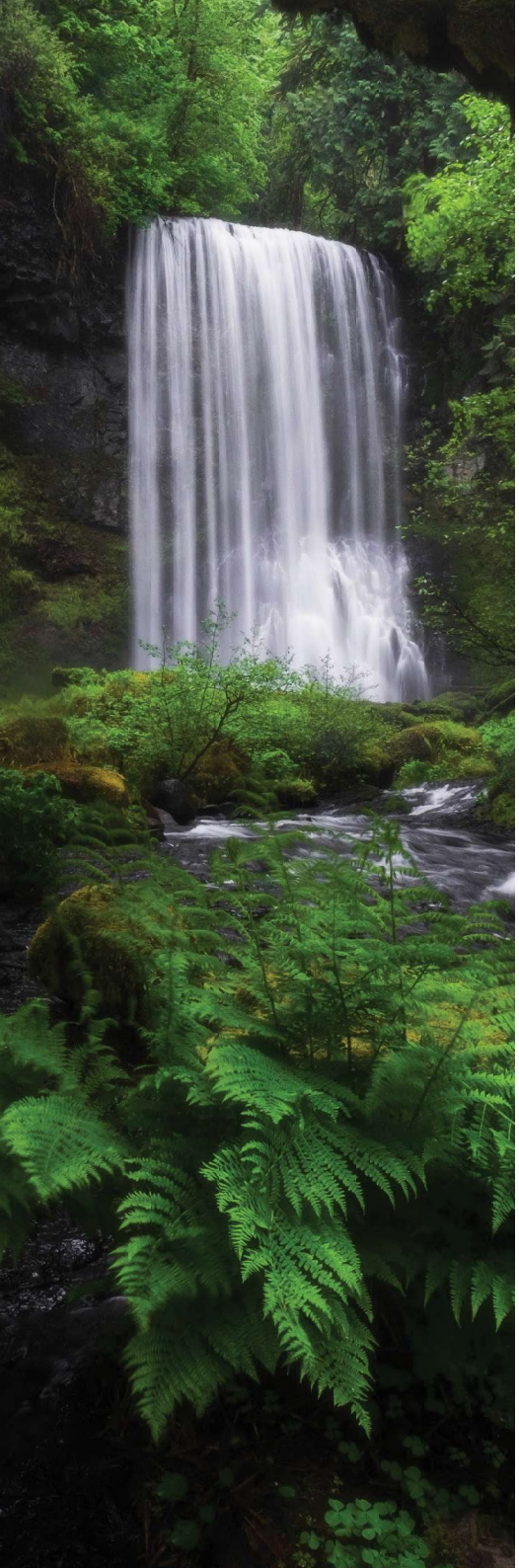
Use of Resources

Environmental profile			R3 R3S Quality			R4 Quality			R4S R5 Quality		
[1 ton (1000kg) Mooring Offshore H Type Shackles]			H Type Shackles			H Type Shackles			H Type Shackles		
Use of resources			Upstream	Core	Total	Upstream	Core	Total		Core	Total
Parameter		Unit									
Primary energy resources – Renewable	Used as energy carrier	MJ, net calorific value	3,44E+03	4,34E+03	**7,78E+03**	4,20E+03	4,34E+03	**8,54E+03**	5,20E+03	4,34E+03	**9,54E+03**
	Used as raw materials	MJ, net calorific value	6,86E+00	0,00E+00	**6,86E+00**	6,86E+00	0,00E+00	**6,86E+00**	6,86E+00	0,00E+00	**6,86E+00**
	TOTAL	MJ, net calorific value	3,45E+03	4,34E+03	**7,79E+03**	4,21E+03	4,34E+03	**8,55E+03**	5,21E+03	4,34E+03	**9,55E+03**
Primary energy resources – Non-renewable	Used as energy carrier	MJ, net calorific value	2,44E+04	2,15E+04	**4,59E+04**	2,64E+04	2,15E+04	**4,79E+04**	2,98E+04	2,15E+04	**5,13E+04**
	Used as raw materials	MJ, net calorific value	6,64E+01	0,00E+00	**6,64E+01**	6,64E+01	0,00E+00	**6,64E+01**	6,64E+01	0,00E+00	**6,64E+01**
	TOTAL	MJ, net calorific value	2,44E+04	2,15E+04	**4,60E+04**	2,65E+04	2,15E+04	**4,80E+04**	2,99E+04	2,15E+04	**5,14E+04**
Secondary materials		kg	1,97E+03	0,00E+00	**1,97E+03**	1,97E+03	0,00E+00	**1,97E+03**	1,97E+03	0,00E+00	**1,97E+03**
Renewable secondary fuels		MJ, net calorific value	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**
Non-renewable secondary fuels		MJ, net calorific value	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**
Net use of fresh water		m^3	3,69E+01	5,30E+01	**8,99E+01**	3,98E+01	5,30E+01	**9,28E+01**	4,04E+01	5,30E+01	**9,34E+01**

Waste production and output flows

Environmental profile		R3 R3S Quality			R4 Quality			R4S R5 Quality		
[1 ton (1000kg) Mooring Offshore H Type Shackles]		H Type Shackles			H Type Shackles			H Type Shackles		
Waste Production		Upstream	Core	Total	Upstream	Core	Total		Core	Total
Parameter	Unit									
Hazardous waste disposed	kg	3,98E-02	1,28E+00	**1,32E+00**	3,92E-02	1,28E+00	**1,32E+00**	4,00E-02	1,28E+00	**1,32E+00**
Non-Hazardous waste disposed	kg	7,41E+02	4,02E+02	**1,14E+03**	9,14E+02	4,02E+02	**1,32E+00**	1,41E+03	4,02E+02	**1,81E+03**
Radioactive waste disposed	kg	1,12E-01	1,51E-01	**2,63E-01**	1,19E-01	1,51E-01	**2,70E-01**	1,25E-01	1,51E-01	**2,76E-01**

Environmental profile		R3 R3S Quality			R4 Quality			R4S R5 Quality		
[1 ton (1000kg) Mooring Offshore H Type Shackles]		H Type Shackles			H Type Shackles			H Type Shackles		
Output Flows		Upstream	Core	Total	Upstream	Core	Total		Core	Total
Parameter	Unit									
Components for 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	**0,00E+00**
Material for recycling	kg	0,00E+00	9,73E+02	**9,73E+02**	0,00E+00	9,73E+02	**9,73E+02**	0,00E+00	9,73E+02	**9,73E+02**
Materials for energy recovery	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**
Exported energy, electricity	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**
Exported energy, thermal	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**



VICINAY mooring connectors®

EPD®

04 A SUISTAINABLE VISION OF FUTURE

VICINAY MOORING CONNECTORS has, for a long time, been implementing in its industrial activity improvements and innovation in its manufacturing process which have contributed a more efficient prevention of pollution and an increased respect for our environment.

The qualities of steel designed specifically for accessories, with an optimal behaviour with respect to erosion and corrosion, contributed in the past to the elimination of bitumen based finishing paints which were never considered favourable to the environment.

Today, continuing with a highly creative policy of R+D+I in collaboration with prestigious steel manufacturers and Vicinay Marine Innovación R+D department, we are developing new steel grades which composition, shaped and subsequent specific treatment lead to restricted and controlled mechanic properties, optimizing the costs to the maximum and reducing the environmental impact by using lower alloy factors. The advanced operating features of these new materials also reduce the quantity of natural resources because of a better fatigue endurance and the systematic reduction in the weight of the mooring line.

The aromatic paints used for coatings have been replaced by water based paint or by innovative protective coatings, such as Thermal Sprayed Aluminum (TSA) or ceramkote, for example.

Our Forging Plant, located in a magnificent rural setting, 30 km from Bilbao (Spain), is a clear example of sustainability and respect for our planet. We have implemented in it a Use of Energy system based on the ISO 50001 standard. The PDCA cycle is applied to improve the energy management, targeting to increase the energy efficiency of the company, reduce the carbon footprint and reduce energy costs.

We follow a responsible management protocol based on the identification, storage, and transportation of all waste, which our productive process generates. With regard to hazardous waste, we maintain a responsible policy regarding the choice of materials, machinery, and equipment we use and leakage control. All these measures allow our environmental footprint to continually reduce.

VICINAY MOORING CONNECTORS clearly expresses in its "Mission, Vision, Values and Policy" statement its vocation of being a local company with a world-wide projection. Developing its alliances and agreements with local partners with the consequent benefit from reduced transportation both to and from the factory.

For VICINAY MOORING CONNECTORS to be socially sustainable is to promote the construction of a company focused on global welfare. We are members of the global corporate sustainability network, Global Compact, which entails the promotion of actions that allow the fulfilment of human, labour and environmental rights and the fight against corruption in regions where our organization operates. The principle 7, which states that businesses should support a precautionary approach to environmental challenges, is the one which binds the company to be proactive in its approach to environmental challenges.

We are founding partner of The **Basque Ecodesign Center,** entity based in the Basque Country and structured pursuant to a partnership framework between companies from the private sector and the Basque Government, and whose scope is to design and execute ecodesign innovative projects.

VICINAY MOORING CONNECTORS expects its actions to contribute to the legacy of a better planet for future generations.

VERIFICATION STATEMENT CERTIFICATE

CERTIFICADO DE DECLARACIÓN DE VERIFICACIÓN

Certificate No. / Certificado nº: EPD06302

TECNALIA R&I CERTIFICACION S.L., confirms that independent third-party verification has been conducted of the Environmental Product Declaration (EPD) on behalf of:
TECNALIA *R&I CERTIFICACION S.L., confirma que se ha realizado verificación de tercera parte independiente de la Declaración Ambiental de Producto (DAP) en nombre de:*

VICINAY MOORING CONNECTORS S.A.
Polígono Industrial La Aceña, 3 - pabellón 12
48191 GALDAMES (Bizkaia) (SPAIN)

for the following product(s):
para el siguiente(s) producto(s):

MOORING OFFSHORE H TYPE
SHACKLES FROM R3R3S, R4 AND R4SR5 QUALITY STEEL.
GRILLETES OFFSHORE TIPO H
DE ACERO CALIDAD R3R3S, R4 Y R4SR5.

with registration number **S-P-00637** in the International EPD® System *(www.environdec.com)*
*con número de registro **S-P-00637** en el Sistema International EPD® (www.environdec.com)*

it´s in conformity with:
es conforme con:

- **ISO 14025:2010 Environmental labels and declarations. Type III environmental declarations.**
- **General Programme Instructions for the International EPD® System v.3.01.**
- **PCR 2014:10 v2.12. Fabricated steel products, except construction products, machinery and equipment.**
- **UN CPC 412 Products of iron or steel.**
- **UN CPC 422 Tanks, reservoirs and containers of iron, steel or aluminium**
- **UN CPC 429 Other fabricated metal products.**

Issued date / *Fecha de emisión:*	02/12/2021
Update date / *Fecha de actualización:*	02/12/2021
Valid until / *Válido hasta:*	01/12/2026
Serial Nº / *Nº Serie:*	EPD063021-E

Carlos Nazabal Alsua
Manager

ENAC CERTIFICACIÓN
Nº 125/C-PR283

This certificate is not valid without its related EPD.
Este certificado no es válido sin su correspondiente EPD.

El presente certificado está sujeto a modificaciones, suspensiones temporales y retiradas por TECNALIA R&I CERTIFICACION.
This certificate is subject to modifications, temporary suspensions and withdrawals by TECNALIA R&I CERTIFICACION.

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The validity of this certificate can be checked through consultation in www.tecnaliacertificacion.com.

VICINAY mooring connectors®

EPD®

THE INTERNATIONAL EPD® SYSTEM