Hilti Corporation
9494 Schaan
Liechtenstein

Feldkircherstrasse 100 I P.O. Box 333
www.hilti.com

Rechtsform: Aktiengesellschaft I Sitz: 9494 Schaan
ÖR-Nr.: FL-1.011.557-0 I MWST-Nr.: 50 555

Environmental report

„CFS-CID MD P (01)“

September 2019

Department	Corp. HSE	ID-Number:	E00317
Date	20190910		
Document type	Environmental report		
Product type	Fire protection		
Keywords	LCA, PCF		
Author	Andreas Bertram, FIT-Umwelttechnik GmbH		
Release	Schäfer, Martin		

Contents

1 Life Cycle Assessment „HILTI CFS-CID MD P (01)“

1.1 Technical data and material distribution

Table 1.1: Technical data and material distribution

IT- Number	Product name	Pcs. per salespack	Weight [kg]	Material
2205143	CFS-CID MD P 2’’/2.5"	48	7,126	Steel, Polymer, Chemical substances, Cardboard
2205144	CFS-CID MD P 3’’/2.5"	36	6,940	Steel, Polymer, Chemical substances, Cardboard
2205145	CFS-CID MD P 4’’/2.5"	12	3,7416	Steel, Polymer, Chemical substances, Cardboard
2205146	CFS-CID MD M 2’’/2.5"	48	7,1496	Steel, Polymer, Chemical substances, Cardboard
2205147	CFS-CID MD M 3’’/2.5"	36	6,918	Steel, Polymer, Chemical substances, Cardboard
2205148	CFS-CID MD M 4’’/2.5"	12	3,0672	Steel, Polymer, Chemical substances, Cardboard
2232816	CFS-CID MD P 2"/4"	36	6,918	Steel, Polymer, Chemical substances, Cardboard
2232817	CFS-CID MD P 3"/4"	27	6,4716	Steel, Polymer, Chemical substances, Cardboard
2232818	CFS-CID MD P 4"/4"	9	3,3486	Steel, Polymer, Chemical substances, Cardboard
2233433	CFS-CID MD M 2"/4"	36	6,5328	Steel, Polymer, Chemical substances, Cardboard
2233430	CFS-CID MD M 3"/4"	27	6,4986	Steel, Polymer, Chemical substances, Cardboard
2233431	CFS-CID MD M 4"/4"	9	3,3342	Steel, Polymer, Chemical substances, Cardboard

1.2 Description of the applied method

A life cycle assessment according to DIN EN ISO 14040/44, was performed on a product of HILTI AG (CFS-CID MD P (01)), which considers the entire life cycle of the product (cradle to grave). The accounting data come from the source: GaBi 9.2, and are evaluated from IPCC 2001, April. 2015.

The entire life cycle of the product is divided into the following stages:

- Raw material,
- Production,
- Use,
- End of life,
- Transportation.

The data of the “Raw material” distribution of the product is derived from a dismantling and disassembling analysis, that was already carried out by an external partner.

Each material, which is defined in the dismantling and disassembling analysis is specifically assigned to one or several “Production” processes in order to describe the process as closely as possible.

In production, the following substances are consumed or emitted (waste is emitted) for one kg of the weight of the product.

Table 1.2: Production data

Type	Quantity	Unit
El. Energy	**187,99**	**Wh**
Th. Energy	**66,98**	**Wh**
Water	**0,024**	**l**
Aceton	**0,0002**	**l**
Spiritus	**0,0001**	**l**
Inert waste	**0,0116**	**kg**
Waste for recycling	**0,0086**	**kg**
Waste for disposal	**0,0007**	**kg**

The products produce no emissions in the “Use” phase.

In the “End of life” it is assumed, that the entire product is first fed to a reduction process.
A Shredder (QZ 1600 HD) from MeWa, is used for separating and crushing the individual materials). The chemical substances are completely deposited. The respective credits results from the energy recovery of the paper and polymers. The metal is completely recycled.

The “Transportation” scenario is based on the 2009 Limit Stretch study by PE International, and is evaluated according to the weight of the product. The first transport reflects the transport distances, which are essential for bringing together the individual components (by sea- a container ship for 16 800 km for 30% of the product weight, by road- a truck for 4 716 km for 70% of the product weight). The second transport reflects the distribution of the product to the various sales companies within the EU (2 300 km by road in a truck for 100% of the product weight). The emissions of both transports are added together in this report.

1.3 Life Cycle Assessment

1.3.1 CFS-CID MD P 2''/2.5"

IT- Number	Product name	Pcs. per salespack	Weight [kg]	Material
2205143	CFS-CID MD P 2''/2.5"	48	7,126	Steel, Polymer, Chemical substances, Cardboard

Enviromental impact category	Total	Raw material	Produc-tion	Use	End of life	Transpor-tation
Global Warming Potential (GWP 100 years) [kg CO2-eq.]	32,362	15,377	5,331	0,000	8,256	3,397
Ozone Depletion Potential (ODP, catalytic) [kg R11-eq.]	4,06E-10	3,95E-10	1,40E-13	0,000	1,14E-11	5,45E-16
Acidification Potential (AP) [kg SO2-eq.]	8,14E-02	4,96E-02	1,43E-02	0,000	-1,51E-02	3,26E-02
Eutrification Potential (EP) [kg $(PO4)^{3}$-eq.]	1,26E-02	6,79E-03	1,35E-03	0,000	-1,39E-03	5,84E-03
Photochemical Oxidant Potential (POCP) [kg Ethene-eq.]	-6,66E-04	6,68E-03	9,22E-04	0,000	-1,48E-03	-6,78E-03
Abiotic Depletion Potential non-Fossil Resources (ADPE) [kg Sb-eq.]	2,38E-05	2,33E-05	1,62E-06	0,000	-1,35E-06	2,39E-07
Abiotic Depletion Potential Fossil Fuels (ADPF) [MJ]	4,03E+02	4,40E+02	5,49E+01	0,000	-1,37E+02	4,59E+01
Energy (net calorific value) [MJ]	4,32E+02	4,59E+02	9,17E+01	0,000	-1,65E+02	4,60E+01
Energy ren. (net calorafic value) [MJ]	1,61E+01	4,63E+00	3,65E+01	0,000	-2,73E+01	2,35E+00
Water consumption [kg]	4,28E+02	3,71E+02	4,62E+01	0,000	6,62E+00	3,97E+00
Air pollution [m^3]	1,93E+03	1,87E+03	3,32E+02	0,000	-5,34E+02	2,63E+02
Water pollution [m^3]	2,17E+00	1,11E+00	1,30E+00	0,000	-1,22E+00	9,89E-01
Hazardous waste for disposal [kg]	2,24E-06	2,03E-08	4,43E-08	0,000	-7,29E-08	2,24E-06
Disposed of non-hazardous waste [kg]	1,57E-01	5,04E-02	9,14E-02	0,000	1,18E-02	3,30E-03
Disposed of radioactive waste [kg]	4,00E-03	2,30E-04	1,46E-02	0,000	-1,09E-02	6,15E-05

evaluated from CML 2001, April. 2015

1.3.2 CFS-CID MD P 3''/2.5"

IT- Number	Product name	Pcs. per salespack	Weight [kg]	Material
2205144	CFS-CID MD P 3''/2.5"	36	6,940	Steel, Polymer, Chemical substances, Cardboard

Enviromental impact category	Total	Raw material	Produc-tion	Use	End of life	Transpor-tation
Global Warming Potential (GWP 100 years) [kg CO2-eq.]	32,256	15,085	5,252	0,000	8,610	3,309
Ozone Depletion Potential (ODP, catalytic) [kg R11-eq.]	1,22E-09	1,18E-09	1,38E-13	0,000	3,44E-11	5,31E-16
Acidification Potential (AP) [kg SO2-eq.]	8,14E-02	4,96E-02	1,41E-02	0,000	-1,40E-02	3,17E-02
Eutrification Potential (EP) [kg $(PO4)^{3}$-eq.]	1,28E-02	7,01E-03	1,33E-03	0,000	-1,25E-03	5,69E-03
Photochemical Oxidant Potential (POCP) [kg Ethene-eq.]	-4,53E-04	6,58E-03	9,10E-04	0,000	-1,33E-03	-6,61E-03
Abiotic Depletion Potential non-Fossil Resources (ADPE) [kg Sb-Äqv.]	2,81E-05	2,76E-05	1,60E-06	0,000	-1,33E-06	2,33E-07
Abiotic Depletion Potential Fossil Fuels (ADPF) [MJ]	4,01E+02	4,36E+02	5,41E+01	0,000	-1,33E+02	4,47E+01
Energy (net calorific value) [MJ]	4,31E+02	4,56E+02	9,04E+01	0,000	-1,60E+02	4,48E+01
Energy ren. (net calorafic value) [MJ]	1,59E+01	4,70E+00	3,59E+01	0,000	-2,70E+01	2,29E+00
Water consumption [kg]	4,55E+02	3,98E+02	4,56E+01	0,000	7,14E+00	3,87E+00
Air pollution [m^3]	1,95E+03	1,85E+03	3,28E+02	0,000	-4,82E+02	2,56E+02
Water pollution [m^3]	2,31E+00	1,26E+00	1,28E+00	0,000	-1,20E+00	9,63E-01
Hazardous waste for disposal [kg]	2,18E-06	1,89E-08	4,36E-08	0,000	-7,02E-08	2,19E-06
Disposed of non-hazardous waste [kg]	1,79E-01	4,89E-02	8,98E-02	0,000	3,69E-02	3,22E-03
Disposed of radioactive waste [kg]	3,88E-03	2,29E-04	1,44E-02	0,000	-1,08E-02	5,99E-05

evaluated from CML 2001, April. 2015

1.3.3 CFS-CID MD P 4''/2.5"

IT- Number	Product name	Pcs. per salespack	Weight [kg]	Material
2205145	CFS-CID MD P 4''/2.5"	12	3,7416	Steel, Polymer, Chemical substances, Cardboard

Enviromental impact category	Total	Raw material	Produc-tion	Use	End of life	Transpor-tation
Global Warming Potential (GWP 100 years) [kg CO2-eq.]	15,055	8,083	2,412	0,000	2,777	1,784
Ozone Depletion Potential (ODP, catalytic) [kg R11-eq.]	4,57E-10	4,44E-10	6,29E-14	0,000	1,29E-11	2,86E-16
Acidification Potential (AP) [kg SO2-eq.]	3,98E-02	2,51E-02	6,42E-03	0,000	-8,81E-03	1,71E-02
Eutrification Potential (EP) [kg $(PO4)^{3}$-eq.]	6,29E-03	3,42E-03	6,07E-04	0,000	-8,00E-04	3,07E-03
Photochemical Oxidant Potential (POCP) [kg Ethene-eq.]	-7,88E-04	3,33E-03	4,14E-04	0,000	-9,74E-04	-3,56E-03
Abiotic Depletion Potential non-Fossil Resources (ADPE) [kg Sb-Äqv.]	1,25E-05	1,23E-05	7,27E-07	0,000	-5,91E-07	1,26E-07
Abiotic Depletion Potential Fossil Fuels (ADPF) [MJ]	1,86E+02	2,05E+02	2,47E+01	0,000	-6,82E+01	2,41E+01
Energy (net calorific value) [MJ]	1,99E+02	2,14E+02	4,11E+01	0,000	-8,03E+01	2,42E+01
Energy ren. (net calorafic value) [MJ]	7,95E+00	2,69E+00	1,63E+01	0,000	-1,23E+01	1,23E+00
Water consumption [kg]	2,02E+02	1,77E+02	2,07E+01	0,000	1,94E+00	2,09E+00
Air pollution [m^3]	9,05E+02	9,63E+02	1,49E+02	0,000	-3,45E+02	1,38E+02
Water pollution [m^3]	1,17E+00	6,42E-01	5,82E-01	0,000	-5,78E-01	5,19E-01
Hazardous waste for disposal [kg]	1,18E-06	2,00E-08	1,99E-08	0,000	-3,74E-08	1,18E-06
Disposed of non-hazardous waste [kg]	8,74E-02	3,99E-02	4,29E-02	0,000	2,92E-03	1,73E-03
Disposed of radioactive waste [kg]	1,94E-03	1,87E-04	6,53E-03	0,000	-4,81E-03	3,23E-05

evaluated from CML 2001, April. 2015

1.3.4 CFS-CID MD M 2''/2.5"

IT- Number	Product name	Pcs. per salespack	Weight [kg]	Material
2205146	CFS-CID MD M 2''/2.5"	48	7,1496	Steel, Polymer, Chemical substances, Cardboard

Enviromental impact category	Total	Raw material	Produc-tion	Use	End of life	Transpor-tation
Global Warming Potential (GWP 100 years) [kg CO2-eq.]	32,518	15,484	5,340	0,000	8,285	3,409
Ozone Depletion Potential (ODP, catalytic) [kg R11-eq.]	4,06E-10	3,95E-10	1,41E-13	0,000	1,14E-11	5,47E-16
Acidification Potential (AP) [kg SO2-eq.]	8,20E-02	5,01E-02	1,43E-02	0,000	-1,51E-02	3,27E-02
Eutrification Potential (EP) [kg $(PO4)^{3}$-eq.]	1,27E-02	6,90E-03	1,35E-03	0,000	-1,39E-03	5,86E-03
Photochemical Oxidant Potential (POCP) [kg Ethene-eq.]	-6,50E-04	6,71E-03	9,24E-04	0,000	-1,48E-03	-6,81E-03
Abiotic Depletion Potential non-Fossil Resources (ADPE) [kg Sb-Äqv.]	2,51E-05	2,46E-05	1,62E-06	0,000	-1,35E-06	2,40E-07
Abiotic Depletion Potential Fossil Fuels (ADPF) [MJ]	4,05E+02	4,41E+02	5,50E+01	0,000	-1,38E+02	4,60E+01
Energy (net calorific value) [MJ]	4,34E+02	4,61E+02	9,18E+01	0,000	-1,65E+02	4,62E+01
Energy ren. (net calorafic value) [MJ]	1,62E+01	4,71E+00	3,65E+01	0,000	-2,74E+01	2,36E+00
Water consumption [kg]	4,37E+02	3,81E+02	4,63E+01	0,000	6,66E+00	3,99E+00
Air pollution [m^3]	1,94E+03	1,88E+03	3,33E+02	0,000	-5,35E+02	2,64E+02
Water pollution [m^3]	2,22E+00	1,16E+00	1,30E+00	0,000	-1,23E+00	9,92E-01
Hazardous waste for disposal [kg]	2,24E-06	2,04E-08	4,43E-08	0,000	-7,30E-08	2,25E-06
Disposed of non-hazardous waste [kg]	1,59E-01	5,18E-02	9,16E-02	0,000	1,19E-02	3,31E-03
Disposed of radioactive waste [kg]	4,01E-03	2,36E-04	1,46E-02	0,000	-1,09E-02	6,17E-05

evaluated from CML 2001, April. 2015

1.3.5 CFS-CID MD M 3''/2.5"

IT- Number	Product name	Pcs. per salespack	Weight [kg]	Material
2205147	CFS-CID MD M 3''/2.5"	36	6,918	Steel, Polymer, Chemical substances, Cardboard

Enviromental impact category	Total	Raw material	Produc-tion	Use	End of life	Transpor-tation
Global Warming Potential (GWP 100 years) [kg CO2-eq.]	32,242	15,097	5,251	0,000	8,596	3,298
Ozone Depletion Potential (ODP, catalytic) [kg R11-eq.]	6,10E-10	5,92E-10	1,38E-13	0,000	1,71E-11	5,30E-16
Acidification Potential (AP) [kg SO2-eq.]	8,14E-02	4,97E-02	1,41E-02	0,000	-1,40E-02	3,16E-02
Eutrification Potential (EP) [kg $(PO4)^{3}$-eq.]	1,27E-02	7,02E-03	1,33E-03	0,000	-1,27E-03	5,67E-03
Photochemical Oxidant Potential (POCP) [kg Ethene-eq.]	-4,30E-04	6,58E-03	9,11E-04	0,000	-1,33E-03	-6,59E-03
Abiotic Depletion Potential non-Fossil Resources (ADPE) [kg Sb-Äqv.]	2,84E-05	2,79E-05	1,60E-06	0,000	-1,33E-06	2,32E-07
Abiotic Depletion Potential Fossil Fuels (ADPF) [MJ]	4,02E+02	4,36E+02	5,41E+01	0,000	-1,33E+02	4,45E+01
Energy (net calorific value) [MJ]	4,31E+02	4,56E+02	9,03E+01	0,000	-1,60E+02	4,47E+01
Energy ren. (net calorafic value) [MJ]	1,59E+01	4,69E+00	3,59E+01	0,000	-2,70E+01	2,28E+00
Water consumption [kg]	4,58E+02	4,01E+02	4,56E+01	0,000	7,13E+00	3,86E+00
Air pollution [m^3]	1,95E+03	1,85E+03	3,28E+02	0,000	-4,84E+02	2,55E+02
Water pollution [m^3]	2,30E+00	1,26E+00	1,28E+00	0,000	-1,20E+00	9,60E-01
Hazardous waste for disposal [kg]	2,17E-06	1,81E-08	4,36E-08	0,000	-7,02E-08	2,18E-06
Disposed of non-hazardous waste [kg]	1,64E-01	4,92E-02	8,98E-02	0,000	2,20E-02	3,21E-03
Disposed of radioactive waste [kg]	3,88E-03	2,25E-04	1,44E-02	0,000	-1,08E-02	5,97E-05

evaluated from CML 2001, April. 2015

1.3.6 CFS-CID MD M 4''/2.5"

IT- Number	Product name	Pcs. per salespack	Weight [kg]	Material
2205148	CFS-CID MD M 4''/2.5"	12	3,0672	Steel, Polymer, Chemical substances, Cardboard

Enviromental impact category	Total	Raw material	Produc-tion	Use	End of life	Transpor-tation
Global Warming Potential (GWP 100 years) [kg CO2-eq.]	14,292	6,516	2,320	0,000	3,993	1,462
Ozone Depletion Potential (ODP, catalytic) [kg R11-eq.]	4,06E-10	3,95E-10	6,11E-14	0,000	1,14E-11	2,35E-16
Acidification Potential (AP) [kg SO2-eq.]	3,59E-02	2,16E-02	6,24E-03	0,000	-5,95E-03	1,40E-02
Eutrification Potential (EP) [kg $(PO4)^{3}$-eq.]	5,64E-03	3,07E-03	5,89E-04	0,000	-5,32E-04	2,51E-03
Photochemical Oxidant Potential (POCP) [kg Ethene-eq.]	-2,08E-04	2,86E-03	4,02E-04	0,000	-5,49E-04	-2,92E-03
Abiotic Depletion Potential non-Fossil Resources (ADPE) [kg Sb-Äqv.]	1,24E-05	1,22E-05	7,05E-07	0,000	-5,95E-07	1,03E-07
Abiotic Depletion Potential Fossil Fuels (ADPF) [MJ]	1,77E+02	1,91E+02	2,39E+01	0,000	-5,82E+01	1,98E+01
Energy (net calorific value) [MJ]	1,90E+02	2,00E+02	3,99E+01	0,000	-7,04E+01	1,98E+01
Energy ren. (net calorafic value) [MJ]	6,95E+00	2,09E+00	1,59E+01	0,000	-1,20E+01	1,01E+00
Water consumption [kg]	2,02E+02	1,76E+02	2,01E+01	0,000	3,47E+00	1,71E+00
Air pollution [m^3]	8,59E+02	8,01E+02	1,45E+02	0,000	-2,00E+02	1,13E+02
Water pollution [m^3]	1,03E+00	5,63E-01	5,65E-01	0,000	-5,28E-01	4,26E-01
Hazardous waste for disposal [kg]	9,65E-07	1,08E-08	1,93E-08	0,000	-3,05E-08	9,66E-07
Disposed of non-hazardous waste [kg]	7,87E-02	1,99E-02	3,97E-02	0,000	1,77E-02	1,42E-03
Disposed of radioactive waste [kg]	1,67E-03	9,90E-05	6,35E-03	0,000	-4,81E-03	2,65E-05

evaluated from CML 2001, April. 2015

1.3.7 CFS-CID MD P 2"/4"

IT- Number	Product name	Pcs. per salespack	Weight [kg]	Material
2232816	CFS-CID MD P 2"/4"	36	6,918	Steel, Polymer, Chemical substances, Cardboard

Enviromental impact category	Total	Raw material	Produc-tion	Use	End of life	Transpor-tation
Global Warming Potential (GWP 100 years) [kg CO2-eq.]	31,986	14,646	5,361	0,000	8,680	3,298
Ozone Depletion Potential (ODP, catalytic) [kg R11-eq.]	3,05E-10	2,96E-10	1,41E-13	0,000	8,51E-12	5,30E-16
Acidification Potential (AP) [kg SO2-eq.]	7,87E-02	4,71E-02	1,44E-02	0,000	-1,44E-02	3,16E-02
Eutrification Potential (EP) [kg $(PO4)^{3}$-eq.]	1,20E-02	6,30E-03	1,36E-03	0,000	-1,35E-03	5,67E-03
Photochemical Oxidant Potential (POCP) [kg Ethene-eq.]	-5,56E-04	6,47E-03	9,26E-04	0,000	-1,37E-03	-6,59E-03
Abiotic Depletion Potential non-Fossil Resources (ADPE) [kg Sb-Äqv.]	1,85E-05	1,80E-05	1,63E-06	0,000	-1,36E-06	2,32E-07
Abiotic Depletion Potential Fossil Fuels (ADPF) [MJ]	3,99E+02	4,35E+02	5,53E+01	0,000	-1,36E+02	4,45E+01
Energy (net calorific value) [MJ]	4,27E+02	4,54E+02	9,23E+01	0,000	-1,63E+02	4,47E+01
Energy ren. (net calorafic value) [MJ]	1,57E+01	4,17E+00	3,68E+01	0,000	-2,75E+01	2,28E+00
Water consumption [kg]	3,93E+02	3,35E+02	4,66E+01	0,000	7,07E+00	3,86E+00
Air pollution [m^3]	1,87E+03	1,78E+03	3,35E+02	0,000	-4,93E+02	2,55E+02
Water pollution [m^3]	1,93E+00	8,87E-01	1,31E+00	0,000	-1,22E+00	9,60E-01
Hazardous waste for disposal [kg]	2,17E-06	1,68E-08	4,46E-08	0,000	-7,15E-08	2,18E-06
Disposed of non-hazardous waste [kg]	1,47E-01	3,84E-02	9,12E-02	0,000	1,39E-02	3,21E-03
Disposed of radioactive waste [kg]	3,96E-03	1,78E-04	1,47E-02	0,000	-1,10E-02	5,97E-05

evaluated from CML 2001, April. 2015

1.3.8 CFS-CID MD P 3"/4"

IT- Number	Product name	Pcs. per salespack	Weight [kg]	Material
2232817	CFS-CID MD P 3"/4"	27	6,4716	Steel, Polymer, Chemical substances, Cardboard

Enviromental impact category	Total	Raw material	Produc-tion	Use	End of life	Transpor-tation
Global Warming Potential (GWP 100 years) [kg CO2-eq.]	30,438	13,829	5,049	0,000	8,474	3,086
Ozone Depletion Potential (ODP, catalytic) [kg R11-eq.]	4,57E-10	4,44E-10	1,33E-13	0,000	1,28E-11	4,95E-16
Acidification Potential (AP) [kg SO2-eq.]	7,53E-02	4,52E-02	1,36E-02	0,000	-1,31E-02	2,96E-02
Eutrification Potential (EP) [kg $(PO4)^{3}$-eq.]	1,16E-02	6,21E-03	1,28E-03	0,000	-1,20E-03	5,30E-03
Photochemical Oxidant Potential (POCP) [kg Ethene-eq.]	-3,80E-04	6,12E-03	8,74E-04	0,000	-1,21E-03	-6,16E-03
Abiotic Depletion Potential non-Fossil Resources (ADPE) [kg Sb-Äqv.]	2,14E-05	2,09E-05	1,54E-06	0,000	-1,29E-06	2,17E-07
Abiotic Depletion Potential Fossil Fuels (ADPF) [MJ]	3,79E+02	4,12E+02	5,21E+01	0,000	-1,26E+02	4,17E+01
Energy (net calorific value) [MJ]	4,07E+02	4,30E+02	8,70E+01	0,000	-1,53E+02	4,18E+01
Energy ren. (net calorafic value) [MJ]	1,48E+01	4,06E+00	3,46E+01	0,000	-2,60E+01	2,13E+00
Water consumption [kg]	3,99E+02	3,44E+02	4,39E+01	0,000	7,06E+00	3,61E+00
Air pollution [m^3]	1,81E+03	1,69E+03	3,15E+02	0,000	-4,39E+02	2,39E+02
Water pollution [m^3]	1,96E+00	9,75E-01	1,23E+00	0,000	-1,14E+00	8,98E-01
Hazardous waste for disposal [kg]	2,03E-06	1,52E-08	4,20E-08	0,000	-6,63E-08	2,04E-06
Disposed of non-hazardous waste [kg]	1,47E-01	3,69E-02	8,58E-02	0,000	2,09E-02	3,00E-03
Disposed of radioactive waste [kg]	3,69E-03	1,72E-04	1,38E-02	0,000	-1,04E-02	5,59E-05

evaluated from CML 2001, April. 2015

1.3.9 CFS-CID MD P 4"/4"

IT- Number	Product name	Pcs. per salespack	Weight [kg]	Material
2232818	CFS-CID MD P 4"/4"	9	3,3486	Steel, Polymer, Chemical substances, Cardboard

Enviromental impact category	Total	Raw material	Produc-tion	Use	End of life	Transpor-tation
Global Warming Potential (GWP 100 years) [kg CO2-eq.]	13,875	7,088	2,263	0,000	2,927	1,597
Ozone Depletion Potential (ODP, catalytic) [kg R11-eq.]	3,43E-10	3,33E-10	5,92E-14	0,000	9,65E-12	2,56E-16
Acidification Potential (AP) [kg SO2-eq.]	3,58E-02	2,21E-02	6,04E-03	0,000	-7,65E-03	1,53E-02
Eutrification Potential (EP) [kg $(PO4)^{3}$-eq.]	5,57E-03	2,96E-03	5,71E-04	0,000	-7,03E-04	2,74E-03
Photochemical Oxidant Potential (POCP) [kg Ethene-eq.]	-6,33E-04	2,98E-03	3,89E-04	0,000	-8,16E-04	-3,19E-03
Abiotic Depletion Potential non-Fossil Resources (ADPE) [kg Sb-Äqv.]	9,48E-06	9,25E-06	6,84E-07	0,000	-5,61E-07	1,12E-07
Abiotic Depletion Potential Fossil Fuels (ADPF) [MJ]	1,71E+02	1,89E+02	2,32E+01	0,000	-6,22E+01	2,16E+01
Energy (net calorific value) [MJ]	1,83E+02	1,97E+02	3,87E+01	0,000	-7,36E+01	2,16E+01
Energy ren. (net calorafic value) [MJ]	7,16E+00	2,27E+00	1,54E+01	0,000	-1,16E+01	1,10E+00
Water consumption [kg]	1,75E+02	1,51E+02	1,95E+01	0,000	2,20E+00	1,87E+00
Air pollution [m^3]	8,20E+02	8,46E+02	1,40E+02	0,000	-2,90E+02	1,24E+02
Water pollution [m^3]	9,77E-01	5,00E-01	5,47E-01	0,000	-5,35E-01	4,65E-01
Hazardous waste for disposal [kg]	1,06E-06	1,66E-08	1,87E-08	0,000	-3,37E-08	1,05E-06
Disposed of non-hazardous waste [kg]	7,61E-02	3,00E-02	3,98E-02	0,000	4,78E-03	1,55E-03
Disposed of radioactive waste [kg]	1,77E-03	1,44E-04	6,15E-03	0,000	-4,55E-03	2,89E-05

evaluated from CML 2001, April. 2015

1.3.10 CFS-CID MD M 2"/4"

IT- Number	Product name	Pcs. per salespack	Weight [kg]	Material
2233433	CFS-CID MD M 2"/4"	36	6,5328	Steel, Polymer, Chemical substances, Cardboard

Enviromental impact category	Total	Raw material	Produc-tion	Use	End of life	Transpor-tation
Global Warming Potential (GWP 100 years) [kg CO2-eq.]	30,066	13,861	5,023	0,000	8,067	3,115
Ozone Depletion Potential (ODP, catalytic) [kg R11-eq.]	3,05E-10	2,96E-10	1,32E-13	0,000	8,52E-12	5,00E-16
Acidification Potential (AP) [kg SO2-eq.]	7,43E-02	4,46E-02	1,35E-02	0,000	-1,37E-02	2,99E-02
Eutrification Potential (EP) [kg $(PO4)^{3}$-eq.]	1,13E-02	5,99E-03	1,28E-03	0,000	-1,28E-03	5,35E-03
Photochemical Oxidant Potential (POCP) [kg Ethene-eq.]	-5,52E-04	6,10E-03	8,68E-04	0,000	-1,30E-03	-6,22E-03
Abiotic Depletion Potential non-Fossil Resources (ADPE) [kg Sb-Äqv.]	1,82E-05	1,77E-05	1,53E-06	0,000	-1,27E-06	2,19E-07
Abiotic Depletion Potential Fossil Fuels (ADPF) [MJ]	3,75E+02	4,08E+02	5,18E+01	0,000	-1,28E+02	4,21E+01
Energy (net calorific value) [MJ]	4,01E+02	4,26E+02	8,65E+01	0,000	-1,54E+02	4,22E+01
Energy ren. (net calorafic value) [MJ]	1,48E+01	3,99E+00	3,44E+01	0,000	-2,58E+01	2,15E+00
Water consumption [kg]	3,74E+02	3,20E+02	4,37E+01	0,000	6,56E+00	3,64E+00
Air pollution [m^3]	1,77E+03	1,68E+03	3,13E+02	0,000	-4,70E+02	2,41E+02
Water pollution [m^3]	1,86E+00	8,70E-01	1,22E+00	0,000	-1,14E+00	9,07E-01
Hazardous waste for disposal [kg]	2,05E-06	1,68E-08	4,18E-08	0,000	-6,74E-08	2,06E-06
Disposed of non-hazardous waste [kg]	1,40E-01	3,81E-02	8,56E-02	0,000	1,30E-02	3,03E-03
Disposed of radioactive waste [kg]	3,72E-03	1,77E-04	1,38E-02	0,000	-1,03E-02	5,64E-05

evaluated from CML 2001, April. 2015

1.3.11 CFS-CID MD M 3"/4"

IT- Number	Product name	Pcs. per salespack	Weight [kg]	Material
2233430	CFS-CID MD M 3"/4"	27	6,4986	Steel, Polymer, Chemical substances, Cardboard

Enviromental impact category	Total	Raw material	Produc-tion	Use	End of life	Transpor-tation
Global Warming Potential (GWP 100 years) [kg CO2-eq.]	30,536	13,860	5,066	0,000	8,510	3,098
Ozone Depletion Potential (ODP, catalytic) [kg R11-eq.]	6,86E-10	6,67E-10	1,34E-13	0,000	1,93E-11	4,97E-16
Acidification Potential (AP) [kg SO2-eq.]	7,55E-02	4,53E-02	1,36E-02	0,000	-1,31E-02	2,97E-02
Eutrification Potential (EP) [kg $(PO4)^{3}$-eq.]	1,16E-02	6,22E-03	1,29E-03	0,000	-1,20E-03	5,32E-03
Photochemical Oxidant Potential (POCP) [kg Ethene-eq.]	-3,90E-04	6,13E-03	8,77E-04	0,000	-1,21E-03	-6,19E-03
Abiotic Depletion Potential non-Fossil Resources (ADPE) [kg Sb-Äqv.]	2,12E-05	2,07E-05	1,54E-06	0,000	-1,29E-06	2,18E-07
Abiotic Depletion Potential Fossil Fuels (ADPF) [MJ]	3,80E+02	4,13E+02	5,23E+01	0,000	-1,27E+02	4,18E+01
Energy (net calorific value) [MJ]	4,08E+02	4,32E+02	8,73E+01	0,000	-1,53E+02	4,20E+01
Energy ren. (net calorafic value) [MJ]	1,49E+01	4,07E+00	3,47E+01	0,000	-2,61E+01	2,14E+00
Water consumption [kg]	3,98E+02	3,44E+02	4,41E+01	0,000	7,09E+00	3,62E+00
Air pollution [m^3]	1,81E+03	1,69E+03	3,16E+02	0,000	-4,39E+02	2,40E+02
Water pollution [m^3]	1,96E+00	9,73E-01	1,24E+00	0,000	-1,15E+00	9,02E-01
Hazardous waste for disposal [kg]	2,04E-06	1,55E-08	4,21E-08	0,000	-6,66E-08	2,05E-06
Disposed of non-hazardous waste [kg]	1,52E-01	3,68E-02	8,61E-02	0,000	2,65E-02	3,01E-03
Disposed of radioactive waste [kg]	3,70E-03	1,73E-04	1,39E-02	0,000	-1,04E-02	5,61E-05

evaluated from CML 2001, April. 2015

1.3.12 CFS-CID MD M 4"/4"

IT- Number	Product name	Pcs. per salespack	Weight [kg]	Material
2233431	CFS-CID MD M 4"/4"	9	3,3342	Steel, Polymer, Chemical substances, Cardboard

Enviromental impact category	Total	Raw material	Produc-tion	Use	End of life	Transpor-tation
Global Warming Potential (GWP 100 years) [kg CO2-eq.]	13,804	7,054	2,252	0,000	2,907	1,590
Ozone Depletion Potential (ODP, catalytic) [kg R11-eq.]	3,43E-10	3,33E-10	5,89E-14	0,000	9,65E-12	2,55E-16
Acidification Potential (AP) [kg SO2-eq.]	3,56E-02	2,20E-02	6,01E-03	0,000	-7,63E-03	1,52E-02
Eutrification Potential (EP) [kg $(PO4)^{3}$-eq.]	5,54E-03	2,94E-03	5,69E-04	0,000	-7,01E-04	2,73E-03
Photochemical Oxidant Potential (POCP) [kg Ethene-eq.]	-6,33E-04	2,97E-03	3,87E-04	0,000	-8,14E-04	-3,17E-03
Abiotic Depletion Potential non-Fossil Resources (ADPE) [kg Sb-Äqv.]	9,38E-06	9,15E-06	6,80E-07	0,000	-5,58E-07	1,12E-07
Abiotic Depletion Potential Fossil Fuels (ADPF) [MJ]	1,70E+02	1,88E+02	2,31E+01	0,000	-6,19E+01	2,15E+01
Energy (net calorific value) [MJ]	1,82E+02	1,96E+02	3,85E+01	0,000	-7,33E+01	2,15E+01
Energy ren. (net calorafic value) [MJ]	7,13E+00	2,25E+00	1,53E+01	0,000	-1,15E+01	1,10E+00
Water consumption [kg]	1,73E+02	1,50E+02	1,94E+01	0,000	2,18E+00	1,86E+00
Air pollution [m^3]	8,15E+02	8,42E+02	1,40E+02	0,000	-2,89E+02	1,23E+02
Water pollution [m^3]	9,71E-01	4,95E-01	5,45E-01	0,000	-5,32E-01	4,63E-01
Hazardous waste for disposal [kg]	1,05E-06	1,66E-08	1,86E-08	0,000	-3,35E-08	1,05E-06
Disposed of non-hazardous waste [kg]	7,58E-02	2,99E-02	3,96E-02	0,000	4,76E-03	1,54E-03
Disposed of radioactive waste [kg]	1,76E-03	1,43E-04	6,12E-03	0,000	-4,53E-03	2,88E-05

evaluated from CML 2001, April. 2015