SENTINEL HOLDING
INSTITUT

SHI PRODUCT PASSPORT

Find products. Certify buildings.

SHI Product Passport No.:

15146-10-1007

KG

Product group: Shell construction / Basement - Drainage - KG pipes

Ostendorf Kunststoffe

Gebr. Ostendorf Kunststoffe GmbH
Rudolf-Diesel-Straße 6 - 8
49377 Vechta

Product qualities:

- QNG Qualitätssiegel Nachhaltiges Gebäude ✓
- DGNB NEW CONSTRUCTION 2023 ✓
- DGNB NEW CONSTRUCTION 2018 ✓
- BNB-BN NEUBAU V2015 ✓
- EU taxonomy ✓
- BREEAM DE NEUBAU 2018 ✓
- LEED v4.1 (outside US) ✓

CERTIFIED SUSTAINABLE PRODUCT
SHI PRODUCT PASSPORT
SENTINEL HOLDING INSTITUT
www.sentinel-holding.eu

Köttner

Helmut Köttner
Scientific Director
Freiburg, 30 March 2026

Product:
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The SHI Database is the first and only database for construction products whose comprehensive processes and data accuracy are regularly verified by the independent auditing company SGS-TÜV Saar

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QNG - Qualitätssiegel Nachhaltiges Gebäude

The Qualitätssiegel Nachhaltiges Gebäude (Quality Seal for Sustainable Buildings), developed by the German Federal Ministry for Housing, Urban Development and Building (BMWSB), defines requirements for the ecological, socio-cultural, and economic quality of buildings. The Sentinel Holding Institut evaluates construction products in accordance with QNG requirements for certification and awards the QNG ready label. Compliance with the QNG standard is a prerequisite for eligibility for the KfW funding programme. For certain product groups, the QNG currently has no specific requirements defined. Although classified as not assessment-relevant, these products remain suitable for QNG-certified projects.

Criteria	Pos. / product group	Considered substances	QNG assessment
3.1.3 Schadstoffvermeidung in Baumaterialien			QNG ready - Not relevant for assessment

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DGNB New Construction 2023

The DGNB System (German Sustainable Building Council) assesses the sustainability of various types of buildings. It can be applied to both large-scale private and commercial projects as well as smaller residential buildings. The 2023 version sets high standards for ecological, economic, socio-cultural, and functional aspects throughout the entire life cycle of a building.

Criteria	No. / Relevant building components / construction materials / surfaces	Considered substances / aspects	Quality level
ENV 1.2 Local environmental impact, 03.05.2024 (3rd edition)	not applicable		Not relevant for assessment

Criteria	Assessment
ENV1.1 Climate action and energy (*)	May positively contribute to the overall building score
Verification: https://www.ostendorf-kunststoffe.com/unternehmen/nachhaltigkeit	

Criteria	Assessment
ECO1.1 Life cycle cost (*)	May positively contribute to the overall building score
Verification: https://www.ostendorf-kunststoffe.com/unternehmen/nachhaltigkeit	

Criteria	Assessment
ECO2.6 Climate resilience (*)	May positively contribute to the overall building score
Verification: Prüfbericht der Physikalisch-Technische Bundesanstalt Braunschweig und Berlin vom 17.06.2008	

Criteria	No. / Relevant building components / construction materials / surfaces	Considered substances / aspects	Quality level
ENV 1.2 Local environmental impact, 29.05.2025 (4th edition)	not applicable		Not relevant for assessment

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DGNB New Construction 2018

The DGNB System (German Sustainable Building Council) assesses the sustainability of various types of buildings. It can be applied to both large-scale private and commercial projects as well as smaller residential buildings.

Criteria	No. / Relevant building components / construction materials / surfaces	Considered substances / aspects	Quality level
ENV 1.2 Local environmental impact	not applicable	not applicable	Not relevant for assessment

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BNB-BN Neubau V2015

The Bewertungssystem Nachhaltiges Bauen (Assessment System for Sustainable Building) is a tool for evaluating public office and administrative buildings, educational facilities, laboratory buildings, and outdoor areas in Germany. The BNB was developed by the former Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety (BMUB) and is now overseen by the Federal Ministry for Housing, Urban Development and Building (BMWSB).

Criteria	Pos. / product type	Considered substance group	Quality level
1.1.6 Risiken für die lokale Umwelt	29 PVC construction products	Heavy metals (lead, cadmium, tin), individual hazardous substances	Quality level 5
Verification: für keine Cadmium- und Bleistabilisatoren und Deklaration enthaltener SVHC > 0,1 % durch Herstellererklärung vom 25. August 2025.			

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EU taxonomy

The EU Taxonomy classifies economic activities and products according to their environmental impact. At the product level, the EU regulation defines clear requirements for harmful substances, formaldehyde and volatile organic compounds (VOCs). The Sentinel Holding Institut GmbH labels qualified products that meet this standard.

Criteria	Product type	Considered substances	Assessment
DNSH - Pollution prevention and control		Substances according to Annex C	EU taxonomy compliant
Verification: für SVHC und Stoffe mit Einstufung CMR 1A / 1B < 0,1% durch Herstellererklärung vom25. August 2025.			

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BREEAM DE Neubau 2018

BREEAM (Building Research Establishment Environmental Assessment Methodology) is a UK-based building assessment system that evaluates the sustainability of new constructions, refurbishments, and conversions. Developed by the Building Research Establishment (BRE), the system aims to assess and improve the environmental, economic, and social performance of buildings.

Criteria	Product category	Considered substances	Quality level
Hea 02 Indoor Air Quality			Not relevant for assessment

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LEED v4.1

LEED (Leadership in Energy and Environmental Design) is an internationally recognised building certification system developed by the U.S. Green Building Council. It is one of the most widely used sustainability standards for buildings worldwide and is particularly applied in internationally oriented projects. LEED assesses buildings holistically across categories such as energy efficiency, resource conservation, material selection, indoor environmental quality and site sustainability. Depending on the number of points achieved, projects are awarded one of the certification levels: LEED Certified, Silver, Gold or Platinum.

Criteria	Product category	Assessment
EQ Credit: Low-Emitting Materials		Not relevant for assessment

Product:
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Product labels

In the construction industry, high-quality materials are crucial for a building's indoor air quality and sustainability. Product labels and certificates offer guidance to meet these requirements. However, the evaluation criteria of these labels vary, and it is important to carefully assess them to ensure products align with the specific needs of a construction project.

Products bearing the Sentinel Holding Institute QNG-ready seal are suitable for projects aiming to achieve the "Qualitätssiegel Nachhaltiges Gebäude" (Quality Seal for Sustainable Buildings). QNG-ready products meet the requirements of QNG Appendix Document 3.1.3, "Avoidance of Harmful Substances in Building Materials." The KfW loan program Climate-Friendly New Construction with QNG may allow for additional funding.

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Legal notices

(*) These criteria apply to the construction project as a whole. While individual products can positively contribute to the overall building score through proper planning, the evaluation is always conducted at the building level. The information was provided entirely by the manufacturer.

Find our criteria here: https://www.sentinel-holding.eu/de/Themenwelten/Pr%C3%BCfkriterien%20f%C3%BCr%20Produkte

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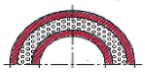
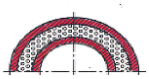
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Technisches Datenblatt für KG-PVC-Rohre und -Formstücke

		Vollwandrohr	Mehrschichtrohr	Mehrschichtrohr	Vollwand-Formstücke
					
		Ostendorf Kunststoffe	Ostendorf Kunststoffe	Ostendorf Kunststoffe	Ostendorf Kunststoffe
		PVC SN 10 plus	PVC SN 4 Coex	PVC SN 8 Coex	PVC Formteile
Rohrangaben	Maßgebliche Normen	DIN EN 1401-1	DIN EN 13476-2	DIN EN 13476-2	DIN EN 1401-1
	Zulassungen				
	SN - Klasse (Einteilung nach Norm)	8	4	8	4
	Belastungsklasse	Hochlast	Normallast	Hochlast	Hochlast
	Konstruktion (innen und außen glatt)	Vollwand	Coextrudiert	Coextrudiert	Vollwand
	SDR (Standard Dimension Ratio) (d/e)	34	41	34	41
Eigenschaften	**Ringsteifigkeit nach DIN EN ISO 9969 [kN/m²]**	**> 10**	**> 4**	**> 8**	**> 10**
	Ringsteifigkeit nach DIN 16961 [kN/m²]	≥ 63	≥ 31,5	≥ 63	≥ 63
	Werkstoff	PVC-U	PVC-U coex	PVC-U coex	PVC-U
	Anteil mineralischer Additive [%]	≈ 20	≈ 20	≈ 20	0% ; max. 4 %
	Mittlere Dichte	≈ 1,5	≈ 1,0	≈ 1,0	≈ 1,4
	Farbe	orangebraun	orangebraun	orangebraun	orangebraun
	Kurzzeit-E-Modul [N/mm²]	3000	3000	3000	3000
	Langzeit-E-Modul [N/mm²]	1500	1500	1500	1500
	Längenausdehnungskoeffizient [mm/m x K]	≈ 0,08	≈ 0,08	≈ 0,08	≈ 0,08
	Wärmeleitfähigkeit in [W/K x m]	≈ 0,16	≈ 0,16	≈ 0,16	≈ 0,16
	Oberflächenwiderstand in Ω	$> 10^{12}$	$> 10^{12}$	$> 10^{12}$	$> 10^{12}$
	chemische Beständigkeit	ph 2-12	ph 2-12	ph 2-12	ph 2-12
	Recycling-Fähigkeit	100%	100%	100%	100%
	Abrieb pro 100.000 Lastspiele a_m^{100}		≈ 0,17	≈ 0,20	
	Schlagzähigkeit bei 0°C	++	+	+	++
	Schlagzähigkeit bei -10°C	++			+
Empfehlung	Einsatz unter Verkehrsflächen	SLW 60 tauglich	SLW 60 tauglich	SLW 60 tauglich	SLW 60 tauglich
	Überdeckungshöhen [m]	≈ 0,5-8,0	≈ 1,0-3,0	≈ 0,5-8,0	≈ 0,5-8,0
	Wandrauheit k (aus KRV-Handbuch)	< 0,1 mm	< 0,1 mm	< 0,1 mm	< 0,1 mm
	betriebliche Rauheit (aus ATV 110)	0,40 mm	0,40 mm	0,40 mm	0,40 mm
	Abwassertemperaturen:	DIN EN 476	DIN EN 476	DIN EN 476	DIN EN 476
	Abwasser- Dauerbelastung	45 (≤ DN 400)	45 (≤ DN 400)	45 (≤ DN 400)	45 (≤ DN 400)
	wassertempe- Dauerbelastung	35 (> DN400)	35 (> DN400)	35 (> DN400)	35 (> DN400)
	raturen [°C] Kurzzeitig	60	60	60	60
	Dichtheitsprüfungen	0,5 bar Wasser -0,3 bar Luft	0,5 bar Wasser -0,3 bar Luft	0,5 bar Wasser -0,3 bar Luft	0,5 bar Wasser -0,3 bar Luft
	Eignung für Hochdruckspülen	geeignet	geeignet	geeignet	geeignet
	Gefälle	ATV A 110	ATV A 110	ATV A 110	ATV A 110
	Fließgeschwindigkeiten	ATV A 110	ATV A 110	ATV A 110	ATV A 110
	Hydraulische Leistung	ATV A 110	ATV A 110	ATV A 110	ATV A 110
	Verlegung und Prüfung	DIN EN 1610	DIN EN 1610	DIN EN 1610	DIN EN 1610
Anwenungsbereich	als Grundleitung unzugänglich in der Grundplatte	ja	ja	ja	ja
	als Grundleitung im Erdreich	ja	ja	ja	ja
	als Leitungen für Kondensate aus Feueranlagen	ja	ja	ja	ja
	als Fallleitung sofern max. Abwasser-	ja	nein	nein	ja
	als Sammelleitung temperatur < 45°C ist	ja	nein	nein	ja
	im Grundwasserbereich	ja	ja	ja	ja
	als erdverlegte drucklose Abwasser- und Regenwasserleitung (Schwerkraftentwässerungssystem)	ja	ja	ja	ja
Werkstoffkennwerte		aus ATV A 127	aus ATV A 127	aus ATV A 127	aus ATV A 127
	Material	PVC-U	PVC-U	PVC-U	PVC-U
	Kurzzeit-E-Modul [N/mm²]	3000	3000	3000	3000
	Langzeit-E-Modul [N/mm²]	1500	1500	1500	1500
	Kurzzeit-Biegefestigkeit [N/mm²]	90	90	90	90
	Langzeit-Biegefestigkeit [N/mm²]	50	50	50	50
	Wichte	13,5	10,0	10,0	13,5
	Schwingbreite 2 σA	9	9	9	9
	Brandverhalten	schwer-entflammbar	schwer-entflammbar	schwer-entflammbar	schwer-entflammbar
	Baustoffklasse nach DIN 4102-1	B1	B1	B1	B1
	Klassifizierung Brandverhalten - DIN EN 13501-1	E ; kein Abtropfen			E ; kein Abtropfen