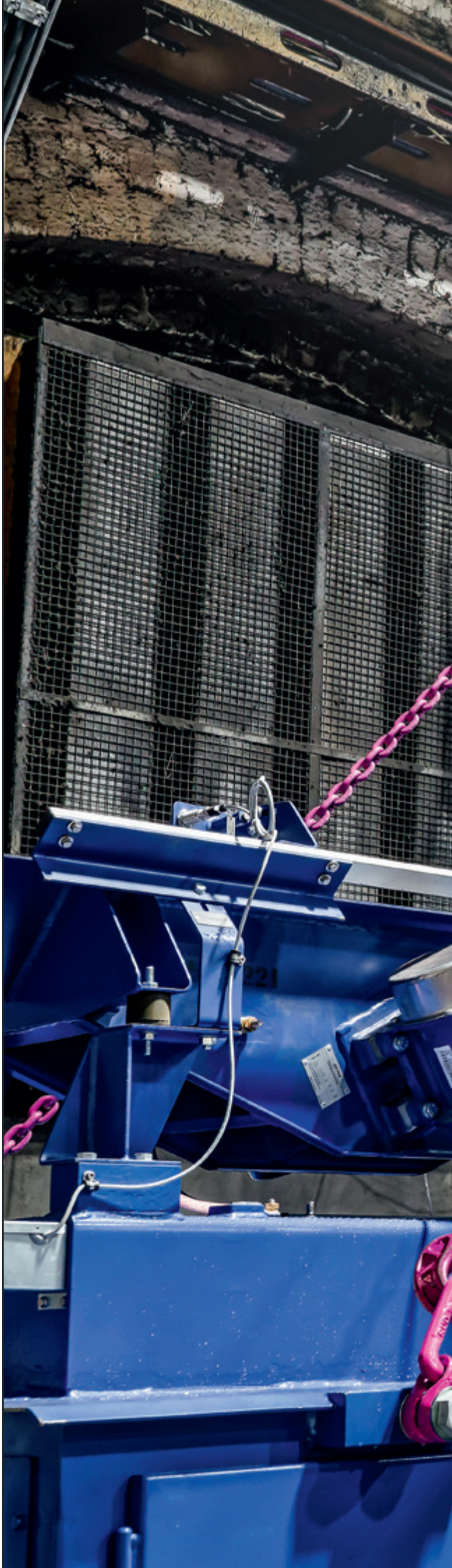
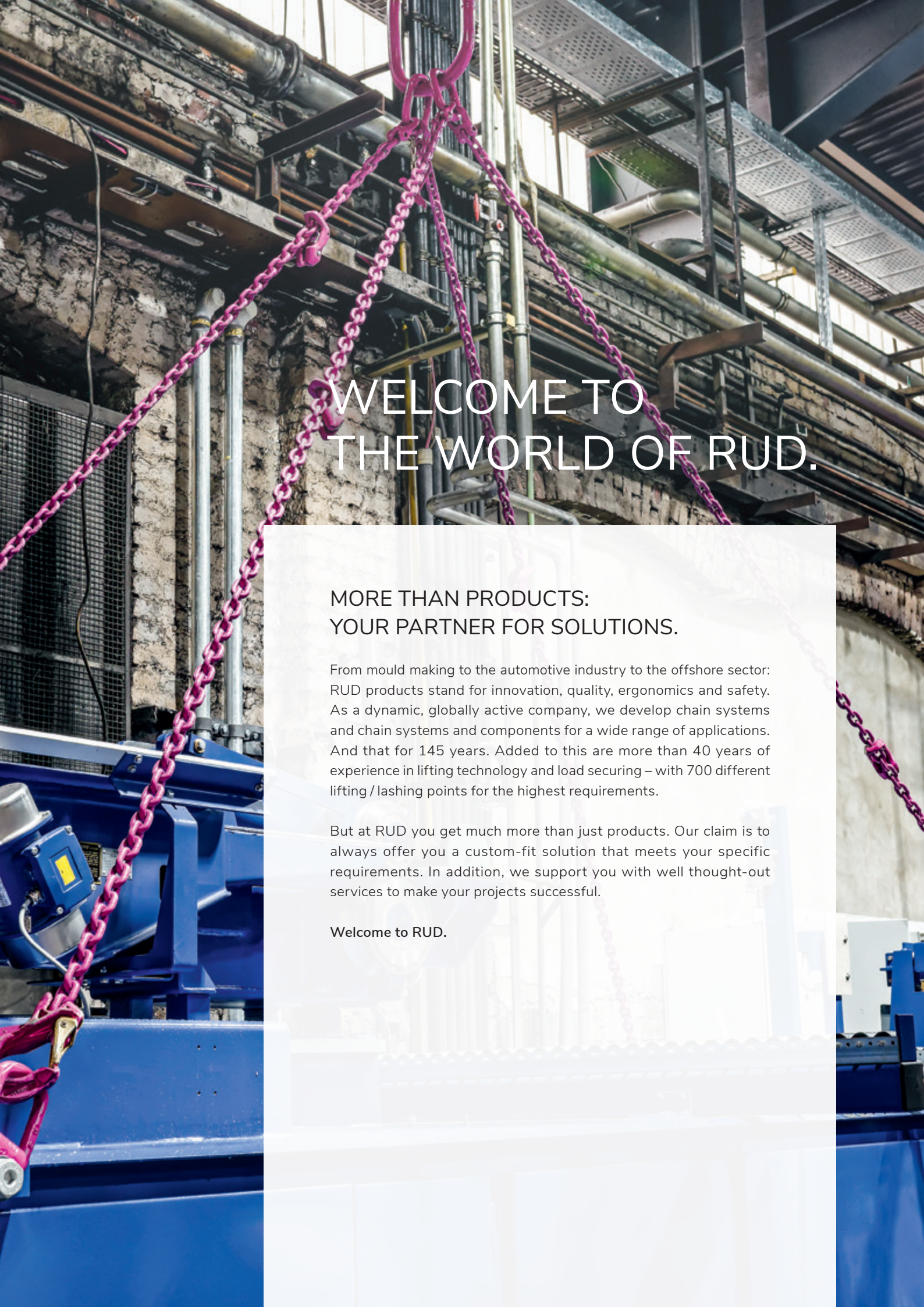
THE LIFTING MEANS SYSTEM.

Short catalogue version 1 | English

CONTENT.





WELCOME TO THE WORLD OF RUD.

MORE THAN PRODUCTS: YOUR PARTNER FOR SOLUTIONS.

From mould making to the automotive industry to the offshore sector: RUD products stand for innovation, quality, ergonomics and safety. As a dynamic, globally active company, we develop chain systems and chain systems and components for a wide range of applications. And that for 145 years. Added to this are more than 40 years of experience in lifting technology and load securing – with 700 different lifting / lashing points for the highest requirements.

But at RUD you get much more than just products. Our claim is to always offer you a custom-fit solution that meets your specific requirements. In addition, we support you with well thought-out services to make your projects successful.

Welcome to RUD.

OUR CLAIM: MAXIMUM QUALITY, BEST CUSTOMER ORIENTATION.

Innovation, perfection and the motivation to achieve added value for our customers: That is RUD's passion. Being a technological think tank, we repeatedly set standards for load securing and lifting technologies with our lifting and lashing equipment.

Our chain production facilities are among the most modern of their kind. Highly qualified specialists work here, who are never satisfied with the status quo. Because our thinking is focused on meeting customer needs and maximum benefit for the user. The long-term partnership with our customers, their satisfaction and their trust are our focus.

RUD. MADE IN GERMANY.

All RUD products around lifting and moving of loads have something important in common: They are developed and manufactured by us in Germany. In R&D alliances with research institutes, universities, suppliers and customers. With plenty of know-how, high creativity and state-of-the-art technology. This results in products and solutions of outstanding material quality, high robustness and exemplary ergonomics. In an nutshell: Quality made in Germany – made by RUD.

Made in Germany

AT HOME INTERNATIONALLY.

Not only our products, but also RUD's solution and consulting expertise are available to you all over the world. This is ensured by a large number of subsidiaries, associated companies and specialised RUD trade partners. Satisfied users of RUD lifting and lashing solutions can also be found in almost all industrial sectors.

TRADITION MEETS FUTURE.

Time and again, RUD is at the forefront of important developments. Many things considered standard today for lifting and lashing originated from RUD's think tank. In 1953, RUD was the first chain manufacturer to receive the inspection stamp H1 for high-strength chains, in 1972 it was the first to receive approval for grade 8 (H1-8) and in 2007 for round steel chains of the highest grade 12 (D1-12) (ICE). To simplify test processes, we have long equipped many products with RFID transponders as standard and offer a complete hardware and software system for efficient test management. The latest milestone: In 2019, RUD presented the first lifting point that "thinks" and can thus avoid dangerous transverse loads. There is still a lot for us to do, join us into the future.

AWARD-WINNING SERVICE.

Numerous awards prove it: RUD's innovative strength and performance are outstanding – in the industry and beyond.

SIMPLE PRODUCT TESTING WITH RFID TECHNOLOGY.

THE RUD BLUE-ID SYSTEM: IDENTIFY. TRANSMIT. MANAGE.

From RDIF transponders and readers to a documentation and management software: With the RUD BLUE SYSTEM, we offer you a comfortable overall solution for testing your equipment. This noticeably relieves your daily workload and saves costs.

The wireless and safe transmission via RFID transponders makes the product identification more convenient than ever. And with our readers and the software solution, documentation and administration also become incredibly easy. Thus, with a single click, all RUD components with RFID tags can be identified contact-free and without errors and transmitted directly to the software or app for further processing of the test data. It could not be more convenient or more secure. Your entire testing process will be simpler, faster and more reliable. This gives you more time for your core business.

THE RUD BLUE-ID SYSTEM.

- Lower inspection costs, time and personnel expenditure.
- More process and legal security (avoidance of errors).
- Factory preassigned product information simple, contact-free and fast readout on site.
- Clear marking and identification of the products with RFID technology.
- Offline testing possible without Internet access.
- Simple documentation and administration of test data with the cloud based software solution AYE-D.NET.

Fitted as standard in defined RUD products.
Can be retrofitted for many other products.

RUD RFID
CONNECT IT

If you see this symbol next to the image of an RUD product, you know:
An RFID transponder is installed here.

THE HARDWARE.
FLEXIBLE, ADAPTABLE, RESISTANT.

RFID transponders are already integrated as standard in defined RUD products. In addition, we offer you numerous possibilities to retrofit components safely and permanently with one of our transponders. Each of them is extremely resistant and can withstand even the harshest environmental conditions such as extreme temperatures or chemically aggressive substances.

The RUD ID-POINT®.
The press-fit version.

The RUD ID-STICKER.
The glue version.

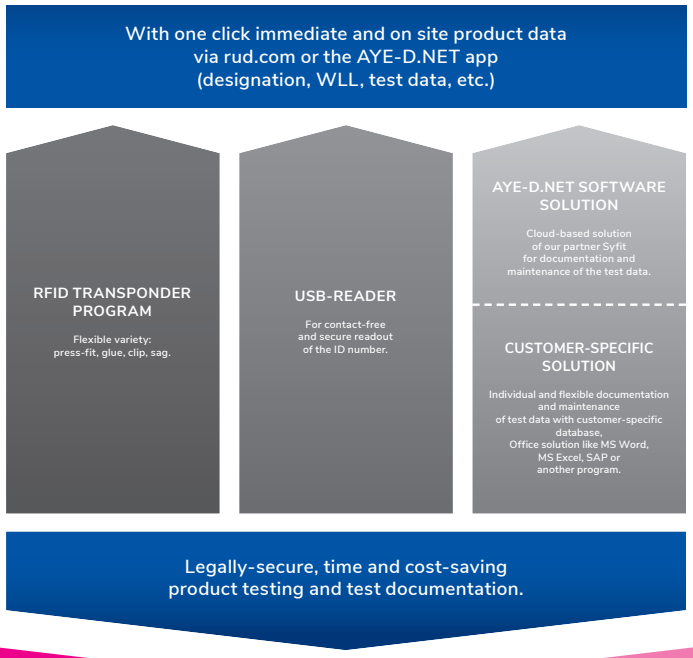
The RUD ID-TAG®.
The hinge version.

The RUD ID-USB-READER.

The RUD ID-LINK®.
The sagging version.

THE SOFTWARE. HIGH-PERFORMANCE, MODULAR, SIMPLE TO USE.

As a combination of testing, administration and documentation software, AYE-D.NET opens up numerous possibilities in testing administration and subsequent processes. We offer the cloud-based software tool as a SaaS solution together with our partner Syfit. Alternatively, you can organise the test documentation with existing databases and standard programmes such as Office applications, SAP, etc.



OPTIMAL CONFIGURATION OF CHAINS SUSPENSIONS.

FROM THE MASTER LINK TO THE FINAL COMPONENT: WHAT YOU SHOULD NOTE.

From the master link to the final component: Configuring chains suspensions is full of challenges. Safety and efficiency are the top priorities for us. As a globally recognised specialist in the field of lifting and moving loads, we support you in your daily lifting tasks. With our ICE- and VIP-Kits, for example, we have created the basis for ensuring that RUD components with different WLL cannot be accidentally combined. On these pages, you will learn how to configure your individual suspension optimally for your respective applications.

DEFINITION OF A CHAIN SUSPENSION.

In the world of lifting means, chain suspensions form the connection between the sling and the load. It consists of several components. Suspensions can be purchased fully configured – depending on the weight, size and shape of the load.

Components of a suspension are:

- Master link
- Chains (in one or several strands)
- Any shortening elements (to shorten chains)
- Any connecting elements (to connect two chains, e.g. balancer)
- End component (e.g. hooks)

WHAT IS THE ADVANTAGE OF A CHAIN SUSPENSION WHEN LIFTING?

Chain suspensions can be configured very flexibly according to the load to be lifted. The variety of available components and WLL is high, so that a large number of lifting tasks can be solved with one suspension. For example, the chains of a suspension can be easily and safely extended or shortened with special components. This allows the length of the chain strands to be adapted to the shape or weight distribution or centre of gravity of the load.

SUSPENSION CONFIGURATION: WHAT QUESTIONS DO YOU NEED TO ANSWER FOR YOURSELF?

1. What load (weight) should be transported or lifted with the chain suspension?
This is very important so that lifting chains and other suspension components with the right WLL are selected.

2. How many strands should the suspension have?
Many loads already have lifting points. This gives use the number of strands for the suspension used. Attention: According to DGUV rule 109-017, the single strand WLL applies in the event of asymmetrical loading of a multiple strand suspension.

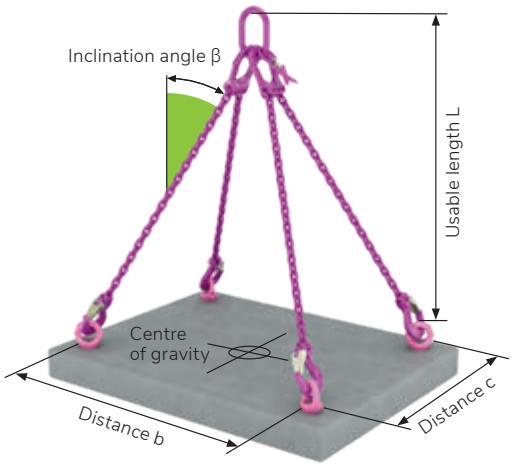
3. Which usable length should the suspension have?
It depends on the hall height, use height and size of the load. Important: The inclination angle β of the suspension must be between 0° and 60° If the angle of inclination β is more than 60°, you must increase the usable length of the suspension so that the angle is less than 60°.

4. What is the distance to the lifting points used?
The distance has an effect on the angle of inclination β of the suspension. It is therefore taken into account in the formula for calculating the optimum suspension.

5. Where is the centre of gravity of the load?
For a symmetrical load, a 1-strand suspension is sufficient under certain circumstances, a suspension with lifting chains of different lengths is usually necessary recommended for an asymmetrical load.

6. When is an endless chain sensible?
It is used, for example, if a load does not have any lifting points. An endless chain with choke hitch reduces the WLL.

7. In which working environment should the suspension be used?
VIP-Components from RUD allow operating temperatures from –40 to 200 °C, for ICE-Products they are between –60 and 200 °C (without reduction in WLL). ICE-Components are recommended for use in tough environments, but also wherever the lightest possible handling is important.



Symmetrical load:
Central centre of gravity

Asymmetrical load:
Centre of gravity off-centre

Endless chain with load

Calculating the suspension correctly.
Use our configuration tool at www.rud.com

ICE- AND VIP-CHAINS: TECHNOLOGIES WITH CRUCIAL ADVANTAGES.

High WLL with low weight and thus better ergonomics, high toughness, durability and increased breaking strength with unchanged elongation at break: These make RUD ICE- and VIP-Chains the economical choice for a wide range of lifting tasks.

USEFUL INFORMATION ABOUT GRADES.

For lifting chains, the grade is of major importance. In addition to designations such as „GK 12“ there is often talk of “grade 120”. The grade of a chain can be determined from its quality stamp: for example “(H1) 10” stands for grade 10 – with the H standing for “high-strength” – and “(D1) 12” stands for grade 120 (RUD ICE-Chain). Tempering the chain reduces its hardness but increases its toughness and also improves many other properties.

HIGH VALUE FOR MONEY THANKS TO SPECIAL HARDENING.

Whether hot or cold: When the ICE- or VIP-Chains are used under rough conditions, the patented material and the special hardening provide clear advantages, such as when turning sectional steel. For example, damage to the chains due to edge deflections can be significantly reduced.

- ICE = Innovative Chain Evolution
- VIP = Verwechslungsfrei in Pink (non-mix-up in pink)

GRADE COMPARISON USING SINGLE-STRAND CHAINS AS AN EXAMPLE.

WLL	8 t	8 t
Nominal thickness	13 mm	16 mm
Components	IAK-RG-13 + IMVK-13 ICE-Chains 13 x 39 NL 3,000 mm ICE-STAR hooks 13	AK 1-16 + BSEK Chains 16 x 48 grade 80 NL 3,000 mm GSH 16
Weight	20.5 kg = 100 %	27.0 kg = 130 %

WLL	6.7 t	5.3 t
Nominal thickness	13 mm	13 mm
Components	VAK-RG-13 + VMVK-13 VIP-Chains 13 x 39 NL 3,000 mm VCGH 13	AK1-13 + BSEK Chains 13 x 39 grade 80 NL 3,000 mm GSH 13
WLL	6.7 t = 125 %	5.3 t = 100 %

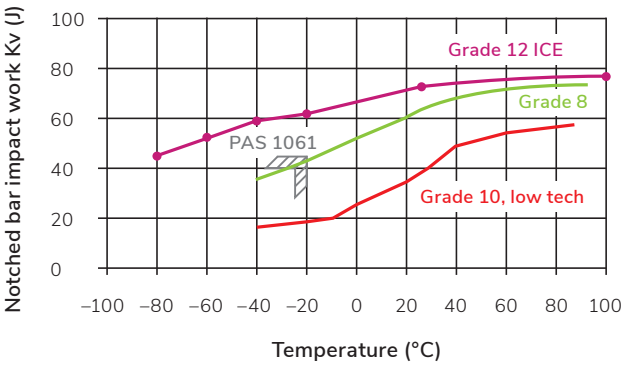
HIGHER BREAKING STRENGTH – CONSTANT ELONGATION AT BREAK.

Despite a significantly higher breaking than grade 80, the breaking elongation of the ICE- and VIP-Chains remains the same. It is guaranteed ≧ 25 % in the natural black state, with pink powder coating ≧ 20 %. The vibration resistance reaches a guaranteed minimum of 20,000 load cycles (tested at 50 % overload for ICE and VIP).[1]

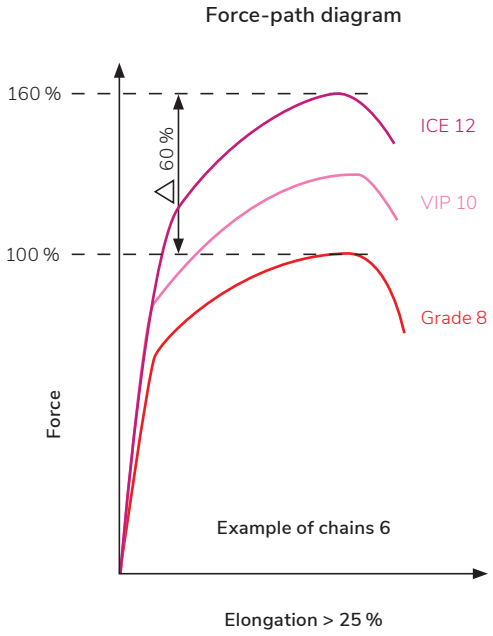
[1] During constant operation, the WLL has to be specified according to EN 818-7 engine group 1 Bm (M³) rated voltage 160 N/mm², i.e. one chain thickness larger must be selected, for example.

SIGNIFICANTLY IMPROVED TOUGHNESS.

In the notched bar impact test, whether a chain still has sufficient toughness under particularly unfavourable conditions can be determined. The result: compared to a chain grade 80 (40 J at –20 °C), RUD ICE-Chains have 55 J at –60 °C and RUD VIP-Chains have 42 J at –40 °C. Important for extreme loads!



UP TO 60 % HIGHER BREAK FORCE / WLL THAN GRADE 8.



Longer service life thanks to special heat treatment and patented material.

- Higher wear resistance.
- Reduced sensitivity to the penetration of sharp edges.
- 30 % higher surface hardness than grade 80, thus significantly longer service life.

LIGHT AND STRONG: THE ICE-KIT BY RUD.

RUD has always been ahead of its time when it comes to materials for lifting means. One example is the world-famous RUD ICE-Chain, which can replace a grade 8 chain of the next largest nominal thickness. Thanks to the extremely high strength of the patented material, the continuous nominal thickness increase has been achieved even with diameters of less than 16 mm. The decisive advantage: An ICE-Lifting means or lashing chain is more than 30 percent lighter and the working ergonomics are noticeably improved.

THE ICE-CHAINS TECHNOLOGY FOR 30 % LESS OWN WEIGHT – YOUR ADVANTAGES:

- Better handling through lightweight design: No impairment of health due to too heavy lifting.
- Up to 60 % higher break force / WLL than grade 8.
- Significantly improved toughness and impact energy values (55 J at –60 °C).
- Higher wear resistance and longer life due to special heat treatment and 30 % higher surface hardness.
- Optimum surface protection through special ICE-Pink powder coating.
- Reduced sensitivity to the penetration of sharp edges.
- Environmental protection: significantly less material and less energy consumption in production. Made for extreme temperatures.

HIGH VALUE FOR MONEY THANKS TO SPECIAL ICE-HARDENING.

Whether hot or cold: For tough use of the ICE-Chain, especially when handling sectional steel, such as in port handling or in construction operations with tying, the patented material and the special RUD ICE-Hardening provide clear advantages for the user. This reduces damage to the chain caused by edge deflection compared to a chain with lower strength.

THE DECISIVE ICE-ADVANTAGE: ALWAYS A NOMINAL THICKNESS LOWER THAN GRADE 8.

Nominal thickness mm	WLL kg	
	Grade 8	ICE 120
6	–	1,800
8	2,000	3,000
10	3,150	5,000
13	5,300	8,000
16	8,000	12,500
20	12,500	–

RUD LIFTING MEANS IN VIP-QUALITY.

Innovation and quality made by RUD: The highly dynamic chains and components of RUD product line VIP stand for up to 30 percent higher WLL than the highest grade 8 (grade 80) available until then. And with the same chains diameter. VIP-Chains from 18 mm are always one nominal thickness thinner – and therefore up to 50 percent lighter. The geometric structure and the tolerances of the VIP-Chains are adapted to those of the higher grade. The chain spectrum ranges from 4 to 28 mm and from 0.63 t (MINI single-strand) to 126 t (2 x MAXI double-strand).

RUD LIFTING MEANS IN GRADE 10 (VIP) – THE CONVINCING ADVANTAGES:

- Up to 30 % higher WLL than grade 8 (grade 80) with the same chain diameter (Ø 16, 20, 22 and 28 mm in grade 10 (VIP) replace Ø 18, 22, 26 and 32 mm in grade 8).
- Noticeable weight savings – better handling.
- Dynamic strength considerably higher than standard values.
  Minimum number of load cycles: > 20,000, with an upper load of 1.5 times the VIP-WLL.
- High toughness due to specially tempered CrNiMo stainless steel.
- Notch insensitivity and hydrogen embrittlement resistance like grade 8.
- Duplex surface protection:
  Pre-treatment plus pink powder coating (super corrosion coating Corrud® DS).
- Longer service life, because of special RUD heat treatment process less sensitive to abrasion and damage.
- Production and lot numbers are stamped at regular intervals in chain links stamped – for complete proof of the production and test data.

TYPE APPROVED PRODUCT
DNV·GL
DNVGL.COM/AF

More and more RUD VIP-Products have the important DNVGL approval.
This makes them ideally suitable for use in the marine and offshore sector.

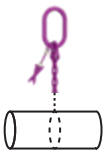
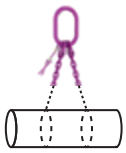
WLL AT A GLANCE.

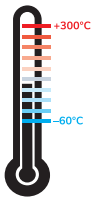
Grades 8, 10 (VIP) and 12 (ICE) WLL of lifting chains in “t”.
Corresponding angle of inclination with symmetrical load.

TYPES OF ATTACHMENT		1-STRAND	2-STRAND		3- AND 4-STRAND		ENDLESS[2] Endless chain with tying
							
Inclination angle: β		0	0–45°	> 45–60°	0–45°	> 45–60°	–
Load factor		1.0	1.4	1.0	2.1	1.5	1.6
Chains Ø	Grade						
Ø 4	VIP	0.63	0.88	0.63	1.32	0.95	1.0
	ICE	0.80	1.12	0.80	1.70	1.18	1.25
Ø 6	Grade 8	1.12	1.6	1.12	2.36	1.7	1.8
	VIP	1.5	2.1	1.5	3.15	2.25	2.4
	ICE	1.8	2.52	1.8	3.75	2.7	2.88
Ø 8	Grade 8	2.0	2.8	2.0	4.25	3.0	3.15
	VIP	2.5	3.5	2.5	5.25	3.75	4.0
	ICE	3.0	4.25	3.0	6.3	4.5	4.8
Ø 10	Grade 8	3.15	4.25	3.15	6.7	4.75	5.0
	VIP	4.0	5.6	4.0	8.4	6.0	6.4
	ICE	5.0	7.1	5.0	10.6	7.5	8.0
Ø 13	Grade 8	5.3	7.5	5.3	11.2	8.0	8.5
	VIP	6.7	9.5	6.7	14.1	10.0	10.6
	ICE	8.0	11.2	8.0	17.0	11.8	12.8
Ø 16	Grade 8	8.0	11.2	8.0	17.0	11.8	12.5
	VIP	10.0	14.0	10.0	21.2	15.0	16.0
	ICE	12.5	17.0	12.5	26.5	19.0	20.0
Ø 18	Grade 8	10.0	14.0	10.0	21.2	15.0	16.0
Ø 20	Grade 8	12.5	17.0	12.5	26.5	19.0	20.0
	VIP	16.0	22.4	16.0	33.6	24.0	25.6
Ø 22	Grade 8	15.0	21.2	15.0	31.5	22.4	23.6
	VIP	20.0	28.0	20.0	42.0	30.0	32.0
Ø 26	Grade 8	21.2	30.0	21.2	45.0	31.5	33.5
Ø 28	VIP	31.5	45.0	31.5	67.0[1]	47.5[1]	50.0
Ø 32	Grade 8	31.5	45.0	31.5	67.5	47.5	50.0

[1] Only available as a 2 x 2-strand version.
[2] 20 % reduction for endless chains (sharp edges) is taken into account!
Subject to technical changes!

Attention:
According to DGUV rule 109-017, the single strand WLL applies in the event of asymmetrical loading of a multiple strand suspension.

	ENDLESS CHAIN[2]				TYING[2]		
	SINGLE		DOUBLE		SINGLE	DOUBLE	
							
	0	> 45–60°	0–45°	> 45–60°	0	0–45°	> 45–60°
	1.1	0.8	1.7	1.2	0.8	1.1	0.8
	0.69	0.5	1.1	0.75	0.5	0.69	0.5
	0.88	0.64	1.36	0.96	0.64	0.88	0.64
	1.2	0.9	1.9	1.3	0.9	1.2	0.9
	1.65	1.2	2.55	1.8	1.2	1.65	1.2
	2.0	1.44	3.1	2.1	1.44	2.0	1.44
	2.2	1.6	3.4	2.4	1.6	2.2	1.6
	2.75	2.0	4.25	3.0	2.0	2.75	2.0
	3.3	2.4	5.1	3.6	2.4	3.3	2.4
	3.5	2.5	5.3	3.8	2.5	3.5	2.5
	4.4	3.2	6.8	4.8	3.2	4.4	3.2
	5.5	4.0	8.5	6.0	4.0	5.5	4.0
	5.8	4.0	9.0	6.0	4.0	5.8	4.0
	7.5	5.3	11.2	8.0	5.3	7.5	5.3
	8.8	6.4	13.6	9.6	6.4	8.8	6.4
	8.8	6.4	13.6	9.6	6.4	8.8	6.4
	11.0	8.0	17.0	12.0	8.0	11.0	8.0
	14.0	10.0	21.2	15.0	10.0	14.0	10.0
	11.0	8.0	17.0	12.0	8.0	11.0	8.0
	14.0	10.0	21.2	15.0	10.0	14.0	10.0
	17.6	12.8	27.2	19.2	12.8	17.6	12.8
	16.5	12.0	25.5	18.0	12.0	16.5	12.0
	22.0	16.0	34.0	24.0	16.0	22.0	16.0
	23.3	17.0	36.0	25.4	17.0	23.0	17.0
	35.5	25.0	53.0 [1]	37.5 [1]	25.0	35.5	25.0
	35.5	25.0	53.0	37.5	25.0	35.5	25.0

Temperature °C / °F				
	Grade 8	–40° to +200 °C (–40° to +392 °F)	Above 200° to 300 °C (Above 392° to 572 °F)	Above 300° to 400 °C (Above 572° to 752 °F)
		100 %	90 %	75 %
	VIP 10	–40° to +200 °C (–40° to +392 °F)	Above 200° to 300 °C (Above 392° to 572 °F)	Above 300° to 380 °C (Above 572° to 716 °F)
		100 %	90 %	60 %
	ICE 12	–60° to +200 °C (–76° to +392 °F)	Above 200° to 250 °C (Above 392° to 482 °F)	Above 250° to 300 °C (Above 482° to 572 °F)
		100 %	90 %	60 %

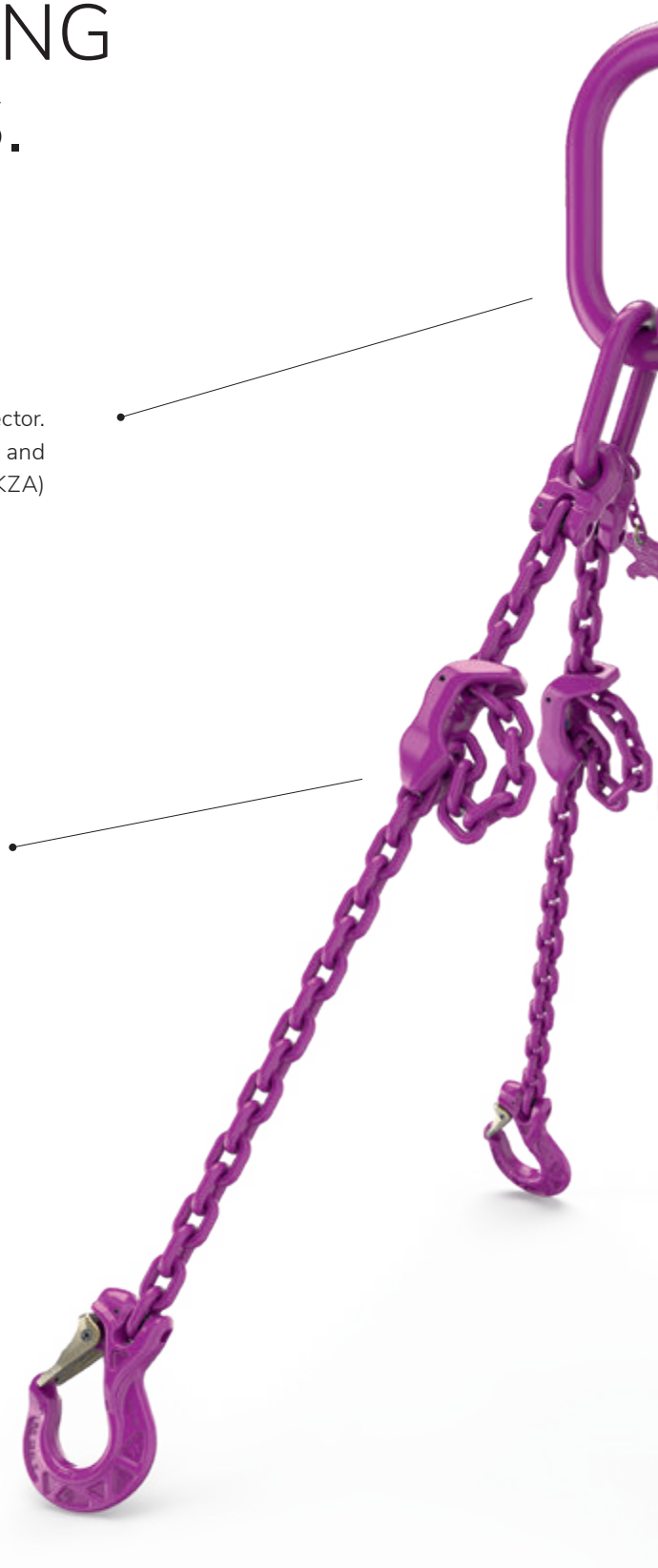
THE ICE-CHAIN SLING IN 5 COMPONENTS.

ICE-LINKS.

RUD master links are equipped with a welded, all-round moveable connector. The advantage: a non-mix-up connection in terms of chain diameter and number of strands. The master link is enhanced by an identification tag (KZA) with integrated patented chain gauge.

ICE-SHORTENING ELEMENT.

Shorten slings: Thanks to RUD shortening elements suspensions can be shortened quickly and easily on site and adjusted to the millimetre for the respective lifting process. The elements cover both rough shortening using shortening claws or shortening hooks as well as precise length adjustment of the chain with the aid of the fork head tensioner.



ICE-CONNECTING ELEMENT

The RUD connecting elements for suspension include balancers, with which – as a result of the optimum force distribution on the individual strands – a maximum WLL of up to 33 % higher can be achieved. Further RUD connecting elements are the ICE-Connection lock and the ICE-H connector.

ICE-LIFTING MEANS.

ICE-Round steel chains are made from a patented material and they are specially hardened. They are have high strength and toughness. They are designed according to DIN EN 818 and 1677 for a dynamic load of 20,000 load cycles (tested at 50 % overload).

ICE-END COMPONENTS.

End components are the connections between the lifting means and lifting point on the load. This includes hooks, dumper suspension links and shackles.

ICE-LINKS.

ICE-STANDARD MASTER LINKS	ICE-SPECIAL MASTER LINKS

RUD master links are equipped with a welded, all-round moveable connector. The advantage: a non-mix-up connection in terms of chain diameter and number of legs. The master link is enhanced by an identification tag (KZA) with integrated patented chain gauge.

ICE-IDENTIFICATION TAGS.

Testing Ø wear occurrence.	Testing plastic elongation due to overload.	Checking division extension due to nominal thickness wear.

Identification tags from RUD contain information about the respective lifting chain (admissible WLL, grade, etc.). In addition, the chain's main discard criteria can be checked.

ICE-LIFTING MEANS.

D-STAMP ICE 12 / D1	HEAT INDICATOR 225 ° TO 300 °C

ICE-Round steel chains are made from a patented material and they are specially hardened. They are have high strength and toughness. They are designed according to DIN EN 818 and 1677 for a dynamic load of 20,000 load cycles (tested at 50 % overload).

ICE-SHORTENING ELEMENT.

ICE-MULTI-SHORTENING CLAW

- Can be permanently mounted at any position on the chain strand, or moved on the chain.

ICE-SHORTENING HOOK

- Ideal for creating a choke hitch or for general shortening.

ICE-CURT-K
LENGTH ADJUSTMENT

- Length adjustment for lifting with clevis connection. For precise length adjustment of chain suspension. Particularly robust with unscrewing protection, grease nipples and dirt seal on both sides.

Thanks to RUD shortening elements suspensions can be shortened quickly and easily on site and adjusted to the millimetre for the respective lifting process. The elements cover both rough shortening using shortening claws or shortening hooks as well as precise length adjustment of the chain with the aid of the fork head tensioner.

ICE-CONNECTING ELEMENT.

ICE-BALANCER

- Thanks to the RUD balancer, they achieve a higher max. WLL in the suspension of up to 33 % as a result of the optimum force distribution across the individual strands.

ICE-CONNECTION LOCK

- The universally usable ICE-Connection lock prevents kinks in the mounted chain. External connections, e.g. lifting points, shackles, sheet metal grippers and the chains can be fitted in the lock bracket halves.

ICE-H CONNECTOR

- ICE-H connector for quick, easy and economic continuous production of endless chains and for repairing multi-strand chains. As a result of its compact and ergonomically formed design, the ICE-H connector is easy to handle than standard chain locks.

ICE-END COMPONENTS.

		
ICE-STAR HOOK	ICE-FOUNDRY HOOK	ICE-DUMPER SUSPENSION LINK
■ Universal hook with folding guard for almost every application.	■ Optimised for foundry applications due to its jaw width.	■ Ergonomic locking flap for simple hooking and unhooking in standard dumper bins.
		
ICE-SELF-LOCKING HOOK	ICE-DUMPER SELF-LOCKING HOOK	ICE-CLEVIS CONNECTOR
■ Ensures more safety thanks to the automatic locking when lifting a load.	■ Like automatic hooks but optimised for dumper bins.	■ ICE-Clevis connector for third-party connections to fork heads, flanges and other components.

Thanks to this extensive product portfolio, we offer the ideal connection for almost every use.

ICE-MINI CONSTRUCTION KIT.

The ideal program for small loads.

COMPONENTS.

			
IAK 1/2-4	IAK 3/4-4	ISH (IMH-4)	ICE-CHAIN 4 x 12
			
IML 2-4	IML 4-4	IEA-4	IMKS-4 [1]

[1] Under preparation.

THE SMALLEST 4 MM ROUND STEEL CHAINS IN GRADE 12.

WLL of up to 1,700 kilograms are fully sufficient for many lifting operations. The ICE-MINI kit is made for applications like these. The nominal thickness of only 4 millimetres makes the ICE-MINI chain extremely slim and light, which significantly improves ergonomics for the user. It is therefore an excellent solution for all lifting tasks that have to be carried out several times a day.

The MINI-Lifter, which was specially developed for this range, also offers special advantages for simple lifting or slinging tasks. Since the master link and shortening element are combined, the chain strand can be brought to the required length quickly and easily. And thanks to the low dead weight of the sling chain, even higher loads can in many cases be lifted with a slewing crane.

OPTIMAL COMBINATIONS.

ICE-Master links: non-mix-up with ICE-Welded connectors.

	IAK-RG 1 / IBK-RG 1	IAK-RG 2 / IBK-RG 2	IAK-RG 4	ISAK-RG (1- / 2- / 4-strand)
				 140 190 250
1-strand	 CE	2-strand  CE	4-strand  CE	Suspension not shortened. 
	 CE	 CE	 CE	Suspension with ICE-Shortening hooks IVH. 
	 CE	 CE	 CE	Suspension shortened with ICE-Multi-shortening claw IMVK. 

END COMPONENTS / CONNECTING ELEMENTS

								
IB-RG	IA-RG	ISH	IAGH / IMAGH	IWH	IMEG	IVH	IVS	IRG

ICE-DESIGN OR DESIGNATION EXAMPLE – COMPLETE SUSPENSION.

Grade	Number of strands	Master link	Shortening / strands	Shortening / component	End component	Chains	Required usable length (mm) – not shortened
ICE	G1	(IBK)	1	IMVK	ISH	13	2,000
ICE-G1 (IBK)-IMVK-ISH / 13 x 2,000							

OPTIMAL COMBINATIONS.

ICE-Combination options | endless chain.

	IAK-RG 2 / IBK-RG 2	IAK-RG 4		ISAK-RG (2- / 4-strand)
				 140 190 250
Single				Endless chain with ICE-H-Connector IH. 
Double				Endless chain shortened with ICE-Shortening hooks IVH. 
Endless				Endless chain shortened with ICE-Multi-shortening claw IMVK. 

Excellent ergonomics.
Thanks to their reduced weight, measured against the comparatively high WLL, the products of the RUD ICE-Modular system offer clear advantages in terms of ergonomics.

Handling:
RUD ICE-Chains and components (grade 12) may not be combined with chains and components of other manufacturers or other grades. Attention: Incorrect handling and use of these lifting chains can lead to material and / or personal damage!

Important safety information must be observed:
DIN-EN 818, DIN-EN 1677, DGUV rule 109-017 (BGR 500), EU Machinery Directive 2006 / 42 / EC, manufacturer usage information, BGI 556 / DGUV information 209-013.
We assume no responsibility for damages caused by disregarding these standards and safety information.

ICE-DESIGN OR DESIGNATION EXAMPLE – COMPLETE SUSPENSION.

Grade	Endless chain	Single (E) / double (D)	Number of shortenings	Shortening / component	Chains	Required usable length (mm) – not shortened
ICE	KR	(E)	1	(IVH)	8	2,000
ICE-KRE (IVH) / 8 x 2,000						

THE RUD ICE-KIT.

OVERVIEW
ICE-KIT PART 1.

		4:1 Safety factor 4:1	Magnet 100% electromagnetically crack-tested	-XX° XXX°C Application temperature range **without** WLL reduction[1]	XXX°C max. Max. application temperature **with** WLL reduction[2]	BLUE-ID RUD BLUE-ID SYSTEM	DGUV TEST DGUV approval	DNVGL TEST Certified according to the DNVGL guideline
ICE-LINKS								
p. 18	 **IAK-RG-1 / -RG-2 / -RG-4** 1.8t – 12.5t / 2.5t – 17.5t / 3.75t – 26.5t	■	■	■	■	■	■	
p. 18	 **IBK-RG-1 / -RG-2** 1.8t – 12.5t / 2.5t – 17.0t	■	■	■	■	■	■	
p. 18	 **ISAK-RG-1 / -RG-2 / -RG-4** 1.8t – 12.5t / 2.5t – 17.0t / 3.75t – 26.5t	■	■	■	■	■	■	
p. 18	 **ICE-KZA identification tag**							
ICE-LIFTING MEANS								
p. 18	 **ICE-Round steel chains** 0.8t – 12.5t	■	■	■	■		■	
ICE-SHORTENING ELEMENT								
p. 19	 **IMVK** 1.8t – 12.5t	■	■	■	■	■	■	
p. 19	 **IVH** 1.8t – 12.5t	■	■	■	■	■	■	
p. 19	 **ICE-CURT-K** 1.8t – 12.5t	■	■	■	■	■	■	

[1] Temperature ranges are stated in the operating instructions.
[2] The maximum temperature during use is stated in the operating instructions.

OVERVIEW
ICE-KIT PART 2.

		4:1 Safety factor 4:1	100% electromagnetically crack-tested	-XX° XXX°C Application temperature range **without** WLL reduction[1]	XXX°C max. Max. application temperature **with** WLL reduction[2]	BLUE-ID RUD BLUE-ID SYSTEM	DGUV TEST DGUV approval	DNVGL TEST Certified according to the DNVGL guideline
ICE-CONNECTING ELEMENT								
p. 19	 **IW** 3.75t – 35.0t	■	■	■	■	■	■	
p. 19	 **IVS** 1.8t – 12.5t	■	■	■	■	■	■	
p. 19	 **IH ICE-H-CONNECTOR** 0.8t – 12.5t	■	■	■	■	■	■	
ICE-END COMPONENTS								
p. 20	 **ISH** 0.8t – 12.5t	■	■	■	■	■	■	
p. 20	 **IWH** 1.8t – 12.5t	■	■	■	■	■	■	
p. 20	 **IMEG** 5.0t – 8.0t	■	■	■	■	■	■	
p. 20	 **IAGH** 1.8t – 12.5t	■	■	■	■	■	■	
p. 20	 **IMAGH** 5.0t – 8.0t	■	■	■	■	■	■	
p. 20	 **IRG** 1.8t – 12.5t	■	■	■	■	■	■	
ICE-MINI KIT, P. 21								

[1] Temperature ranges are stated in the operating instructions.
[2] The maximum temperature during use is stated in the operating instructions.

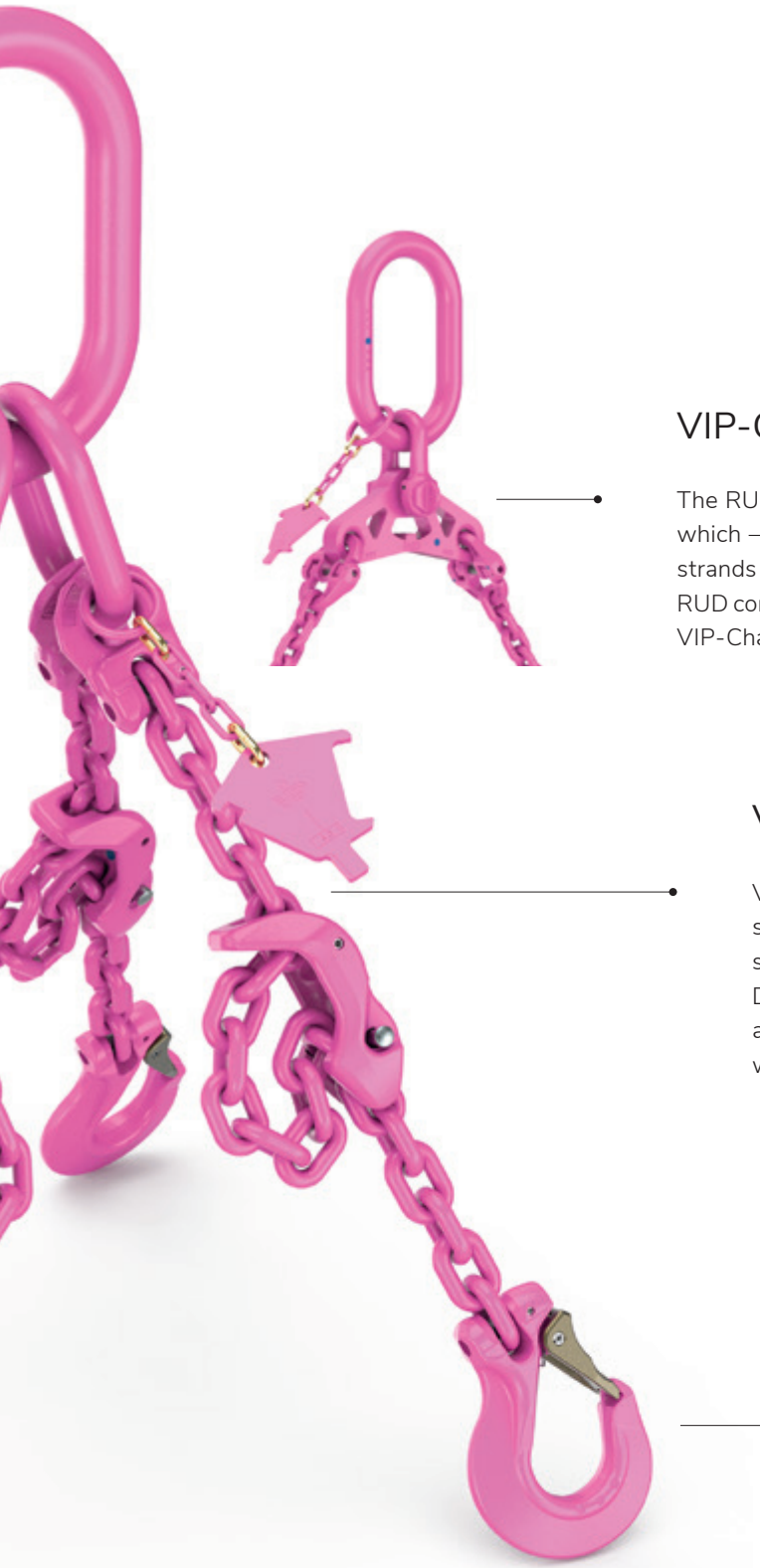
THE VIP-CHAIN SLING IN 5 COMPONENTS.

VIP-LINKS.

RUD master links are equipped with a welded, all-round moveable connector. The advantage: a non-mix-up connection in terms of chain diameter and number of strands. The master link is enhanced by an identification tag (KZA) with integrated patented chain gauge.

VIP-SHORTENING ELEMENT.

Shorten slings: Thanks to RUD shortening elements suspensions can be shortened quickly and easily on site and adjusted to the millimetre for the respective lifting process. The elements cover both rough shortening using shortening claws or shortening hooks as well as precise length adjustment of the chain with the aid of the fork head tensioner.



VIP-CONNECTING ELEMENT.

The RUD connecting elements for suspension include balancers, with which – as a result of the optimum force distribution on the individual strands – a maximum WLL of up to 33 % higher can be achieved. Further RUD connecting elements include VIP-Shackles, VIP-Universal swivels, VIP-Chains block, etc.

VIP-LIFTING MEANS.

VIP-Lifting chains steel chains are made from a patented special steel. Grade 100 chains have high toughness despite high strength. VIP-Lifting chains are certified in accordance with the DGUV (BG) principles, which are based on EN 818 and PAS 1061, and therefore bear the H1 stamp. RUD was the first manufacturer with grade 100 certification.

VIP-END COMPONENTS.

End components are the connections between the lifting means and lifting point on the load. This includes hooks, dumper suspension links and shackles.

VIP-LINKS.

VIP-STANDARD MASTER LINKS	VIP-SPECIAL MASTER LINKS

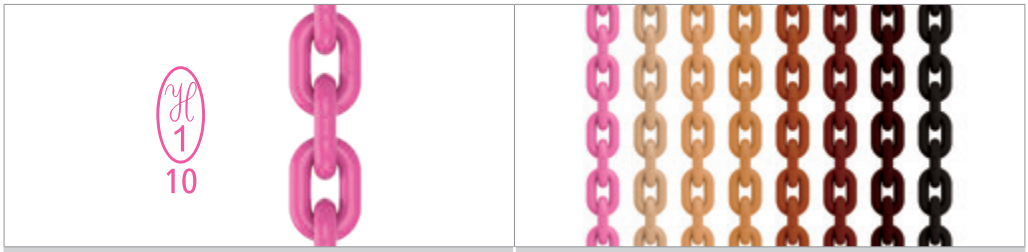
RUD master links are equipped with a welded, all-round moveable connector. The advantage: a non-mix-up connection in terms of chain diameter and number of legs. The master link is enhanced by an identification tag (KZA) with integrated patented chain gauge.

VIP-IDENTIFICATION TAG.

Testing Ø wear occurrence.	Testing plastic elongation due to overload.	Checking division extension due to nominal thickness wear.

Identification tags from RUD contain information about the respective lifting chain (admissible WLL, grade, etc.). In addition, the chain's main discard criteria can be checked.

VIP-LIFTING MEANS.



H-STAMP VIP 10 / H1	HEAT INDICATOR 225° TO 400 °C

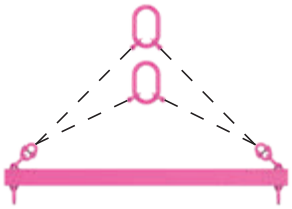
VIP-Round steel chains are made from a CrNiMo special steel using our own special tempering. VIP-Quality in pink stands for highly dynamic lifting chains from, which are less sensitive to external mechanical abrasion and damage, which means a longer service life.

VIP-SHORTENING ELEMENT.

			
VIP-MULTI-SHORTENING CLAW	VIP-SHORTENING HOOK	VIP-SHORTENING CLAW	VIP-LENGTH ADJUSTMENT
■ Can be permanently mounted at any position on the chain strand, or moved on the chain.	■ Ideal for creating a sling chain or for general shortening.	■ The robust shortening for heavy applications from VIP-Chains for nominal thickness 20.	■ Length adjustment for VIP-Chain. For the precise length equalisation of chain suspensions. Length can be adjusted to the exact mm by means of threads via toggle.

Shorten slings: Thanks to RUD shortening elements suspensions can be shortened quickly and easily on site and adjusted to the millimetre for the respective lifting process. The elements cover both rough shortening using shortening claws or shortening hooks as well as precise adjustment of the chain with the aid of the VIP-Length adjustment.

VIP-CONNECTING ELEMENT.

		
VIP-BALANCER	VIP-CHAIN BLOCK	VIP-BRACE
■ Symmetrical load distribution. ■ Up to 33 % higher WLL than standard strand suspensions. ■ BALANCER connection through shackles or connection locks.	■ Braked 5-edge roll to avoid one-sided falling of the unloaded chains. ■ Ball-bearing mounted fixture for shackles. ■ Replacement for cable deflection roller when positioning tower segments of wind turbines, for example.	■ Both rigid and adjustable. ■ Max. working length up to 5 m. ■ Use: for chains from 6 mm to 22 mm.

VIP-CONNECTING ELEMENT.

VIP-SHACKLE

- High-strength design with integrated safety thread in the shackles bar.
- Long-term security by driving in a clamping sleeve.
- Variant available with nut/splint guard.

VIP-FORK SHACKLE

- Allows direct chain connection
- Long-term security by driving in a clamping sleeve.
- Bend resistance thanks to cardan joint.

VIP-LOAD BALANCING DEVICE

- Higher WLL through optimised centre of gravity position.
- Guarantees consistent load balancing through deflection pulley.
- No overloading and deformation at the element ceilings.

VIP-CONNECTION LOCK

- Prevent chain kinks.
- Facilitates external connections e.g. lifting points, shackles, grippers etc. to chains.
- Variability as a result of any combinable bracket halves.

VIP-UNIVERSAL SWIVEL PP

- Facilitates automatic removal of the chain strand – even under load.
- Universal clevis connection for direct chain connection.
- Special design: VIP-Swivel adapter for end component connection.

VIP-DOMINATOR

- Special application for endless chains.
- Connection lock for endless chain.
- Robust and torsionally stiff design.

VIP-ISOLATING LATCH

- Prevents danger from current when welding to suspended load.
- Isolation up to max. 1,000 volt through special plastic mounting.

VIP-SPECIAL SUSPENSION

- Special link for small load hooks.
- Suitable for universal swivel PowerPoint or for lifting points PowerPoint-B.
- Extremely lightweight construction.

VIP-OVERLOAD CONTROL LINK

- More safety thanks to visible overload control.
- Remaining optical display of the overload.
- For use in the bypass.

VIP-END COMPONENTS.

VIP-COBRA CLEVIS CONNECTION

- Extremely robust – for standard applications with chain connection.

VIP-COBRA EYE HOOKS

- Extremely flexible – allows applications with special wire rope, PowerPoint and universal swivel.

VIP-WIDE JAW HOOK

- Optimised for foundry applications due to its jaw width.

VIP-SELF-LOCKING HOOK

- Ensures more safety thanks to the automatic locking when lifting a load.

VIP-CONTAINER HOOKS 12.5 t

- Specialised for hook connections.

VIP-CONTAINER HOOKS 10 t

- Prevents loosening thanks to locking element.

VIP-CONTAINER HOOKS 20 t

- For high loads up to 20 tonnes.

VIP-CONSTRUCTION STEEL LACING HOOKS

- Ensures automatic removal of the chain through bearing-mounted swivel.

VIP-HOIST SWIVEL ADAPTER

- To suit 1-strand hook blocks and 2-strand base blocks.

VIP-INSERT RING FORK

- Locking bins for tool transport or similar applications, where only drill holes are possible as load holder.

VIP-RING FORK

- For third-party connections to fork heads, flanges and other components.

VIP-MINI KIT.

Amazing lifting for small loads.

SUSPENSION FIXED / VIP-MINI MASTER LINKS.

		
VIP-MASTER LINK VAK 1/2	VIP-CHAINS SUSPENSION CANNOT BE SHORTENED	VIP-MASTER LINK VAK 3/4

SUSPENSION ADJUSTABLE – VIP-MINI-LIFTER.

		
VIP-MINI-LIFTER VML-2 – CAN BE SHORTENED	VIP-CHAINS SUSPENSION, CAN BE SHORTENED	VIP-MINI-LIFTER VML-4

VIP-MINI END COMPONENTS.

		
VIP-MINI HOOKS VMH-4	VIP-END STOP VEA-4	VIP-MINI COUPLING SHACKLES VMKS

A WLL of up to 1,320 kilograms is fully adequate for a variety of lifting tasks. This is where the VIP-MINI kit plays to its strengths. With a nominal thickness of only 4 millimetres, the VIP-MINI-CHAINS are extremely slim and light, making it ergonomic in use. This makes it the ideal solution for lifting tasks that occur several times a day – for example assembly work in industrial production.

However, thanks to the specially developed MINI-Lifter, the system also offers enormous advantages for simple lifting or attachment tasks. The combination of master link and shortening element allows the chain strand to be shortened to the desired length extremely easily and quickly. In addition, the low dead weight of the lifting chains often enables higher loads to be lifted with slewing cranes.

VIP-MAXI KIT.

Combine chains, wire ropes and textile lifting means for WLL of up to 126 tonnes with the VIP-MAXI construction kit.

			
VAK-1/2-28 [1]	VBK-1/2-28 [2]	VB-28	VLE-28 [3]
			
VCGH-28	VVS-28	VV-28	VUW-28
			
RS-VVS-28	VIP-DOMINATOR	VUW-GLD-28	COMBINATION VVS-28 AND VC-SCH 6.0 t WITH VIP-CHAINS 28 x 84
			
VIP-CHAINS 28 x 84	VC-SCH 6.0 t	VIP-KZA + VIP-MAXI TESTER	

[1] VAK 1/2-28: For single crane hooks DIN 15401 (up to size no. 80) and double crane hooks DIN 15401 (up to size no. 50).
[2] VBK 1/2-28: For single crane hooks (size 12–32) and double crane hooks (size 12–32).
[3] VLE-28: T = length closed / A = length opened / B = stroke.

OPTIMAL COMBINATIONS.

VIP-Master links: non-mix-up with VIP-Welded connectors.

	VAK / VBK	VAK / VBK	VAK / VBK	VSAK (1- / 2- / 4-strand)
1-strand				 140 190 250
				Suspensions not shortened. 
				Suspension with VIP-Shortening hooks VVH. 
				Suspension shortened with VIP-Multi-shortening claw VMVK. 
2-strand				
4-strand				

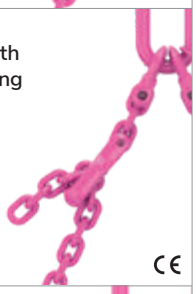
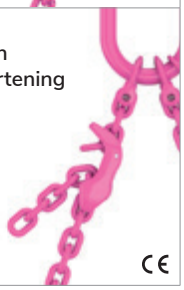
END COMPONENTS / CONNECTING ELEMENTS									
									
VB	VA	VCGH	VWH	VAGH (S)	UW-PP	VMVK	VVH	VV-GSCH	VCH-K

VIP-DESIGN OR DESIGNATION EXAMPLE – COMPLETE SUSPENSION.

Grade	Number of strands	Master link	Shortening / strands	Shortening / component	End component	Chains	Required usable length (mm) – not shortened
10 VIP	G1	VAK	1	VMVK	VCGH	Ø 10	2,000
VIP-G1 (VAK)-VMVK-VCGH / 10 x 2,000							

OPTIMAL COMBINATIONS.

VIP-Combination options | endless chain.

	VAK / VBK	VAK / VBK	VAK / VBK	VSAK (1- / 2- / 4-strand)
Single		Double 	Endless 	 140 190 250
	 CE	 CE		Suspensions not shortened.  CE
	 CE	 CE	 CE	Suspension shortened with VIP-Shortening hooks VVH.  CE
	 CE	 CE	 CE	Suspension shortened with VIP-Multi-shortening claw VMVK.  CE

Always the right lifting solution.
With VIP-Products, RUD offers you the largest chains kit in the world. This allows an individually suitable lifting solution to be configured for every lifting requirement.

Handling:
RUD VIP-Chains and components (grade 10) must not be combined with chains and components of other manufacturers or other grades. Attention: Incorrect handling and use of these lifting chains can lead to material and / or personal damage!

Important safety information must be observed:
DIN-EN 818, DIN-EN 1677, DGUV rule 109-017 (BGR 500), EU Machinery Directive 2006 / 42 / EC, manufacturer usage information, BGI 556 / DGUV information 209-013.
We assume no responsibility for damages caused by disregarding these standards and safety information.

VIP-DESIGN OR DESIGNATION EXAMPLE – COMPLETE SUSPENSION.

Grade	Endless chain	Single (E) / double (D)	Number of shortenings	Shortening / component	Chains	Required usable length (mm) – not shortened
10 VIP	KR	E	1	VMVK	Ø 10	2,000
VIP-KRE (VMVK) / 10 x 2,000						

THE RUD VIP-KIT.

OVERVIEW
VIP-KIT PART 1.

		Safety factor 4:1	100% electromagnetically crack-tested	Application temperature range **without** WLL reduction[1]	Max. application temperature **with** WLL reduction[2]	RUD BLUE-ID SYSTEM	DGUV approval	Certified according to the DNVGL guideline
VIP-LINKS								
p. 28	 **VBK-1** 1.5 t – 31.5 t	■	■	■	■	■	■	■
p. 28	 **VBK-2** 2.1 t – 45.0 t	■	■	■	■	■	■	■
p. 28	 **VAK-1 / -2 / -4** 1.5 t – 31.5 t / 2.1 t – 45.0 t / 3.1 t – 42.0 t	■	■	■	■	■	■	■
p. 28	 **VSAK-1 / -2 / -4** 1.5 t – 10.0 t, 2.5 t – 10.0 t, 4.0 t – 20.0 t / 2.1 t – 14.0 t, 3.5 t – 14.0 t, 5.6 t – 28.0 t / 3.1 t – 8.4 t, 3.1 t – 14.0 t, 8.4 t – 42.0 t	■	■	■	■	■		
p. 28	 **VIP-VKZA (VIP-Identification tag)**							
VIP-LIFTING MEANS								
p. 28	 **VIP-Lifting means** 0.63 t – 31.5 t	■	■	■	■		■	■
VIP-SHORTENING ELEMENT								
p. 29	 **VMVK** 1.5 t – 10.0 t	■	■	■	■	■	■	■
p. 29	 **VVH** 1.5 t – 20.0 t	■	■	■	■	■	■	
p. 29	 **VV** 16.0 t – 31.5 t	■	■	■	■	■	■	■
p. 29	 **VLE** 16.0 t – 31.5 t	■	■	■	■	■		

[1] Temperature ranges are stated in the operating instructions.
[2] The maximum temperature during use is stated in the operating instructions.

VIP 100

TYPE APPROVED PRODUCT DNV·GL DNVGL.COM/AF

OVERVIEW
VIP-KIT PART 2.

VIP-CONNECTING ELEMENT		4:1 Safety factor 4:1	100% electromagnetically crack-tested	-XX° XXX°C Application temperature range **without** WLL reduction[1]	XXX°C max. Max. application temperature **with** WLL reduction[2]	BLUE-ID RUD BLUE-ID SYSTEM	DGUV TEST DGUV approval	DNVGL TEST Certified according to the DNVGL guideline
p. 29	 **VW** 3.15 t – 56.0 t	■	■	■	■	■	■	
p. 29	 **VCB** 20.0 t – 63.0 t	■	■	■	■	■		
p. 29	 **VSRS** 2.1 t – 28.0 t / 1.5 t – 20.0 t	■	■	■		■		
p. 29	 **VSRV** 2.1 t – 28.0 t / 1.5 t – 20.0 t	■	■	■		■		
p. 30	 **VV-SCH** 1.5 t – 10.0 t	■	■	■	■	■	■	■
p. 30	 **VV-GSCH** 1.5 t – 20.0 t	■	■	■	■	■	■	■
p. 30	 **KRAKE** 5.25 t	■	■	■	■	■	■	
p. 30	 **VVS** 1.5 t – 31.5 t	■	■	■	■	■	■	
p. 30	 **UW-PP + VWA** 0.63 t – 10.0 t / 16.0 t – 20.0 t	■	■	■	■	■	■	
p. 30	 **VIP-Dominator** 16.0 t – 31.5 t	■	■					
p. 30	 **VGIL** 1.5 t – 10.0 t	■	■	■	■	■		
p. 30	 **PP-X-B** 0.63 t – 10.0 t	■	■	■	■		■	
p. 30	 **VCG** 1.5 t – 20.0 t		■	■	■			

[1] Temperature ranges are stated in the operating instructions.
[2] The maximum temperature during use is stated in the operating instructions.

THE RUD VIP-KIT.

OVERVIEW
VIP-KIT PART 3.

		Safety factor 4:1	100% electromagnetically crack-tested	Application temperature range **without** WLL reduction[1]	Max. application temperature **with** WLL reduction[2]	RUD BLUE-ID SYSTEM	DGUV approval	Certified according to the DNVGL guideline
VIP-END COMPONENTS								
p. 31	 **VCGH** 1.5t–31.5t	■	■	■	■	■	■	■
p. 31	 **VCÖH** 0.63t–10.0t	■	■	■	■	■	■	
p. 31	 **VWH** 1.5t–20.0t	■	■	■	■	■	■	
p. 31	 **VAGH-S** 2.5t–6.7t	■	■	■	■	■	■	
p. 31	 **VCH** 12.5t	■	■	■	■	■		
p. 31	 **VCH-K** 10.0t	■	■	■	■	■		
p. 31	 **VCH-SL** 22.0t	■	■	■	■	■		
p. 31	 **VBMHWA** 2.5t–4.0t	■	■	■	■	■		
p. 31	 **HWA** 0.4t–5.0t / 0.25t–2.0t	■	■	■	■			
p. 31	 **VERG** 1.5t–10.0t	■	■	■	■	■		
p. 31	 **VRG** 1.5t–20.0t	■	■	■	■	■	■	■
VIP-MINI KIT P. 32								
VIP-MAXI KIT P. 33								

[1] Temperature ranges are stated in the operating instructions.
[2] The maximum temperature during use is stated in the operating instructions.

OFFER WITH A SYSTEM.

IT MIGHT BE OF INTEREST TO YOU TOO.

As a system provider, we are happy to support you holistically. This is why you will find many other products at RUD, which are essential for the safe lifting, moving and transporting of loads. Detailed information on this is available in our special catalogues or at www.rud.com.

RUD LASHING EQUIPMENT.

RUD lashing equipment in quality class 12-ICE stand for fast attachment and extra safety when transporting loads. They enable high maximum lashing forces with comparatively small chain dimensions – i.e. high ergonomics through lower weight.

RUD LIFTING MEANS.

RUD lifting means in quality classes 12-ICE and 10-VIP are the first choice for lifting and moving. They not only offer high WLL with a smaller chains diameter, but also a maximum of user-friendliness through easier, power-saving handling.

RUD LIFTING POINTS.

The right one for every application: lifting points from RUD are available in countless weldable and boltable variants. Equipped with the powerful ICE-BOLT, they achieve higher WLL and unmatched high safety factors with smaller bolt diameters.

RUD ICE-MINI: THE PERFECT CHAINS FOR THE SMALLEST LOADS.

Lifting is not always about loads weighing tonnes. Our tip: The RUD ICE-MINI lifting chains are ideal for lighter weights. Its special feature is that it can be shortened in a flash with a push button.

RUD TOOL MOVER TURNING TOOL.

With the TOOL MOVER turning tool, tools weighing a ton and susceptible or injection moulds can be turned safely, ergonomically and in a time-saving manner. With the large choice of attachment parts, you not only protect the tools, but also your employees.

RUD SEMINARS.

Stay on the ball: As a participant in our seminars and training courses, you will always be up-to-date on topics, such as safety, materials and legal regulations.

RUD EXPERT DIALOGUE.

Do you have questions, special problems or complex lifting and transport tasks? Send us an e-mail to sling@rud.com or call us on: +49 7361 504-1070.

INSPECTING LIFTING MEANS.

What you should know about inspecting and what to consider.

VISUAL INSPECTION.

Visual inspections serve to detect external defects, e.g. bent chain links, twisted or notched chain links. In addition, the condition of the components and proper assembly as well as the completeness and effectiveness of the safety devices are checked.

INSPECTING CHAINS.

To be tested:

1. The diameter d_m,
2. The plastic elongation due to overloading by more than 5 % based on the division of 3 d,
3. The division extension due to nominal thickness wear occurrence.

INSPECTING CHAINS SUSPENSIONS.

Chains suspensions must be checked by an expert at intervals of no more than one year. Depending on the operating conditions, tests may also be necessary at shorter intervals. After a maximum of three years, chains must be subjected to a special test for freedom from cracks (according to DIN 685-5). Chains must also be checked by an expert after special incidents which may affect the WLL.

Note on regular inspection:
The operator must determine and specify the type and scope of the required tests and the deadlines for in-service inspections by means of a risk assessment.

Bent chain link.

Compressed chain link.

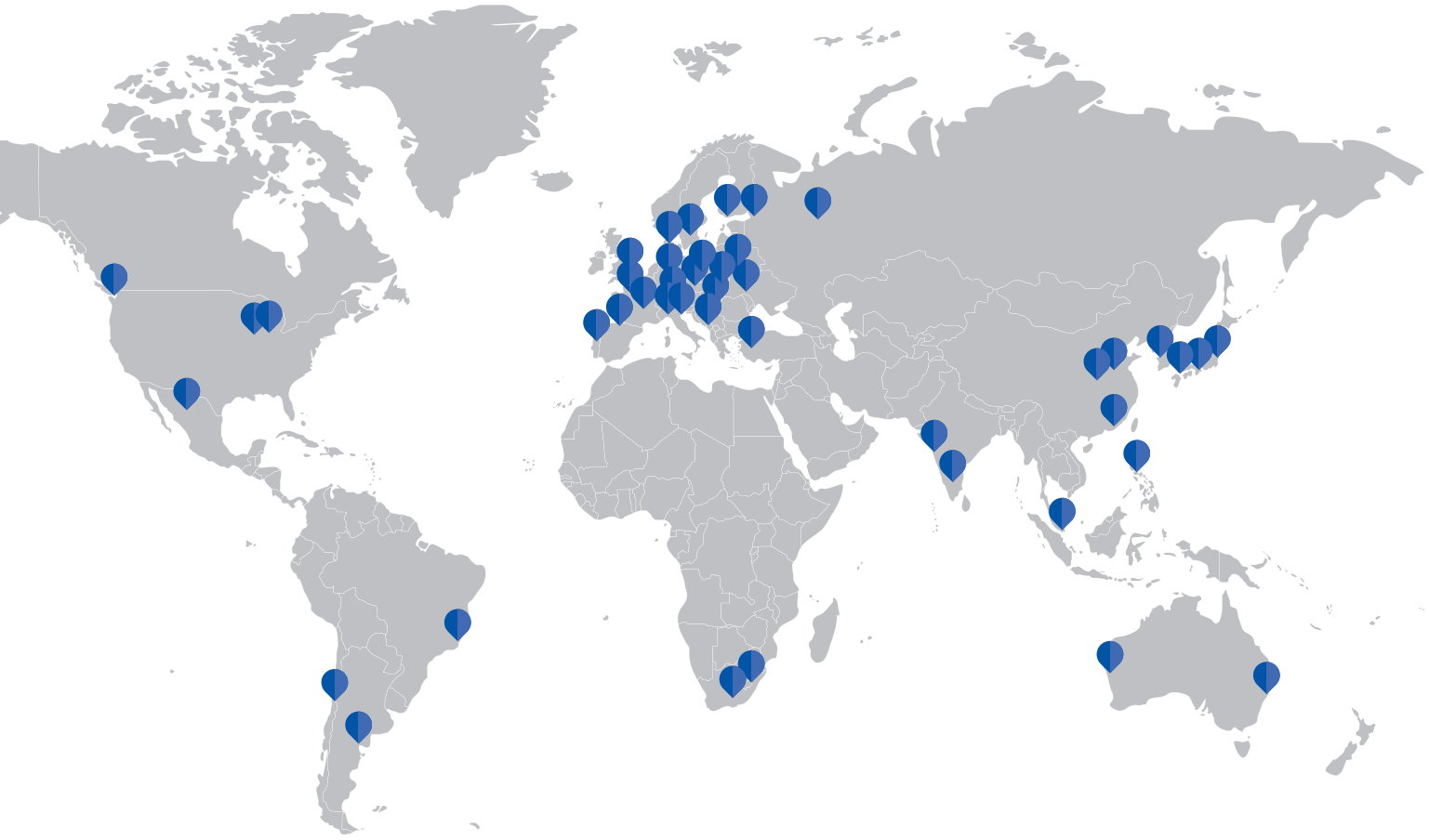
Chain link with notch.

Wear occurrence on the chain link.

Wear occurrence on the inside of the chain link.

Wear occurrence / elongation on the chain link.

AT HOME INTERNATIONALLY.



Users all over the world appreciate our innovative strength and our intelligent solutions for lifting, moving and securing loads. To be as close as possible to our customers, we are constantly expanding our worldwide sales and service network. Our large number of RUD subsidiaries, affiliated companies and specialist trade partners ensure that our consulting expertise and our products are available worldwide.

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