

Forma 5

EPD Environmental Product Declaration



Program SENSE
REF: SENA1
Dimensions: 95,7X65X57 cm

Function and form go hand in hand in Sense, a high- performance technical chair for operative and executive spaces. Its backrest dimensiones, comfortable elastic mesh and state of the art synchronized mechanism make sense one of the most comfortable chairs on the market for intensive use.

RAW MATERIALS USED INCLUDING PACKAGING

	KG of raw material contained in the product	% of raw material contained in the product
STEEL	6,31	31,28%
ALUMINUM	1,59	7,88%
WOOD	2,34	11,6%
POLYAMIDE	5,13	25,42%
POLYESTER	0,2	0,98%
POLYSTYRENE	0,12	0,58%
POLYPROPYLENE	1,34	6,63%
POLYURETHANE	3,15	15,62%
Total	20,18	100%

% Recycled materials: 49%
% Recyclable materials: 94 %

The Environmental Product Declaration for SENSE chairs has been calculated and drafted in accordance with the guidelines set by ISO 14025 type III, and based on the product category rules “PCR 2012-19, Furniture, except seats and mattresses” version 2.01.

SENSE Chair, Life Cycle Information

FUNCTIONAL UNIT

The functional unit consists of a SENSE chair, weighing 20.18 kg, operating for a service life of 15 years.

SYSTEM BOUNDARIES

The limits established for the system under analysis are: raw materials, production (processes and maintenance of facilities), transportation, packaging, distribution, use, and end of life, including packaging and product.

SCOPE

The scope of the system includes the complete life cycle of the product, from raw material procurement, through manufacturing, use and end of life. The system has been divided into three phases:

- UPSTREAM: including the manufacture of raw materials
- CORE: including the transportation of these raw materials to Grupo Forma 5 (Spain, Seville), the product manufacturing process and the treatment and management of waste.
- DOWNSTREAM: including distribution to the customer, maintenance, use of the product and end of life of both the product itself and the packaging that accompanies it in its distribution.

CERTIFICATES

- ISO 9001:2015
- ISO 14001:2015
- ISO 14006:2011
- ISO 45001:2018
- TECNALIA QUALITY MARK

Forma 5., S.L.u. Group.

Manufactured in Spain, European Union.

Prepared by: Luis Carlos González Valencia.

Industrial Technical Engineer by the University of Seville

Colegio Oficial de Ingenieros Técnicos de Sevilla (COGITISE).

Member number: 9129.

IMPACTS BY CATEGORY

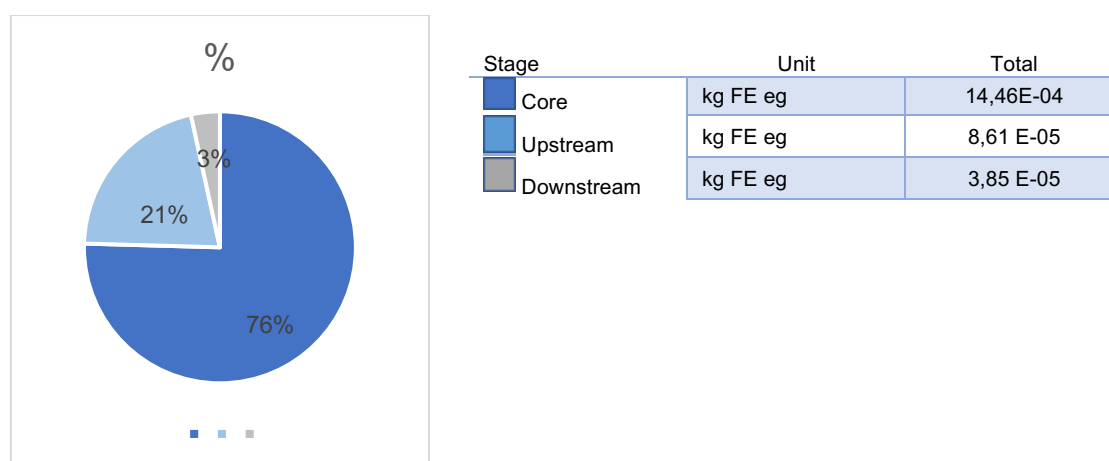
EPD 2018 ¹ Categories indicators	Unidad	CORE Impact result	UPSTREAM Impact result	DOWNSTREAM Impact result	TOTAL
Metal depletion	kg FE eq	14,46E-03	8,61 E-05	3,85E-05	26,92E-05
Acidification (destination not included)	kg SO2 eq	20,53E-04	9,98E-11	3,74E-06	34,25E-11
Photochemical oxidation	kg NMVOC	21,69E-04	14,36E-06	1,726E-02	7,92E-05
Eutrophication	kg PO4---eq	15,12E-05	4,19E-06	2,287E-03	11,3E-08
Climate change (carbon footprint)	kg CO2 eq	27,59E-02	9E-03	11,09E-02	47,68E-03
Depletion of fossil	Kg oil eq	7,93E-02	1,29E-03	1,592E+02	1,943E+03
Ozone layer depletion	kg CFC-11 eq	4,51E-07	2,31E-06	3,74E-02	10,56E-06
Water depletion	m3	16,51E+02	0,00E+00	5,8E-03	22,31E+02

Table 1. Impacts by Category in the SENSE chair family.

¹ This method is the successor to EPD (2013) and is intended for the creation of Environmental Product Declarations (EPD), as published on the website of the Swedish Environmental Management Council (SEMC). For more information, see also General Instructions for the International EPD System Programmer 3.0 from December 11, 2017.

The latest update of the recommendations included in this method is from 2018-06-08 (adding Water Scarcity Footprint). Contact information: <http://www.environdec.com/>

METAL DEPLETION

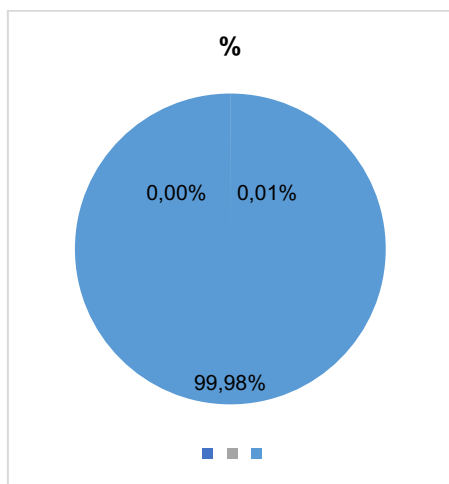


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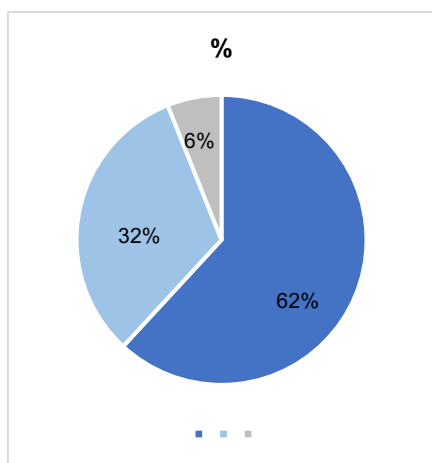
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ACIDIFICATION (DESTINATION NOT INCLUDED)



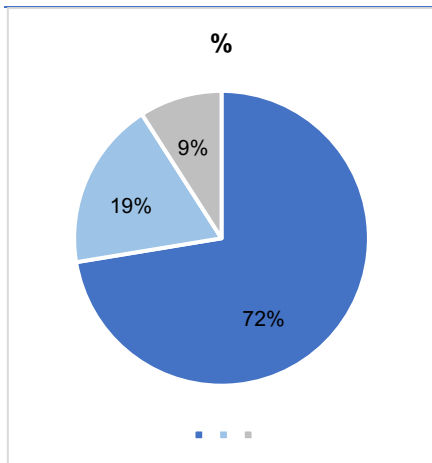
Stage	Unit	Total
Core	kg SO2 eq	20,53E-04
Upstream	kg SO2 eq	9,98 E-11
Downstream	kg SO2 eq	3,74 E-06

PHOTOCHEMICAL OXIDATION



Stage	Unit	Total
Core	kg NMVOC	21,69 E-04
Upstream	kg NMVOC	14,36E-06
Downstream	kg NMVOC	1,726E-02

EUTROPHICATION

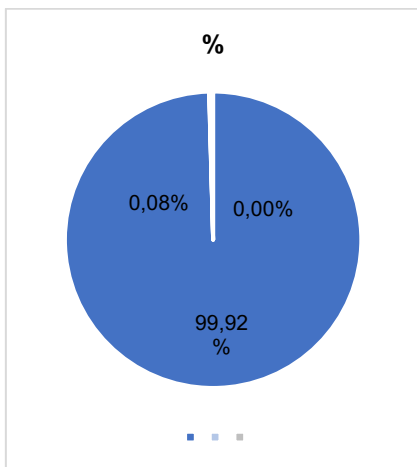


Stage	Unit	Total
Core	kg P--- eq	15,12E-05
Upstream	kg P--- eq	4,19E-06
Downstream	kg P--- eq	2,287E-03

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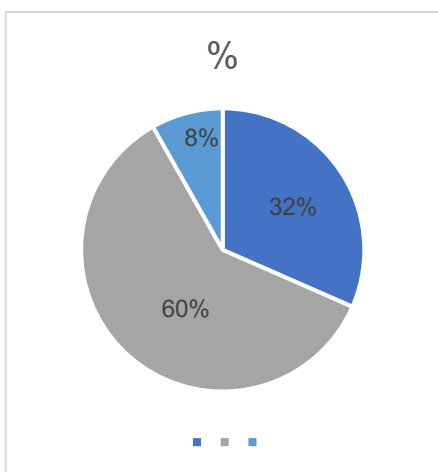
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CLIMATE CHANGE (CARBON FOOTPRINT)



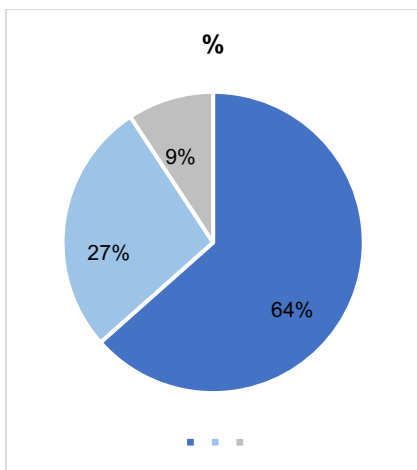
Stage	Unit	Total
Core	Kg CO2 eq	27,59E-02
Upstream	kg CO2 eq	9E-03
Downstream	kg CO2 eq	11,09E-02

DEPLETION OF FOSSIL



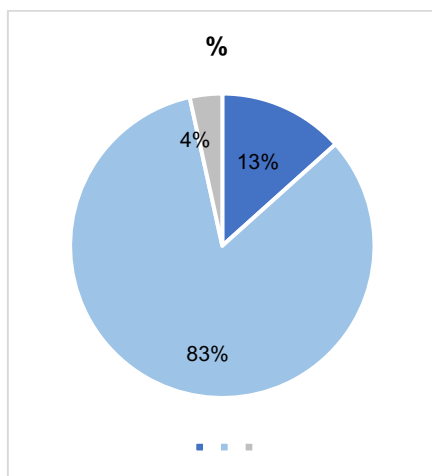
Stage	Unit	Total
Core	Kg oil eq	7,93E-02
Upstream	kg oil eq	1,29E-03
Downstream	kg oil eq	1,59E+02

OZONE LAYER DEPLETION



Stage	Unit	Total
Core	kg CFC-11 eq	4,51E-07
Upstream	kg CFC-11 eq	2,31E-06
Downstream	kg CFC-11 eq	3,74E-02

WATER DEPLETION



Stage	Unit	Total
Core	M3	16,51 E+02
Upstream	M3	0,00E+00
Downstream	M3	5,8E-03

USE OF RESOURCES

RESOURCES	unit	CORE	UPSTREAM	DOWNSTREAM
Products				
Energy non renewable	MJ	14,22E+03	8,41E-02	8,71E-01
Energy renewable	%	11,78%	4,63%	7,89%
Consumption of material resources	kg	14,62E+03	4,59E+00	6,78E+02
Consumption of water resources	M3	17,02E+03	5,04E+00	6,63E+02
Resources generation	kg	17,48E-02	6,49E-02	4,17E-03
Waste water	%	0.09%	0.00%	0.00%

CATEGORIES OF WASTE AND OUTPUT FLOWS

RESOURCES	unit	CORE	UPSTREAM	DOWNSTREAM
Products				
Hazardous waste	kg	11,09E-05	2,15E-06	5,36E-06
Non- hazardous waste	kg	0,00E+00	0,00E+00	0,00E+00
Radioactive waste	kg	15,92E-05	1,15E-06	10,71E-07