



# SHI PRODUCT PASSPORT

Find products. Certify buildings.

SHI Product Passport No.:

**15247-10-1026**

## KRASO FLS - Flexibles Leerrohr-System

Product group: Cable routing / cable ducts

**KRASO**<sup>®</sup>  
EINFACH + DICHT

Kraso GmbH & Co. KG  
Baumannweg 1  
46414 Rhede



### Product qualities:



*Köttner*

Helmut Köttner  
Scientific Director  
Freiburg, 04 March 2026



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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	13.1 Electrical, data processing, and control system installations	SVHC: phthalates / polybrominated biphenyls (PBB) / polybrominated diphenyl ethers (PBDE) / lead / cadmium	QNG ready
<b>Verification:</b> Herstellererklärung REACH vom 20.09.2023			



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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 relevant for assessment

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 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
<b>Verification:</b> Herstellererklärung REACH vom 20.09.2023			



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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:** Herstellererklärung REACH vom 20.09.2023



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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



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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.

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Find our criteria here: <https://www.sentinel-holding.eu/de/Themenwelten/Pr%C3%BCfverfahren/kriterien%20of%20Pr%C3%BCfverfahren%20Produkte>

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## TECHNISCHES DATENBLATT



# KRASO® FLS – Flexibles Leerrohr-System

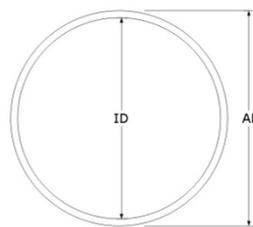
### Einsatzbereich

Flexibles Leerrohr-System als Kabelschuttschlauch für gas – und wasserdichte Anbindung an Kabeleinführungssystemen

### Produktbild



### Technische Zeichnung



### Konstruktion, Werkstoff

in der Wandung eingebettete Hart-PVC-Spirale

Spirale:	Hart-PVC
Wandung:	Weich-PVC
Innenbeschichtung*:	Weich-PVC, teflonähnlich



### Temperaturbereiche

witterungs- und temperaturbeständig	-15 °C bis 60 °C
optimale Verlegetemperatur	+5 °C bis 50 °C

### Merkmale

- innen glatt für schonenden Kabelzug
- außen glatt zur optimalen Abdichtung
- flexibel
- erhöhte Druck- und Vakuumfestigkeit
- hohe axiale Festigkeit
- gute Laugen- und Säurebeständigkeit
- sole- und seewasserfest
- gute UV- und Ozonbeständigkeit
- gas- und flüssigkeitsdicht
- RoHS konform (*Restriction of Hazardous Substances*)
- mit extrem glatter, abriebfester Innenbeschichtung\*

	KRASO® FLS 90	KRASO® FLS 110	KRASO® FLS 150
AD	ø 88 mm	ø 113 mm	ø 163 mm
ID	ø 80 mm	ø 101 mm	ø 150 mm
Biegeradius	200 mm	350 mm	600 mm
Materialstärke	4 mm	6 mm	6,5 mm
Gewicht	1,5 kg/m	2,3 kg/m	4,3 kg/m
Artikel-Nr.	KBKPFLS090	KKDSFSL110	KKDSFSL150

### Technische Eigenschaften

Scheiteldruckfestigkeit	629 N	1520 N	936 N
Prüfungen nach <b>DIN EN 61386-24</b> führen zu folgenden Klassifizierungen:			
Druckbeanspruchung	Typ 250	Typ 250	Typ 250
Schlagfestigkeit	Normal	Normal	Normal
Klassifizierungscode   (Erreichte Prüfkraft F)	N250 (364 N)	N250 (293 N)	N250 (388 N)

\*Eigenschaften NUR beim KRASO® FLS 150

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