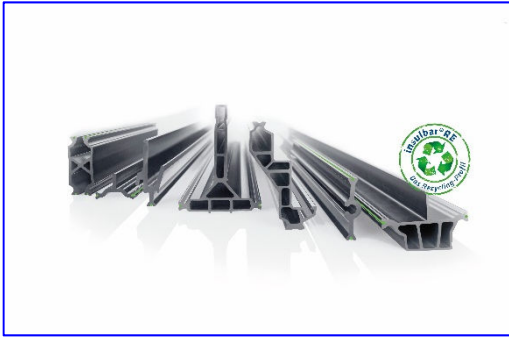


Environmental Product Declaration (EPD)

Short version



Declaration Code: EPD-IBP-14.1



Ensinger 
insulbar[®]

Ensinger GmbH

Insulating profiles

insulbar[®]



Basis:

DIN EN ISO 14025
EN15804

Company EPD
Environmental
Product Declaration

Publication date:
02.01.2019

Next revision:
02.05.2024






[www.ift-rosenheim.de/
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Environmental Product Declaration (EPD)

Short version



Declaration Code: EPD-IBP-14.1

Programme operator	ift Rosenheim GmbH Theodor-Gietl-Straße 7-9 83026 Rosenheim		
Practitioner of the LCA	ift Rosenheim GmbH Theodor-Gietl-Straße 7-9 83026 Rosenheim		
Declaration holder	Ensinger GmbH Rudolf-Diesel-Straße 8 71154 Nufringen		
Declaration code	EPD-IBP-14.1		
Designation of declared product	insulbar® Insulating profile		
Scope	Thermal break of metal windows, doors and facade systems		
Basis	This EPD was prepared on the basis of EN ISO 14025:2011 and EN 15804:2012+A1:2013. In addition, the "Allgemeiner Leitfaden zur Erstellung von Typ II Umweltproduktdeklarationen" (Guidance on preparing Type III Environmental Product Declarations) applies. The declaration is based on the PCR documents "PCR Teil A" PCR-A-0.1:2018 and "Halbzeuge" PCR-HZ-2.0:2018.		
Validity	Publication date: 02.01.2019	Last revision: 08.01.2024	Next revision: 02.05.2024
	This verified Company Environmental Product Declaration (company EPD) applies solely to the specified products and is valid for a period of 5 years from the date of publication in accordance with DIN EN 15804.		
LCA basis	The LCA was prepared in accordance with DIN EN ISO 14040 and DIN EN ISO 14044. The base data includes both the data collected at the production site of Ensinger GmbH and the generic data derived from the "GaBi 10" database. LCA calculations were carried out for the included "cradle to gate life cycle - with options" (cradle to gate - with options) including all upstream processes (e.g. raw material extraction).		
Notes	The "Conditions and Guidance on the Use of ift Test Documents" apply. The declaration holder assumes full liability for the underlying data, certificates and verifications. The Environmental Product Declaration EPD-IBP-14.1 is currently under revision, so the revision date will be extended to 02.05.2024.		
			
Florian Stich Rep. director of ift Certification and Surveillance Body	Dr. Torsten Mielecke Chairman of committee of experts ift EPD and PCR	Dr.-Ing. Carolin Roth External Verifier	

Note: Use the extended version of the EPD for further information.



Results per kg insulbar® REG out of TECATHERM 66 GF, insulbar® LUB out of TECATHERM 66 GF lub, insulbar® LX out of TECATHERM 66 LX resp. insulbar® ESP out of TECATHERM 66 ESP (Product group 1)					
Environmental impacts	Unit	A1-A3	C3	C4	D
GWP	kg CO ₂ -Equiv.	8.48	1.53	9.37E-02	-0.66
ODP	kg R11-Equiv.	1.64E-10	2.10E-15	1.67E-17	-9.45E-15
AP	kg SO ₂ -Equiv.	1.46E-02	1.90E-03	2.33E-05	-8.39E-04
EP	kg PO ₄ ³⁻ -Equiv.	2.54E-03	4.79E-04	9.10E-05	-1.04E-04
POCP	kg C ₂ H ₄ -Equiv.	1.82E-03	1.15E-04	2.34E-05	-7.63E-05
ADPE	kg Sb-Equiv.	1.55E-05	5.79E-08	9.89E-10	-1.24E-07
ADPF	MJ	142.87	1.44	7.43E-02	-9.28
Use of resources	Unit	A1-A3	C3	C4	D
PERE	MJ	17.42	0.54	5.61E-03	-2.52
PERM	MJ	0.22	0.00	0.00	0.00
PERT	MJ	17.64	0.54	5.61E-03	-2.52
PENRE	MJ	135.10	17.77	1.84	-11.44
PENRM	MJ	17.67	-15.89	-1.77	0.00
PENRT	MJ	152.76	1.88	7.68E-02	-11.44
SM	kg	0.00	0.00	0.00	0.00
RSF	MJ	0.00	0.00	0.00	0.00
NRSF	MJ	0.00	0.00	0.00	0.00
FW	m ³	3.43E-02	4.80E-03	1.26E-05	-2.91E-03
Waste categories and output material flows	Unit	A1-A3	C3	C4	D
HWD	kg	8.11E-08	2.35E-09	3.35E-10	-4.56E-09
NHWD	kg	9.14E-02	0.14	7.71E-02	-5.31E-03
RWD	kg	3.93E-03	1.74E-04	9.54E-07	-8.59E-04
CRU	kg	0.00	0.00	0.00	0.00
MFR	kg	0.00	0.00	0.00	0.00
MER	kg	0.00	0.90	0.00	0.00
EEE	MJ	5.58E-02	0.00	2.87	0.00
EET	MJ	0.11	0.00	5.13	0.00

Legend:

GWP – global warming potential **ODP** – ozone depletion potential **AP** - acidification potential of soil and water **EP** - eutrophication potential **POCP** - photochemical ozone creation potential **ADPE** - abiotic depletion potential – non fossil resources
ADPF - abiotic depletion potential – fossil resources **PERE** - Use of renewable primary energy **PERM** - use of renewable primary energy resources **PERT** - total use of renewable primary energy resources **PENRE** - use of non renewable primary energy resources
PENRM - use of non renewable primary energy resources **PENRT** - total use of non-renewable primary energy resources
SM - use of secondary material **RSF** - use of renewable secondary fuels **NRSF** - use of non renewable secondary fuels
FW - net use of fresh water **HWD** - Hazardous waste disposed **NHWD** - Non hazardous waste disposed
RWD - Radioactive waste disposed **CRU** - Components for re-use **MFR** - Materials for recycling **MER** - Materials for energy recovery
EEE - Exported electrical energy **EET** - Exported thermal energy



Results per kg insulbar® LI produced out of TECATHERM 66 GF (Product group 2)					
Environmental impacts	Unit	A1-A3	C3	C4	D
GWP	kg CO ₂ -Equiv.	8.63	1.53	9.37E-02	-0.66
ODP	kg R11-Equiv.	1.64E-10	2.10E-15	1.67E-17	-9.45E-15
AP	kg SO ₂ -Equiv.	1.49E-02	1.90E-03	2.33E-05	-8.39E-04
EP	kg PO ₄ ³⁻ -Equiv.	2.60E-03	4.79E-04	9.10E-05	-1.04E-04
POCP	kg C ₂ H ₄ -Equiv.	1.84E-03	1.15E-04	2.34E-05	-7.63E-05
ADPE	kg Sb-Equiv.	1.56E-05	5.79E-08	9.89E-10	-1.24E-07
ADPF	MJ	144.26	1.44	7.43E-02	-9.28
Use of resources	Unit	A1-A3	C3	C4	D
PERE	MJ	19.76	0.54	5.61E-03	-2.52
PERM	MJ	0.22	0.00	0.00	0.00
PERT	MJ	19.98	0.54	5.61E-03	-2.52
PENRE	MJ	136.72	17.77	1.84	-11.44
PENRM	MJ	17.67	-15.89	-1.77	0.00
PENRT	MJ	154.38	1.88	7.68E-02	-11.44
SM	kg	0.00	0.00	0.00	0.00
RSF	MJ	0.00	0.00	0.00	0.00
NRSF	MJ	0.00	0.00	0.00	0.00
FW	m ³	3.53E-02	4.80E-03	1.26E-05	-2.91E-03
Waste categories and output material flows	Unit	A1-A3	C3	C4	D
HWD	kg	8.30E-08	2.35E-09	3.35E-10	-4.56E-09
NHWD	kg	9.40E-02	0.14	7.71E-02	-5.31E-03
RWD	kg	4.02E-03	1.74E-04	9.54E-07	-8.59E-04
CRU	kg	0.00	0.00	0.00	0.00
MFR	kg	0.00	0.00	0.00	0.00
MER	kg	0.00	0.90	0.00	0.00
EEE	MJ	5.58E-02	0.00	2.87	0.00
EET	MJ	0.11	0.00	5.13	0.00

Legend:

GWP – global warming potential **ODP** – ozone depletion potential **AP** - acidification potential of soil and water **EP** - eutrophication potential **POCP** - photochemical ozone creation potential **ADPE** - abiotic depletion potential – non fossil resources
ADPF - abiotic depletion potential – fossil resources **PERE** - Use of renewable primary energy **PERM** - use of renewable primary energy resources **PERT** - total use of renewable primary energy resources **PENRE** - use of non renewable primary energy **PENRM** - use of non renewable primary energy resources **PENRT** - total use of non-renewable primary energy resources
SM - use of secondary material **RSF** - use of renewable secondary fuels **NRSF** - use of non renewable secondary fuels **FW** - net use of fresh water **HWD** - Hazardous waste disposed **NHWD** - Non hazardous waste disposed
RWD - Radioactive waste disposed **CRU** - Components for re-use **MFR** - Materials for recycling **MER** - Materials for energy recovery **EEE** - Exported electrical energy **EET** - Exported thermal energy

Results per kg insulbar® RE produced out of TECATHERM 66 GF RE (Product group 3)					
Environmental impacts	Unit	A1-A3	C3	C4	D
GWP	kg CO ₂ -Equiv.	0.74	1.53	9.37E-02	0.00
ODP	kg R11-Equiv.	1.64E-10	2.10E-15	1.67E-17	0.00
AP	kg SO ₂ -Equiv.	3.42E-03	1.90E-03	2.33E-05	0.00
EP	kg PO ₄ ³⁻ -Equiv.	2.37E-04	4.79E-04	9.10E-05	0.00
POCP	kg C ₂ H ₄ -Equiv.	2.09E-04	1.15E-04	2.34E-05	0.00
ADPE	kg Sb-Equiv.	2.27E-05	5.79E-08	9.89E-10	0.00
ADPF	MJ	11.82	1.44	7.43E-02	0.00
Use of resources	Unit	A1-A3	C3	C4	D
PERE	MJ	7.02	0.54	5.61E-03	0.00
PERM	MJ	0.22	0.00	0.00	0.00
PERT	MJ	7.24	0.54	5.61E-03	0.00
PENRE	MJ	10.34	4.15	0.33	0.00
PENRM	MJ	2.53	-2.27	-0.25	0.00
PENRT	MJ	12.87	1.88	7.68E-02	0.00
SM	kg	0.64	0.00	0.00	0.00
RSF	MJ	0.00	0.00	0.00	0.00
NRSF	MJ	0.00	0.00	0.00	0.00
FW	m ³	7.48E-03	4.80E-03	1.26E-05	0.00
Waste categories and output material flows	Unit	A1-A3	C3	C4	D
HWD	kg	1.59E-08	2.35E-09	3.35E-10	0.00
NHWD	kg	6.08E-02	0.14	7.71E-02	0.00
RWD	kg	4.15E-04	1.74E-04	9.54E-07	0.00
CRU	kg	0.00	0.00	0.00	0.00
MFR	kg	0.00	0.00	0.00	0.00
MER	kg	0.00	0.90	0.00	0.00
EEE	MJ	5.58E-02	0.00	2.87	0.00
EET	MJ	0.11	0.00	5.13	0.00

Legend:

GWP – global warming potential **ODP** – ozone depletion potential **AP** - acidification potential of soil and water **EP** - eutrophication potential **POCP** - photochemical ozone creation potential **ADPE** - abiotic depletion potential – non fossil resources
ADPF - abiotic depletion potential – fossil resources **PERE** - Use of renewable primary energy **PERM** - use of renewable primary energy resources **PERT** - total use of renewable primary energy resources **PENRE** - use of non renewable primary energy **PENRM** - use of non renewable primary energy resources **PENRT** - total use of non-renewable primary energy resources
SM - use of secondary material **RSF** - use of renewable secondary fuels **NRSF** - use of non renewable secondary fuels **FW** - net use of fresh water **HWD** - Hazardous waste disposed **NHWD** - Non hazardous waste disposed
RWD - Radioactive waste disposed **CRU** - Components for re-use **MFR** - Materials for recycling **MER** - Materials for energy recovery **EEE** - Exported electrical energy **EET** - Exported thermal energy



Results per kg insulbar® RE-LI produced out of TECATHERM 66 GF RE (Product group 4)					
Environmental impacts	Unit	A1-A3	C3	C4	D
GWP	kg CO ₂ -Equiv.	0.74	1.53	9.37E-02	0.00
ODP	kg R11-Equiv.	1.64E-10	2.10E-15	1.67E-17	0.00
AP	kg SO ₂ -Equiv.	3.42E-03	1.90E-03	2.33E-05	0.00
EP	kg PO ₄ ³⁻ -Equiv.	2.37E-04	4.79E-04	9.10E-05	0.00
POCP	kg C ₂ H ₄ -Equiv.	2.09E-04	1.15E-04	2.34E-05	0.00
ADPE	kg Sb-Equiv.	2.27E-05	5.79E-08	9.89E-10	0.00
ADPF	MJ	11.82	1.44	7.43E-02	0.00
Use of resources	Unit	A1-A3	C3	C4	D
PERE	MJ	8.57	0.54	5.61E-03	0.00
PERM	MJ	0.22	0.00	0.00	0.00
PERT	MJ	8.78	0.54	5.61E-03	0.00
PENRE	MJ	10.36	4.15	0.33	0.00
PENRM	MJ	2.53	-2.27	-0.25	0.00
PENRT	MJ	12.88	1.88	7.68E-02	0.00
SM	kg	0.64	0.00	0.00	0.00
RSF	MJ	0.00	0.00	0.00	0.00
NRSF	MJ	0.00	0.00	0.00	0.00
FW	m ³	9.08E-03	4.80E-03	1.26E-05	0.00
Waste categories and output material flows	Unit	A1-A3	C3	C4	D
HWD	kg	1.60E-08	2.35E-09	3.35E-10	0.00
NHWD	kg	6.12E-02	0.14	7.71E-02	0.00
RWD	kg	4.15E-04	1.74E-04	9.54E-07	0.00
CRU	kg	0.00	0.00	0.00	0.00
MFR	kg	0.00	0.00	0.00	0.00
MER	kg	0.00	0.90	0.00	0.00
EEE	MJ	5.58E-02	0.00	2.87	0.00
EET	MJ	0.11	0.00	5.13	0.00

Legend:

GWP – global warming potential **ODP** – ozone depletion potential **AP** - acidification potential of soil and water **EP** - eutrophication potential **POCP** - photochemical ozone creation potential **ADPE** - abiotic depletion potential – non fossil resources
ADPF - abiotic depletion potential – fossil resources **PERE** - Use of renewable primary energy **PERM** - use of renewable primary energy resources **PERT** - total use of renewable primary energy resources **PENRE** - use of non renewable primary energy **PENRM** - use of non renewable primary energy resources **PENRT** - total use of non-renewable primary energy resources
SM - use of secondary material **RSF** - use of renewable secondary fuels **NRSF** - use of non renewable secondary fuels **FW** - net use of fresh water **HWD** - Hazardous waste disposed **NHWD** - Non hazardous waste disposed
RWD - Radioactive waste disposed **CRU** - Components for re-use **MFR** - Materials for recycling **MER** - Materials for energy recovery **EEE** - Exported electrical energy **EET** - Exported thermal energy

Results per kg insulbar® REG out of TECATHERM PP GF (Product group 5)					
Environmental impacts	Unit	A1-A3	C3	C4	D
GWP	kg CO ₂ -Equiv.	3.08	1.53	9.37E-02	-0.66
ODP	kg R11-Equiv.	1.64E-10	2.10E-15	1.67E-17	-9.45E-15
AP	kg SO ₂ -Equiv.	8.01E-03	1.90E-03	2.33E-05	-8.39E-04
EP	kg PO ₄ ³⁻ -Equiv.	7.85E-04	4.79E-04	9.10E-05	-1.04E-04
POCP	kg C ₂ H ₄ -Equiv.	8.85E-04	1.15E-04	2.34E-05	-7.63E-05
ADPE	kg Sb-Equiv.	3.14E-05	5.79E-08	9.89E-10	-1.24E-07
ADPF	MJ	66.71	1.44	7.43E-02	-9.28
Use of resources	Unit	A1-A3	C3	C4	D
PERE	MJ	12.15	0.54	5.61E-03	-2.52
PERM	MJ	0.22	0.00	0.00	0.00
PERT	MJ	12.36	0.54	5.61E-03	-2.52
PENRE	MJ	57.13	14.31	1.46	-11.44
PENRM	MJ	13.82	-12.43	-1.38	0.00
PENRT	MJ	70.95	1.88	7.68E-02	-11.44
SM	kg	0.00	0.00	0.00	0.00
RSF	MJ	0.00	0.00	0.00	0.00
NRSF	MJ	0.00	0.00	0.00	0.00
FW	m ³	1.53E-02	4.80E-03	1.26E-05	-2.91E-03
Waste categories and output material flows	Unit	A1-A3	C3	C4	D
HWD	kg	6.75E-08	2.35E-09	3.35E-10	-4.56E-09
NHWD	kg	0.13	0.14	7.71E-02	-5.31E-03
RWD	kg	1.68E-03	1.74E-04	9.54E-07	-8.59E-04
CRU	kg	0.00	0.00	0.00	0.00
MFR	kg	0.00	0.00	0.00	0.00
MER	kg	0.00	0.90	0.00	0.00
EEE	MJ	5.58E-02	0.00	2.87	0.00
EET	MJ	0.11	0.00	5.13	0.00

Legend:

GWP – global warming potential **ODP** – ozone depletion potential **AP** - acidification potential of soil and water **EP** - eutrophication potential **POCP** - photochemical ozone creation potential **ADPE** - abiotic depletion potential – non fossil resources
ADPF - abiotic depletion potential – fossil resources **PERE** - Use of renewable primary energy **PERM** - use of renewable primary energy resources **PERT** - total use of renewable primary energy resources **PENRE** - use of non renewable primary energy **PENRM** - use of non renewable primary energy resources **PENRT** - total use of non-renewable primary energy resources
SM - use of secondary material **RSF** - use of renewable secondary fuels **NRSF** - use of non renewable secondary fuels **FW** - net use of fresh water **HWD** - Hazardous waste disposed **NHWD** - Non hazardous waste disposed
RWD - Radioactive waste disposed **CRU** - Components for re-use **MFR** - Materials for recycling **MER** - Materials for energy recovery **EEE** - Exported electrical energy **EET** - Exported thermal energy

Product group: Insulating profiles

All insulbar® Insulating profiles made of the TECATHERM 66 material variants are also available with Coex sealing wire.

If the product features Coex sealing wire the following environmental impacts must be added:

Results per kg Coex sealing wire (to Product group 1, 2, 3 and 4)					
Environmental impacts	Unit	A1-A3	C3	C4	D
GWP	kg CO ₂ -equiv.	8.15	1.53	9.37E-02	-0.66
ODP	kg R11-Equiv.	6.71E-14	2.10E-15	1.67E-17	-9.45E-15
AP	kg SO ₂ -Equiv.	1.22E-02	1.90E-03	2.33E-05	-8.39E-04
EP	kg PO ₄ ³⁻ -Equiv.	2.28E-03	4.79E-04	9.10E-05	-1.04E-04
POCP	kg C ₂ H ₄ -Equiv.	1.70E-03	1.15E-04	2.34E-05	-7.63E-05
ADPE	kg Sb-Equiv.	1.81E-06	5.79E-08	9.89E-10	-1.24E-07
ADPF	MJ	147.29	1.44	7.43E-02	-9.28
Use of resources	Unit	A1-A3	C3	C4	D
PERE	MJ	14.83	0.54	5.61E-03	-2.52
PERM	MJ	0.00	0.00	0.00	0.00
PERT	MJ	14.83	0.54	5.61E-03	-2.52
PENRE	MJ	135.34	20.54	2.15	-11.44
PENRM	MJ	20.73	-18.66	-2.07	0.00
PENRT	MJ	156.07	1.88	7.68E-02	-11.44
SM	kg	0.00	0.00	0.00	0.00
RSF	MJ	0.00	0.00	0.00	0.00
NRSF	MJ	0.00	0.00	0.00	0.00
FW	m ³	3.24E-02	4.80E-03	1.26E-05	-2.91E-03
Waste categories and output material flows	Unit	A1-A3	C3	C4	D
HWD	kg	9.38E-08	2.35E-09	3.35E-10	-4.56E-09
NHWD	kg	6.26E-02	0.14	7.71E-02	-5.31E-03
RWD	kg	3.49E-03	1.74E-04	9.54E-07	-8.59E-04
CRU	kg	0.00	0.00	0.00	0.00
MFR	kg	0.00	0.00	0.00	0.00
MER	kg	0.00	0.90	0.00	0.00
EEE	MJ	5.58E-02	0.00	2.87	0.00
EET	MJ	0.11	0.00	5.13	0.00

Imprint

Practitioner of the LCA

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Notes

This EPD is mainly based on the work and findings of the Institut für Fenstertechnik e.V., Rosenheim (ift Rosenheim) and specifically on the ift-Richtlinie NA-01/3 Allgemeiner Leitfaden zur Erstellung von Typ III Umweltproduktdeklarationen. (Guideline NA.01/3 - Guidance on preparing Type III Environmental Product Declarations)
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Ensinger GmbH

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