

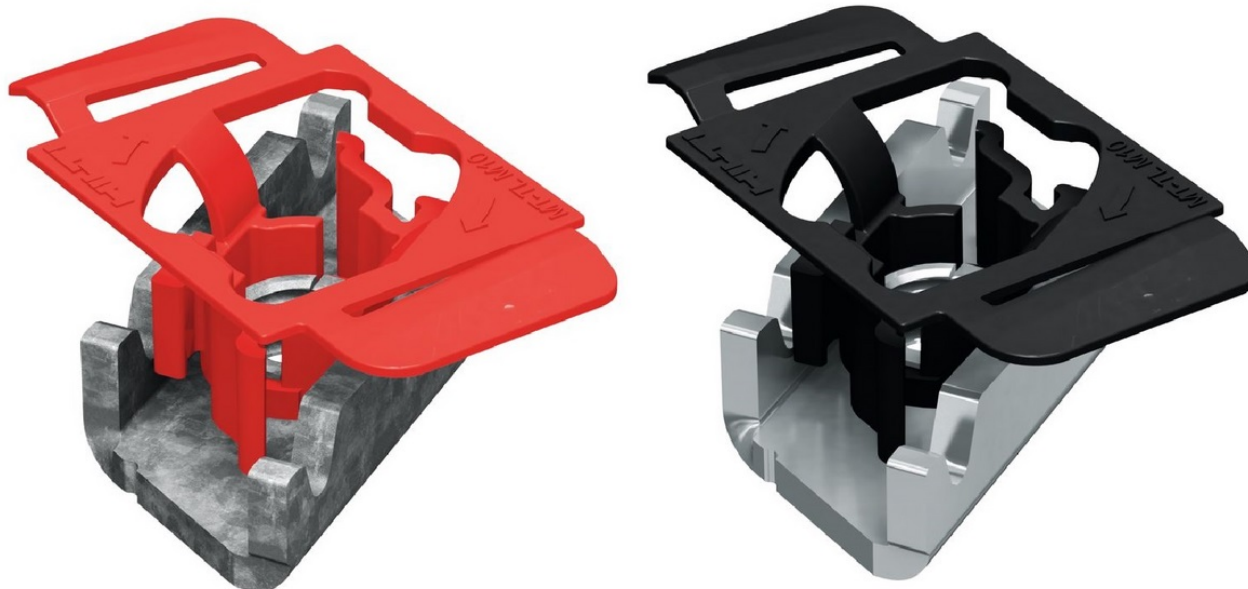
ENVIRONMENTAL PRODUCT DECLARATION

as per ISO 14025 and EN 15804+A2

Owner of the Declaration	Hilti Aktiengesellschaft
Publisher	Institut Bauen und Umwelt e.V. (IBU)
Programme holder	Institut Bauen und Umwelt e.V. (IBU)
Declaration number	EPD-HIL-20240331-CB11-EN
Issue date	23/09/2025
Valid to	22/09/2030

MT Twist Lock
Hilti AG

www.ibu-epd.com | <https://epd-online.com>



General Information

Hilti AG	MT Twist Lock								
Programme holder IBU – Institut Bauen und Umwelt e.V. Hegelplatz 1 10117 Berlin Germany	Owner of the declaration Hilti Aktiengesellschaft Feldkircher Strasse 100 9494 Schaan Liechtenstein								
Declaration number EPD-HIL-20240331-CB11-EN	Declared product / declared unit MT-TL M10 / 1kg								
This declaration is based on the product category rules: Connection, assembly and installation systems, 01/08/2021 (PCR checked and approved by the SVR)	Scope: This document relates to the Twist-Lock MT-TL M10 as a representative product for the MT Twist-Lock product group designed and sold by Hilti AG. The MT Twist-Lock product group is a set of fastening elements with 9 types of nut hole diameters – M6, M8, M10, M12, M16, 3/8 inch, ½ inch, ¾ inch, and 5/8 inch. Each of these sizes is produced in 2 different coating types to accommodate intended use in indoor and outdoor environments. All types are produced in an outsourced location in Bulgaria and China. This EPD is a representative EPD with MT-TL M10 as declared product, because it is the high runner product in the product group with the most sold tonnage as it functions as a fundamental element to constitute the application of the system. The other MT-TL sizes are used solely for media fixation. The owner of the declaration shall be liable for the underlying information and evidence; the IBU shall not be liable with respect to manufacturer information, life cycle assessment data and evidences. The EPD was created according to the specifications of EN 15804+A2. In the following, the standard will be simplified as <i>EN 15804</i> .								
Issue date 23/09/2025	Verification <table><tr><td colspan="2">The standard EN 15804 serves as the core PCR</td></tr><tr><td colspan="2">Independent verification of the declaration and data according to ISO 14025:2011</td></tr><tr><td>☐</td><td>internally</td></tr><tr><td>☒</td><td>externally</td></tr></table>	The standard EN 15804 serves as the core PCR		Independent verification of the declaration and data according to ISO 14025:2011		☐	internally	☒	externally
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Valid to 22/09/2030									
 Dipl.-Ing. Hans Peters (Chairman of Institut Bauen und Umwelt e.V.)	 Mrs Kim Allbury, (Independent verifier)								
 Florian Pronold (Managing Director Institut Bauen und Umwelt e.V.)									

Product

Product description/Product definition

The MT-TL M10 is designed as a fastening component of a modular metallic substructure installation system. It is the critical component for assembling shear-resistant metal framing for MEP support structures using MT open C-Channels (strut). The MT-TL M10 consist of a nut made of steel and a plate (winged section) made of polyamide. The nut has a centered round opening (threaded) for receiving a bolt. Other Twist-Lock sizes of similar design are used for fastening the interface for media fixation to mount piping, cable trays, flooring, or other services onto the substructure.

The individual Twist-Lock items under this product family and represented by MT-TL M10 are as listed below:

Item designation
MT-TL M10
MT-TL M10 OC
MT-TL M8
MT-TL M8 OC
MT-TL M12
MT-TL M12 OC
MT-TL M16
MT-TL M16 OC
MT-TL 3/8"
MT-TL 3/8" OC
MT-TL 1/2"
MT-TL 1/2" OC
MT-TL M6 OC
MT-TL M6
MT-TL 1/4"
MT-TL 1/4" OC
MT-TL 5/8"
MT-TL 5/8" OC

For the placing of the product on the market in the European Union European Free Trade Association (EU/EFTA) (with the exception of Switzerland) *Regulation (EU) No. 305/2011 (CPR)* applies.

For the application and use the respective national provisions apply. The product has a European Technical Assessment (ETA), a declaration of performance based on EAD 280016-00-0602 'Products for installation systems for supporting technical building equipment'. However, this ETA does not include MT-TL 3/8, MT-TL 3/8 OC, MT-TL 1/2, MT-TL 1/2 OC, MT-TL 1/4, MT-TL 1/4 OC, MT-TL 5/8, and MT-TL 5/8 OC as these are imperial sizes for North American markets and have local US approval.

Application

The MT-TL M10 is developed to fasten the nodes of the modular support system structure to support the mechanical, electrical, and piping services so that their loads are transferred to the super structure of the building or facility. The product is intended to be used for supporting the following applications:

- Pipes for the transport of fluids and gases
- Technical building equipment in general
- Components of fixed fire-fighting systems
- Electrical cable layouts
- Ventilating system layouts and equipment
- Flooring
- Other instrumentation

The MT-TL M10 is placed inside the opened side of a strut channel and fastens the connection components by tightening an appropriate bolt according to the designated torque. Its concave teeth edges mechanically clamp on to the edges of the inner side of the profile, creating a load bearing fastened point.

Technical Data

The following data pertains to the selected product (MT-TL M10) only:

Constructional data

Name	Value	Unit
Height of material	18.1	mm
Width of material	49.8	mm
Load-bearing capacity	Load resistance depends on the type of strut channel used with the product, as provided by Hilti technical manual	kg/m

Performance data of the product in accordance with the declaration of performance with respect to its essential characteristics according to ETA assessed based on EAD 280016-00-0602 'Products for installation systems for supporting technical building equipment'

Base materials/Ancillary materials

The raw material used to produce the declared product MT-TL M10 is electroplated high strength steel according to the standard EN 10149-2, weighing 0.035 kg per piece. The complete product consists of 91% high strength steel, 6% polyamid PA 6.6, and 3% zinc alloy coating.

This product/article/at least one partial article contains substances listed in the REACH SVHC candidate list (date: 17.01.2023) exceeding 0.1 percentage by mass: NO.

This product/article/at least one partial article contains other carcinogenic, mutagenic, reprotoxic (CMR) substances in categories 1A or 1B which are not on the candidate list, exceeding 0.1 percentage by mass: NO.

Biocide products were added to this construction product or it has been treated with biocide products (this then concerns a treated product as defined by the (EU) *Ordinance on Biocide Products No. 528/2012*): NO.

Reference service life

The MT-TL M10 has an assumed service life of 50 years in accordance with the *BBSR* table 'Service lives of Components for life cycle assessment according to BNB'. The practical service life can however be considerably longer and will depend on the specific installation situation and the product exposure scenario, especially for corrosion.

LCA: Calculation rules

Declared Unit

The declared product here is a mounting system from HILTI AG with the designation MT-TL M10 as a representative product of the MT Twist lock portfolio. The declared unit refers to 1 kg of mounting system. The packaging, based on 1 kg mounting rail, is also included in the calculation with 0.037 kg. The following table shows the data of the declared unit.

Declared unit and mass reference

Name	Value	Unit
Declared unit (e.g. modular channel system)	1	kg
Gross density	7447.4	kg/m ³

System boundary

Type of EPD: cradle to factory gate with options. The following information modules are defined as system boundaries in this study:

Production stage (A1- A3):

- A1, Raw material,
- A2, Transport to the manufacturer,
- A3, Production.

End of life (C1- C4):

- C1, Dismantling/demolition,
- C2, Transport,
- C3, Waste treatment,
- C4, Disposal.

Reuse, recovery and recycling potential (D)

To accurately record the indicators and environmental impacts of the declared unit, a total of 8 information modules are considered. The information modules A1 to A3 describe the material provision, the transport to the production site, as well as the production processes of the product itself. The intermediate products are sourced from the European

Union. The transport is carried out by truck. The following flow charts illustrate the Underlying production process.

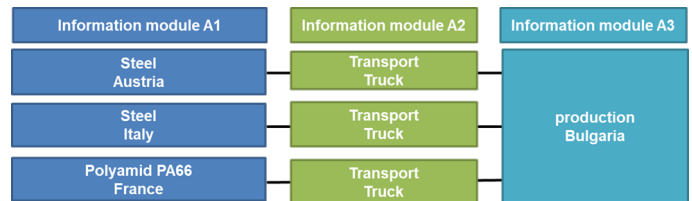


Illustration Information modules A 1 to A3 of the product



Illustration Information modules A 1 to A3 of the packaging

Information modules C1 to C4 cover dismantling or demolition from the building, transport for waste disposal, waste treatment and disposal of the product. Furthermore, reuse, recovery and recycling potentials are identified in information module D.

Geographic Representativeness

Land or region, in which the declared product system is manufactured, used or handled at the end of the product's lifespan: Bulgaria

Comparability

Basically, a comparison or an evaluation of EPD data is only possible if all the data sets to be compared were created according to *EN 15804* and the building context, respectively the product-specific characteristics of performance, are taken into account. LCA for Experts by Sphera. (V10.7.1.28)

LCA: Scenarios and additional technical information

Characteristic product properties of biogenic carbon

No renewable raw materials are used. Therefore, the biogenic carbon is reported as zero. In the packaging, the following raw material contains biogenic carbon

Information on describing the biogenic carbon content at factory gate

Name	Value	Unit
Biogenic carbon Cardboard	0,0055	kg c

Note: 1 kg of biogenic carbon is equivalent to 44/12 kg of CO₂.

End of life (C1-C4)

In the C1 information module, the demolition of the mounting system from the building is calculated. Demolition is carried out

by means of an electric screwdriver. The electrical energy consumption for the tool is assumed to be 0.003MJ for the declared unit. The electricity consumption is calculated with a German electricity mix.

Name	Value	Unit
Collected as mixed construction waste	1	kg
Recycling	0.94	kg
Energy recovery	0.06	kg

Reuse, recovery and/or recycling potentials (D), relevant scenario information

A recycling rate of 95% is assumed in Module D and 85% in Module D1.

Name	Value	Unit
D Steel recycling	0,893	kg
D1 Steel recycling	0,799	kg

LCA: Results

DESCRIPTION OF THE SYSTEM BOUNDARY (X = INCLUDED IN LCA; MND = MODULE OR INDICATOR NOT DECLARED; MNR = MODULE NOT RELEVANT)

Product stage			Construction process stage		Use stage							End of life stage				Benefits and loads beyond the system boundaries
Raw material supply	Transport	Manufacturing	Transport from the gate to the site	Assembly	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	De-construction demolition	Transport	Waste processing	Disposal	Reuse-Recovery-Recycling-potential
A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
X	X	X	MND	MND	MND	MND	MNR	MNR	MNR	MND	MND	X	X	X	X	X

RESULTS OF THE LCA - ENVIRONMENTAL IMPACT according to EN 15804+A2: 1 kg MT Twist lock

Parameter	Unit	A1-A3	C1	C2	C3	C4	D	D/1
GWP-total	kg CO ₂ eq	3.06E+00	4.55E-04	4.46E-03	1.54E-01	0	-2.12E+00	-1.9E+00
GWP-fossil	kg CO ₂ eq	3.05E+00	4.55E-04	4.42E-03	1.54E-01	0	-2.12E+00	-1.9E+00
GWP-biogenic	kg CO ₂ eq	3.61E-03	2.27E-07	0	0	0	-1.7E-03	-1.53E-03
GWP-luluc	kg CO ₂ eq	2.52E-03	4.16E-08	4.03E-05	2.22E-05	0	-7.4E-04	-6.62E-04
ODP	kg CFC11 eq	4.73E-12	4.48E-15	3.81E-16	1.48E-10	0	-2.14E-12	-1.92E-12
AP	mol H ⁺ eq	6.61E-03	6.93E-07	1.75E-05	3.53E-04	0	-4.53E-03	-4.05E-03
EP-freshwater	kg P eq	3.66E-06	4.5E-10	1.59E-08	3.03E-07	0	-1.71E-06	-1.53E-06
EP-marine	kg N eq	1.96E-03	1.95E-07	8.21E-06	1.73E-04	0	-1.15E-03	-1.03E-03
EP-terrestrial	mol N eq	2.1E-02	2.06E-06	9.19E-05	1.9E-03	0	-1.24E-02	-1.11E-02
POCP	kg NMVOC eq	5.8E-03	5.4E-07	1.58E-05	4.69E-04	0	-3.67E-03	-3.28E-03
ADPE	kg Sb eq	7.48E-06	2.2E-11	2.81E-10	6.51E-09	0	-7.07E-06	-6.32E-06
ADPF	MJ	3.52E+01	1E-02	5.92E-02	3.28E-01	0	-2.01E+01	-1.8E+01
WDP	m ³ world eq deprived	6.67E-02	3.83E-05	5.02E-05	1.52E-02	0	-3E-02	-2.68E-02

GWP = Global warming potential; ODP = Depletion potential of the stratospheric ozone layer; AP = Acidification potential of land and water; EP = Eutrophication potential; POCP = Formation potential of tropospheric ozone photochemical oxidants; ADPE = Abiotic depletion potential for non-fossil resources; ADPF = Abiotic depletion potential for fossil resources; WDP = Water (user) deprivation potential)

RESULTS OF THE LCA - INDICATORS TO DESCRIBE RESOURCE USE according to EN 15804+A2: 1 kg MT Twist lock

Parameter	Unit	A1-A3	C1	C2	C3	C4	D	D/1
PERE	MJ	2.36E+00	1.37E-03	4.19E-03	2.76E-02	0	-1.44E+00	-1.29E+00
PERM	MJ	5.6E-01	0	0	0	0	0	0
PERT	MJ	2.92E+00	1.37E-03	4.19E-03	2.76E-02	0	-1.44E+00	-1.29E+00
PENRE	MJ	3.36E+01	1E-02	5.93E-02	2.09E+00	0	-2.03E+01	-1.81E+01
PENRM	MJ	1.76E+00	0	0	-1.76E+00	0	0	0
PENRT	MJ	3.53E+01	1E-02	5.93E-02	3.28E-01	0	-2.03E+01	-1.81E+01
SM	kg	3.76E-02	0	0	0	0	0	0
RSF	MJ	0	0	0	0	0	0	0
NRSF	MJ	0	0	0	0	0	0	0
FW	m ³	4.39E-03	2.29E-06	4.62E-06	3.72E-04	0	-1.46E-03	-1.31E-03

PERE = Use of renewable primary energy excluding renewable primary energy resources used as raw materials; PERM = Use of renewable primary energy resources used as raw materials; PERT = Total use of renewable primary energy resources; PENRE = Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials; PENRM = Use of non-renewable primary energy resources used as raw materials; 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 = Use of net fresh water

RESULTS OF THE LCA - WASTE CATEGORIES AND OUTPUT FLOWS according to EN 15804+A2: 1 kg MT Twist lock

Parameter	Unit	A1-A3	C1	C2	C3	C4	D	D/1
HWD	kg	9.48E-08	5.8E-13	2.2E-13	3.36E-11	0	-8.93E-08	-7.99E-08
NHWD	kg	4.14E-02	2.2E-06	8.55E-06	7.32E-04	0	-3.5E-02	-3.13E-02
RWD	kg	5.63E-04	1.56E-06	7.67E-08	1.35E-05	0	-1.5E-04	-1.35E-04
CRU	kg	0	0	0	0	0	0	0
MFR	kg	2.89E-01	0	0	0	0	0	0
MER	kg	0	0	0	0	0	0	0
EEE	MJ	0	0	0	4.74E-01	0	0	0
EET	MJ	0	0	0	2.66E-01	0	0	0

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 OF THE LCA – additional impact categories according to EN 15804+A2-optional:

1 kg MT Twist lock

Parameter	Unit	A1-A3	C1	C2	C3	C4	D	D/1
PM	Disease incidence	ND	ND	ND	ND	ND	ND	ND
IR	kBq U235 eq	ND	ND	ND	ND	ND	ND	ND
ETP-fw	CTUe	ND	ND	ND	ND	ND	ND	ND
HTP-c	CTUh	ND	ND	ND	ND	ND	ND	ND
HTP-nc	CTUh	ND	ND	ND	ND	ND	ND	ND
SQP	SQP	ND	ND	ND	ND	ND	ND	ND

PM = Potential incidence of disease due to PM emissions; IR = Potential Human exposure efficiency relative to U235; ETP-fw = Potential comparative Toxic Unit for ecosystems; HTP-c = Potential comparative Toxic Unit for humans (cancerogenic); HTP-nc = Potential comparative Toxic Unit for humans (not cancerogenic); SQP = Potential soil quality index

Disclaimer 1 – for the indicator “Potential Human exposure efficiency relative to U235”. This impact category deals mainly with the eventual impact of low-dose ionizing radiation on human health of the nuclear fuel cycle. It does not consider effects due to possible nuclear accidents, occupational exposure or radioactive waste disposal in underground facilities. Potential ionizing radiation from the soil, radon and from some construction materials is also not measured by this indicator.

Disclaimer 2 – for the indicators “abiotic depletion potential for non-fossil resources”, “abiotic depletion potential for fossil resources”, “water (user) deprivation potential, deprivation-weighted water consumption”, “potential comparative toxic unit for ecosystems”, “potential comparative toxic unit for humans – cancerogenic”, “Potential comparative toxic unit for humans - not cancerogenic”, “potential soil quality index”. The results of this environmental impact indicator shall be used with care as the uncertainties on these results are high as there is limited experience with the indicator.

References

Standards

EN 15804

EN 15804:2012+A1 2013, Sustainability of construction works — Environmental Product Declarations — Core rules for the product category of construction products.

EN 15804

EN 15804:2012+A2:2019+AC:2021, Sustainability of construction works — Environmental Product Declarations — Core rules for the product category of construction products.

ISO 14025

EN ISO 14025:2011, Environmental labels and declarations — Type III environmental declarations — Principles and procedures.

Further References

Title of the software/database

Title of the software/database. Addition to the title, version.
Place: Publisher, Date of publication [Access on access date].

IBU 2021

Institut Bauen und Umwelt e.V.: General Instructions for the EPD programme of Institut Bauen und Umwelt e.V., Version 2.0, Berlin: Institut Bauen und Umwelt e.V., 2021
www.ibu-epd.com

EN 15804

EN 15804:2012+A1 2013, Sustainability of construction works — Environmental Product Declarations — Core rules for the product category of construction products.

EN 15804

EN 15804:2012+A2:2019+AC:2021, Sustainability of construction works — Environmental Product Declarations —

Core rules for the product category of construction products.

ISO 14025

EN ISO 14025:2011, Environmental labels and declarations — Type III environmental declarations — Principles and procedures

EN 10149-2

EN 10149-2, Hot rolled flat products made of high yield strength steels for cold forming

PCR Part A

Institut Bauen und Umwelt e.V, Berlin (pub.): Product Category Rules for Construction Products from the range of Environmental Product Declarations for Institut Bauen und Umwelt (IBU), Part A: Calculation Rules for the Life Cycle Assessment and Requirements on the Project Report according to EN 15804+A2:2019, 202108

PCR Part B

Institut Bauen und Umwelt e.V, Berlin (pub.): Product Category Rules for Construction Products from the range of Environmental Product Declarations for Institut Bauen und Umwelt (IBU), Part B: Requirements on the EPD for Connection, assembly and installation systems, 202303

Sphera

LCA for Experts: Holistic balancing
Leinfelden-Echterdingen; Sphera Solution GmbH (Hrsg.)
Product Sustainability Data Search | Sphera (GaBi)
(19.06.2024)

Further references

Candidate List of substances of very high concern for Authorisation
European Chemicals Agency (ECHA), in accordance with Article 50(10) of the REACH regulation

European Waste code
in accordance with the European Waste Catalogue (EWC)



(EWC 2014/955/EU) Commission Decision amending Decision 2000/532/EC on the list of waste pursuant to Directive 2008/98/EC of the European Parliament and of the Council

European Technical Approval Hilti Installation channels of MT system
assessed based on EAD 280016-00-0602 'Products for installation systems for supporting technical building equipment'
Federal Institute for Research on Building, Urban Affairs and Spatial Development (BBSR), Bonn, Germany.

Regulation (EU) No 305/2011

Regulation (EU) No 305/2011 of the European Parliament and of the Council of 9 March 2011 laying down harmonised conditions for the marketing of construction products and repealing Council Directive 89/106/EEC (Construction Products Regulation, CPR).

Regulation (EU) No 528/2012

Regulation (EU) No 528/2012 of the European Parliament and of the Council of 22 May 2012 concerning the making available on the market and use of biocidal products (Biocidal Products Regulation, BPR)

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