

Product Verification

Sustainability

Self declared according to LEED Building Design and Construction V4 (2015)

■ Product Systems

Permanent formwork Pecafil® VR10

Max Frank GmbH & Co. KG

Pecafil® formwork elements can be used universally for many purposes, above all as formwork for foundations and ribbed slabs as well as sheeting for building pits. It is also suitable in the transparent version for weather, dust and protection screens. The material is available in different thicknesses. Thanks to its light weight it is easy to carry and install. The units can be shortened and adapted on the building site using simple tools. Pecafil® can also be supplied as pre-formed sections. Pecafil® permanent formwork is environmentally friendly, groundwater-neutral and recyclable.



Product Assessment

Materials and Resources

Criteria	Product Verification
MR Credit Life-Cycle Impact Reduction - Option 4: Whole-Building Life-Cycle Assessment	EPD available: No
MR Credit BPDO - Environmental Product Declaration - Option 1: Environmental Product Declaration	0 % weighted value
MR Credit BPDO - Environmental Product Declaration - Option 2: Multi-Attribute Optimization	0 % weighted value
MR Credit BPDO - Sourcing of Raw Materials - Option 1: Raw Material Source and Extraction Reporting	0 % weighted value
MR Credit BPDO - Sourcing of Raw Materials - Option 2: Leadership Extraction Practices	177.956175 % weighted value
MR Credit BPDO - Material Ingredients - Option 1: Material Ingredient Reporting	0 % weighted value
MR Credit BPDO - Material Ingredients - Option 2: Material Ingredient Optimization	100 % weighted value
MR Credit BPDO - Material Ingredients - Option 3: Product Manufacturer Supply Chain Optimization	0 % weighted value
Location Valuation Factor	No

Indoor Environmental Quality

Criteria	Product Verification
EQ Credit Low-Emitting Materials (except Healthcare and Schools)	N/A

Legend: yes = Product contributes toward satisfying the credit, N/A = Product not relevant in the credit, no = Credit requirements are not proven

Summary

The product contributes to the certification:

- The product has an Environmental Product Declaration (EPD), which can be used to calculate the building life cycle assessment under LEED MR Building Life-Cycle Impact Redcutsions - Option 4: Whole-Building Life-Cycle Assessment: EPD available: No
- Weighted Product Value on Credit BPDO - Environmental Product Declaration - Option 1: Environmental Product Declaration: 0 % weighted value

- Weighted Product Value on Credit BPDO - Environmental Product Declaration - Option 2: Multi-Attribute Optimization: 0 % weighted value
- Weighted Product Value on Credit BPDO - Sourcing of Raw Materials - Option 1: Raw Material Source and Extraction Reporting: 0 % weighted value
- Weighted Product Value on Credit BPDO - Sourcing of Raw Materials - Option 2: Leadership Extraction Practices: 177.956175 % weighted value
- Weighted Product Value on Credit BPDO - Material Ingredients - Option 1: Material Ingredient Reporting: 0 % weighted value
- Weighted Product Value on Credit BPDO - Material Ingredients - Option 2: Material Ingredient Optimization: 100 % weighted value
- Weighted Product Value on Credit BPDO - Material Ingredients - Option 3: Supply Chain Optimization: 0 % weighted value
- Information for Location Valuation Factor is available: No

■ Product Properties

Ingredients:

Reused content	92.86 wt%
VOC content according 2004/42/EG:	N/A
VOC content according 2004/42/EG:	N/A
Recycled content pre-consumer:	20.74 wt%
Recycled content post-consumer:	72.12 wt%
Percentage of the product's composition, that is known to the chemical ingredient level	N/A
To what level of detail is the product composition known?	N/A
Rapidly renewable content	95.55 wt%
Non renewable virgin raw material content	4.45 wt%
SVHC according REACH < 0,1 %:	Yes
Free (< 0,1 %) of biocidal:	Yes
Free (< 0,1 %) of chlorinated paraffins (= CP inkl. SCCP, MCCP, LCCP):	Yes
Free (< 0,1 %) of polybrominated diphenyl ethers (= PBDE):	Yes
Free (< 0,1 %) of polybrominated biphenyls (= PBB):	Yes
Free (< 0,1 %) of hexabromocyclododecane (= HBCD):	Yes
Free (< 0,1 %) of tris (2-carboxyethyl) phosphine (= TCEP):	Yes
Free (< 0,1 %) of lead:	Yes
Free (< 0,1 %) of cadmium:	Yes
Free (< 0,1 %) of chromium-VI compounds:	Yes

Free of solvent according to VdL-RL01:	Yes
Free (< 0,1 %) of aromatic compounds:	Yes
Free (< 0,1 %) from halogenated propellants:	Yes
Free (< 0,1 %) of tin:	Yes
Free (< 0,1 %) of halogenated flame retardants:	Yes
Content of VOC:	N/A
Content of solvents:	N/A
Free (< 0,1 %) of halogens:	Yes

Manufacturer:

Are reverse logistics in place for the product?	No
Environmental Management System according ISO 14001:	Yes
Final manufacturing location of the product: latitude	N/A
Final manufacturing location of the product: longitude	N/A

Emissions:

Formaldehyde emissions after 28 days according DIN EN 717-1:	N/A
R-Value according to AgBB:	N/A
TVOC after 3 days according ISO 16000-3 / AgBB:	N/A
TVOC after 28 days according ISO 16000-3 / AgBB:	N/A
SVOC after 3 days according ISO 16000-3 / AgBB:	N/A
SVOC after 28 days according ISO 16000-3 / AgBB:	N/A
Carcinogens 1A and 1B after 3 days according ISO-16000 / AgBB:	N/A
Carcinogens 1A and 1B after 28 days according ISO-16000 / AgBB:	N/A

Life Cycle Assessment:

Functional use period	100 a
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Circularity:

Has the product been designed for reuse, refurbishment or remanufacturing?	No
Is the product designed for a recycling of equal quality?	Yes
Was the product designed for clean incineration?	No
Product was designed with cycling in mind.	No

Was the Product designed for emission or direct dispersal? No

Was the product specifically designed for clean and rapid disassembly? No

Other:

test N/A

■ Product Components

Name	Amount	Material type / Function	DfD	Total Weight	Specific Weight	Portion (%)
polyethylen foil	1.000	LDPE	No	0.111	0 kg / m ²	2.22 %
-	1.000	LDPE	No	0.111	0 kg / m ²	2.23 %
-	1.000	B500A+(G)	No	4.773	5 kg / m ²	95.55 %

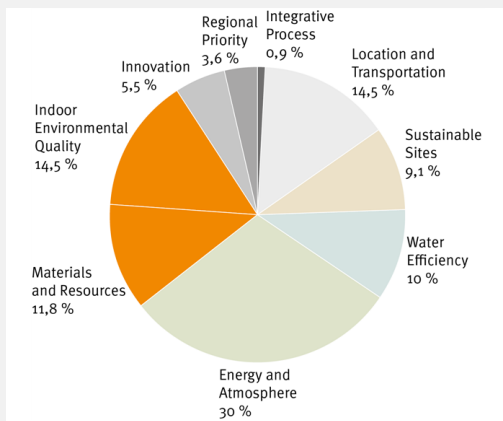
■ System description

This verification is the evaluation and ranking of products in terms of the certification system LEED version 4 (Building Design and Construction). The USGBC (U.S. Green Building Council) generally does not certify products. Therefore the project team or the manufacturer is responsible to declare compliance with respect to the LEED criteria. Notice: This verification is generated by the Assessment Service of BMS. The distribution or publication by third parties is not permitted. The data sheet is not a LEED certification document. The information is based on the manufacturer's specifications. Despite a diligent treatment of all information BMS can not make any warranties about the completeness, reliability and accuracy of this information. The requirements of LEED can be interpreted differently and depend on the project and scope of application. Therefore, BMS cannot accept any liability for the evaluation in terms of the LEED criteria. The user of the data sheet, the user / purchaser of the product and the consultant / planner, who is advising on this product has the duty to check the product for the intended application at their own responsibility. When a new version of this product verification is produced, the previous version loses its validity.

Source: www.usgbc.org

■ System categories

Category Weighting



Category

Category considered in product verification

Integrative Process (IP)	No
Location and Transportation (LT)	No
Sustainable Sites (SS)	No
Water Efficiency (WE)	No
Energy and Atmosphere (EA)	No
Materials and Ressources (MR)	Yes
Indoor Environmental Quality (EQ)	Yes
Innovation (IN)	No
Regional Priority (RP)	No

Source: LEED v4 - New Construction

Detailed Verification

Self declared according to LEED Building Design and Construction V4 (2015)

Materials and Resources

MR Credit Life-Cycle Impact Reduction - Option 4: Whole-Building Life-Cycle Assessment

The product has an Environmental Product Declaration (EPD), which can be used to calculate the building life cycle assessment under LEED MR Building Life-Cycle Impact Redcuts - Option 4: Whole-Building Life-Cycle Assessment:

Permanent formwork Pecafil® VR10	EPD available: No
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An environmental product declaration exists for the product:

Permanent formwork Pecafil® VR10	No
polyethylen foil	No
Flachfolien aus Polyethylene	No
Betonstahl/ Betonstabstahl VR10	Yes

EPD Owner of the Declaration:

Permanent formwork Pecafil® VR10	No Information
polyethylen foil	No Information
Flachfolien aus Polyethylene	No Information
Betonstahl/ Betonstabstahl VR10	Baustahlgewebe GmbH

EPD Publisher:

Permanent formwork Pecafil® VR10	No Information
polyethylen foil	No Information
Flachfolien aus Polyethylene	No Information
Betonstahl/ Betonstabstahl VR10	Institut für Bauen und Umwelt e. V. (IBU)

EPD Programme holder:

Permanent formwork Pecafil® VR10	No Information
polyethylen foil	No Information
Flachfolien aus Polyethylene	No Information
Betonstahl/ Betonstabstahl VR10	Institut für Bauen und Umwelt e. V. (IBU)

EPD Declaration number:

Permanent formwork Pecafil® VR10	No Information
polyethylen foil	No Information
Flachfolien aus Polyethylene	No Information
Betonstahl/ Betonstabstahl VR10	EPD-BSW-20210265-CBA1-DE

EPD Issue date:

Permanent formwork Pecafil® VR10	No Information
polyethylen foil	No Information
Flachfolien aus Polyethylene	No Information
Betonstahl/ Betonstabstahl VR10	02.03.2022

EPD valid to:

Permanent formwork Pecafil® VR10	No Information
polyethylen foil	No Information
Flachfolien aus Polyethylene	No Information
Betonstahl/ Betonstabstahl VR10	01.03.2027

MR Credit BPDO - Environmental Product Declaration - Option 1: Environmental Product Declaration
Weighted Product Value on Credit BPDO - Environmental Product Declaration - Option 1: Environmental Product Declaration:

Permanent formwork Pecafil® VR10	0 % weighted value
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An environmental product declaration exists for the product:

Permanent formwork Pecafil® VR10	No
polyethylen foil	No
Flachfolien aus Polyethylene	No
Betonstahl/ Betonstabstahl VR10	Yes

EPD Type:

Permanent formwork Pecafil® VR10	No Information
polyethylen foil	No Information
Flachfolien aus Polyethylene	No Information
Betonstahl/ Betonstabstahl VR10	Product-specific EPD (Type III) conform to ISO 14025, 14040, 14044, and EN 15804 or ISO 21930

MR Credit BPDO - Environmental Product Declaration - Option 2: Multi-Attribute Optimization

Weighted Product Value on Credit BPDO - Environmental Product Declaration - Option 2: Multi-Attribute Optimization:

Permanent formwork Pecafil® VR10	0 % weighted value
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An environmental product declaration exists for the product:

Permanent formwork Pecafil® VR10	No
polyethylen foil	No
Flachfolien aus Polyethylene	No
Betonstahl/ Betonstabstahl VR10	Yes

Third party certified products that demonstrate impact reduction below industry average in at least three of the LCA-Categories GWP, ODP, AP, EP, POCP and ADPF:

Permanent formwork Pecafil® VR10	No Information
polyethylen foil	No Information
Flachfolien aus Polyethylene	No Information
Betonstahl/ Betonstabstahl VR10	No

MR Credit BPDO - Sourcing of Raw Materials - Option 1: Raw Material Source and Extraction Reporting

Weighted Product Value on Credit BPDO - Sourcing of Raw Materials - Option 1: Raw Material Source and Extraction Reporting:

Permanent formwork Pecafil® VR10	0 % weighted value
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There is a corporate sustainability reports (CSR) report from the manufacturer:

Permanent formwork Pecafil® VR10	No
polyethylen foil	No
Flachfolien aus Polyethylene	No
Betonstahl/ Betonstabstahl VR10	Yes

CSR-Report according:

Permanent formwork Pecafil® VR10	No Information
polyethylen foil	No Information
Flachfolien aus Polyethylene	No Information
Betonstahl/ Betonstabstahl VR10	Self-declared report

■ MR Credit BPDO - Sourcing of Raw Materials - Option 2: Leadership Extraction Practices

Weighted Product Value on Credit BPDO - Sourcing of Raw Materials - Option 2: Leadership Extraction Practices:

Permanent formwork Pecafil® VR10	177.956175 % weighted value
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Extended producer responsibility

Content of materials for a closed-loop recycling or take-back programm in the entire product:

Permanent formwork Pecafil® VR10	0 %
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Bio-based materials

Content of SAN-certified bio-based materials in the entire product:

Permanent formwork Pecafil® VR10	0 %
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Wood products

Content of FSC-certified wood-based materials in the entire product:

Permanent formwork Pecafil® VR10	0 %
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Materials reuse

Content of salvaged, refurbished, or reused products or materials in the entire product:

Permanent formwork Pecafil® VR10	92.87175 %
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The product is made of salvaged, refurbished, or reused products:

Permanent formwork Pecafil® VR10	Yes
polyethylen foil	Yes
Flachfolien aus Polyethylen	No
Betonstahl/ Betonstabstahl VR10	Yes

Do you want to enter the content of FSC-certified materials for the entire product? Otherwise it will be automatically calculated from the components. If you do not have any components for your product, we recommend that you enter here the content of FSC certified materials for the entire product:

Permanent formwork Pecafil® VR10	No
polyethylen foil	Yes
Flachfolien aus Polyethylen	No Information
Betonstahl/ Betonstabstahl VR10	Yes

Reused content

Permanent formwork Pecafil® VR10	92.86 wt%
polyethylen foil	30 wt%
Flachfolien aus Polyethylen	No Information
Betonstahl/ Betonstabstahl VR10	96.5 wt%

Recycled content
Creditable recycled content according to LEED for the entire product:

Permanent formwork Pecafil® VR10	85.084425 %
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Postconsumer recycled content for the entire product:

Permanent formwork Pecafil® VR10	73.95285 %
polyethylen foil	30 %
Flachfolien aus Polyethylene	0 %
Betonstahl/ Betonstabstahl VR10	76.7 %

Do you want to enter the recycled content for the entire product? Otherwise it will be automatically calculated from the components. If you do not have components for your product, we recommend that you enter the recycling percentage for the entire product here:

Permanent formwork Pecafil® VR10	No
polyethylen foil	Yes
Flachfolien aus Polyethylene	No
Betonstahl/ Betonstabstahl VR10	Yes

Postconsumer recycled content of product (creditable):

Permanent formwork Pecafil® VR10	72.12 %
polyethylen foil	30 %
Flachfolien aus Polyethylene	0 %
Betonstahl/ Betonstabstahl VR10	76.7 %

Recycled content post-consumer:

Permanent formwork Pecafil® VR10	72.12 wt%
polyethylen foil	30 wt%
Flachfolien aus Polyethylene	0 wt%
Betonstahl/ Betonstabstahl VR10	76.7 wt%

Postconsumer recycled content for steel according to LEED:

Permanent formwork Pecafil® VR10	0 %
polyethylen foil	0 %
Flachfolien aus Polyethylene	0 %
Betonstahl/ Betonstabstahl VR10	0 %

The product is made of steel:

Permanent formwork Pecafil® VR10	Yes
polyethylen foil	No
Flachfolien aus Polyethylene	No
Betonstahl/ Betonstabstahl VR10	Yes

Recycled content pre-consumer:

Permanent formwork Pecafil® VR10	20.74 wt%
polyethylen foil	0 wt%
Flachfolien aus Polyethylene	0 wt%
Betonstahl/ Betonstabstahl VR10	23.3 wt%

Preconsumer recycled content for the entire product:

Permanent formwork Pecafil® VR10	22.26315 %
polyethylen foil	0 %
Flachfolien aus Polyethylene	0 %
Betonstahl/ Betonstabstahl VR10	23.3 %

MR Credit BPDO - Material Ingredients - Option 1: Material Ingredient Reporting
Weighted Product Value on Credit BPDO - Material Ingredients - Option 1: Material Ingredient Reporting:

Permanent formwork Pecafil® VR10	0 % weighted value
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A manufacturer inventory with all ingredients (to at least 0.1 %) identified by CASRN exists for the product:

Permanent formwork Pecafil® VR10	No
polyethylen foil	No Information
Flachfolien aus Polyethylene	No
Betonstahl/ Betonstabstahl VR10	No

A Health Product Declaration (HPD) exists for the product:

Permanent formwork Pecafil® VR10	No
polyethylen foil	No
Flachfolien aus Polyethylene	No
Betonstahl/ Betonstabstahl VR10	No

Certified according Declare - all ingredients have been evaluated and disclosed down to 0,1 % = 1000 ppm:

Permanent formwork Pecafil® VR10	No
polyethylen foil	No
Flachfolien aus Polyethylen	No
Betonstahl/ Betonstabstahl VR10	No

Certified according Product Lens:

Permanent formwork Pecafil® VR10	No
polyethylen foil	No
Flachfolien aus Polyethylen	No
Betonstahl/ Betonstabstahl VR10	No

Certified according Cradle to Facts - NSF/ANSI 336: Sustainability Assessment for Commercial Furnishings Fabric:

Permanent formwork Pecafil® VR10	No
polyethylen foil	No
Flachfolien aus Polyethylen	No
Betonstahl/ Betonstabstahl VR10	No

Assessed according ANSI/BIFMA e3 Furniture Sustainability standard - Product earned at least 3 points under 7.5.1.3 Advanced Level in e3-2014 or 3 points under 7.4.1.3 Advanced Level in e3-2012:

Permanent formwork Pecafil® VR10	No
polyethylen foil	No
Flachfolien aus Polyethylen	No
Betonstahl/ Betonstabstahl VR10	No

Certified with Cradle to Cradle:

Permanent formwork Pecafil® VR10	No
polyethylen foil	No
Flachfolien aus Polyethylen	No
Betonstahl/ Betonstabstahl VR10	No

Cradle to Cradle Standard Version:

Permanent formwork Pecafil® VR10	no entry
polyethylen foil	no entry
Flachfolien aus Polyethylen	no entry
Betonstahl/ Betonstabstahl VR10	no entry

Cradle to Cradle Level:

Permanent formwork Pecafil® VR10	no entry
polyethylen foil	no entry
Flachfolien aus Polyethylene	no entry
Betonstahl/ Betonstabstahl VR10	no entry

Certified with Cradle to Cradle Material Health:

Permanent formwork Pecafil® VR10	No
polyethylen foil	No
Flachfolien aus Polyethylene	No
Betonstahl/ Betonstabstahl VR10	No

Cradle to Cradle Material Health Level:

Permanent formwork Pecafil® VR10	no entry
polyethylen foil	no entry
Flachfolien aus Polyethylene	no entry
Betonstahl/ Betonstabstahl VR10	no entry

For Cradle to Cradle Material Health are at least 90% of materials assessed by weight:

Permanent formwork Pecafil® VR10	No
polyethylen foil	No
Flachfolien aus Polyethylene	No
Betonstahl/ Betonstabstahl VR10	No

MR Credit BPDO - Material Ingredients - Option 2: Material Ingredient Optimization
Weighted Product Value on Credit BPDO - Material Ingredients - Option 2: Material Ingredient Optimization:

Permanent formwork Pecafil® VR10	100 % weighted value
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The product contains no ingredients listed on the REACH Authorization list – Annex XIV, the Restriction list – Annex XVII and the SVHC candidate list. This is proved down to fully inventoried chemical ingredients to 100 ppm (0,01 %):

Permanent formwork Pecafil® VR10	Yes
polyethylen foil	No
Flachfolien aus Polyethylene	Yes
Betonstahl/ Betonstabstahl VR10	No

The Product have fully inventoried chemical ingredients to 100 ppm and no Benchmark 1 hazard according to GreenScreen v1.2 Benchmark. The product is assessed with "GreenScreen List Translator":

Permanent formwork Pecafil® VR10	No
polyethylen foil	No
Flachfolien aus Polyethylene	No
Betonstahl/ Betonstabstahl VR10	No

The Product have fully inventoried chemical ingredients to 100 ppm and no Benchmark 1 hazard according to GreenScreen v1.2 Benchmark. The product is assessed with "GreenScreen Assessment":

Permanent formwork Pecafil® VR10	No
polyethylen foil	No
Flachfolien aus Polyethylene	No
Betonstahl/ Betonstabstahl VR10	No

Certified with Cradle to Cradle:

Permanent formwork Pecafil® VR10	No
polyethylen foil	No
Flachfolien aus Polyethylene	No
Betonstahl/ Betonstabstahl VR10	No

Cradle to Cradle Standard Version:

Permanent formwork Pecafil® VR10	no entry
polyethylen foil	no entry
Flachfolien aus Polyethylene	no entry
Betonstahl/ Betonstabstahl VR10	no entry

Cradle to Cradle Level:

Permanent formwork Pecafil® VR10	no entry
polyethylen foil	no entry
Flachfolien aus Polyethylene	no entry
Betonstahl/ Betonstabstahl VR10	no entry

■ MR Credit BPDO - Material Ingredients - Option 3: Product Manufacturer Supply Chain Optimization

Weighted Product Value on Credit BPDO - Material Ingredients - Option 3: Supply Chain Optimization:

Permanent formwork Pecafil® VR10	0 % weighted value
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Environmental Management System according ISO 14001:

Permanent formwork Pecafil® VR10	Yes
polyethylen foil	Yes
Flachfolien aus Polyethylen	No
Betonstahl/ Betonstabstahl VR10	Yes

Manufacturer is certified according OHSAS 18000 - Health and Safety Management System:

Permanent formwork Pecafil® VR10	No
polyethylen foil	No
Flachfolien aus Polyethylen	No
Betonstahl/ Betonstabstahl VR10	No

Location Valuation Factor
Information for Location Valuation Factor is available:

Permanent formwork Pecafil® VR10	No
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Place of raw material extraction (e.g D-70563 Stuttgart):

Permanent formwork Pecafil® VR10	Europa
polyethylen foil	Europa
Flachfolien aus Polyethylen	Europäische Union
Betonstahl/ Betonstabstahl VR10	Europa

Place of manufacture (e.g. D-70563 Stuttgart):

Permanent formwork Pecafil® VR10	D-96332
polyethylen foil	D-49439 Steinfeld
Flachfolien aus Polyethylen	D-52379 Langerwehe
Betonstahl/ Betonstabstahl VR10	Deutschland

Place of purchase incl. distribution (e.g. D-70563 Stuttgart):

Permanent formwork Pecafil® VR10	D-96332
polyethylen foil	D-49439 Steinfeld
Flachfolien aus Polyethylen	D-52379 Langerwehe
Betonstahl/ Betonstabstahl VR10	Deutschland

The distance between place of raw material extraction and manufacture is less than 100 miles/160 km:

Permanent formwork Pecafil® VR10	No
polyethylen foil	No
Flachfolien aus Polyethylene	No
Betonstahl/ Betonstabstahl VR10	No

■ Indoor Environmental Quality

■ EQ Credit Low-Emitting Materials (except Healthcare and Schools)

The entire product contributes toward satisfying EQ Credit: Low-Emitting Materials:

Permanent formwork Pecafil® VR10	N/A
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■ Contact Details Manufacturer

Max Frank GmbH & Co. KG

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94339 Leiblfing
DE
<http://www.maxfrank.de/>



■ Disclaimer

This verification is the evaluation and ranking of products in terms of the certification system LEED version 4 (Building Design and Construction). The USGBC (U.S. Green Building Council) generally does not certify products. Therefore the project team or the manufacturer is responsible to declare compliance with respect to the LEED criteria. Notice: This verification is generated by the Assessment Service of BMS. The distribution or publication by third parties is not permitted. The data sheet is not a LEED certification document. The information is based on the manufacturer's specifications. Despite a diligent treatment of all information BMS can not make any warranties about the completeness, reliability and accuracy of this information. The requirements of LEED can be interpreted differently and depend on the project and scope of application. Therefore, BMS cannot accept any liability for the evaluation in terms of the LEED criteria. The user of the data sheet, the user / purchaser of the product and the consultant / planner, who is advising on this product has the duty to check the product for the intended application at their own responsibility. When a new version of this product verification is produced, the previous version loses its validity.