



The best in RUD chain technology

ICE[®]
I20



Edition 5

Continuous innovation – of the highest quality!



Our innovation strategy

We set the new technological standards.
One of the defining elements of our business strategy and vision is leading the field in technological innovation.



Certified as the first chain manufacturer with integrated quality and environmental management system according to ISO 9001/14001.

The successful story of > pink < goes on!

The r(evolution) in chain steel (patented), combined with special design and production processes (ICE-hardened) enables the quantum leap to a new “a class of its own”.



- RUD production ■ and sales units ■ worldwide.
- RUD is always a pioneer in decisive product developments.
- All our products have in common: advanced technology and highest quality.
- Currently we have nearly 500 German and International patents and trade marks.

1953

As the first chain manufacturer, RUD receives the inspection stamping H1 for high tensile chains



1967

Approval of Grade 5



1972

Approval of Grade 8



1994

Approval of Grade 10



2006

Approval of Grade 10 acc. to PAS 1061*



*PAS = Publicly Available Specification

2007

Approval of Grade 12



RUD – the first chain manufacturer with approval of Grade 120 – many ideas ahead!



RUD has received from the responsible employer's insurance association(BG Metall Nord Süd) as first chain manufacturer the permittance stamp "D" for round steel link chains in the **quality grade 120**.



The BG Metal and surface treatment Technical Committee have tested and issued – Test certificate PZNM.

Every ICE chain and component will marked with the new stamp D1 – 12.



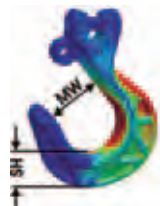
Insensitive to hydrogen embrittlement like Grade 80.

Stress crack corrosion – the resistance is according to PAS 1061.



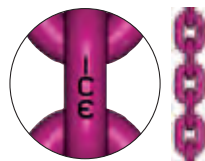
The high quality ICE-chains and components get a special ICE-Pink-Powder Coating (colour: traffic purple).

Due to the double coating system (pre-treatment and ICE-Pink-Powder Coating) there is a considerably better surface protection than with an oiled or galvanized finished chain.



Due to FEM-supported design construction optimizing, up to 25 % less weight than the next larger hook in Grade 80 with the same throat opening and base thickness.

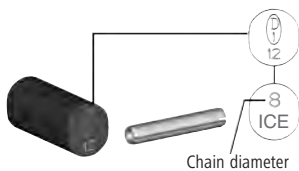
Grade	8	12
Chain Ø	13	10
WLL/kg	5000	5000
Throat opening/mm	40	40
Base thickness/mm	37	37
Weight/kg	2.5	1.7

**Fool-proof:**

- Every link is stamped with ICE on the reverse side
- Every component is clearly marked with ICE

- Colour: ICE-Pink → traffic purple

- **Clear distinction** compared with VIP-Magenta-Pink Grade 100 and Grade 80 Red



The successful and often copied RUD clevis system will continue with ICE-Grade 120. Due to its dimensioning and colour coding, there is a fool-proof connection with the right chain diameter.

ICE- Load pin – oval shaped – cannot be combined with other RUD-Grades! Fool-proof!



- **Master links with a 40° sloped flattening...**

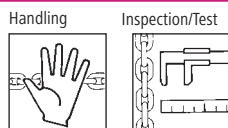
... only with ICE – suitable for the assembly of the ICE-Connector and the ICE-Shortening Coupler!



- **X-(ISO-Grade 120) shaped identification tag...**

... with integrated and patented testing gauge!

Function see page 12.

**See user's manual**

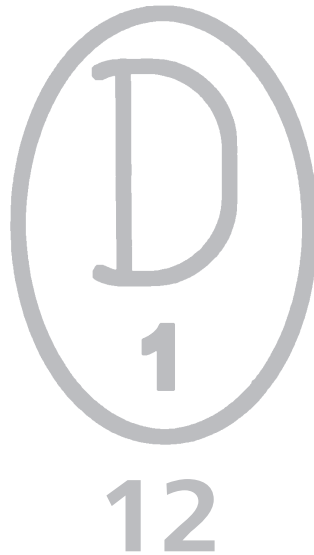
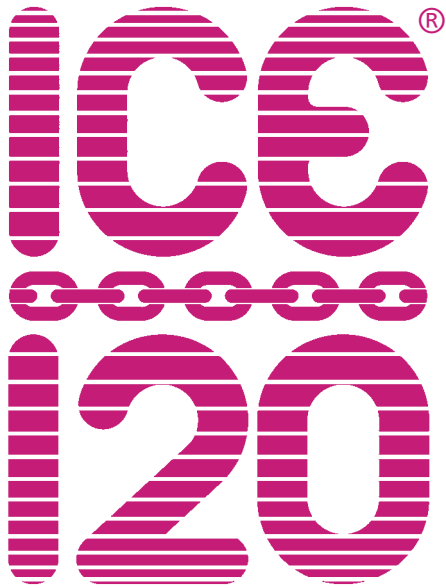
for RUD-ICE lifting chains in Grade 120.



Testing and documentation of chain slings and components becomes quite easy with the **RFID-technology** (Radio Frequency Identification).

See instructions at page 8 and 9

The best in chain technology!



= Innovative



= Chain

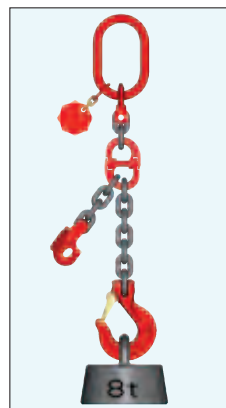
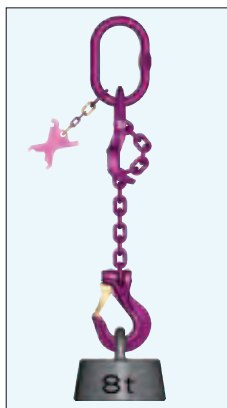


= Evolution

The r(evolution) in chain steel (patented) and in the production process (ICE-hardened) enables the quantum leap to a new **"class of its own"**.

Comparison: single leg chain sling terminating in a sling hook H1-V, EWL = 3000

RUD – ICE 120



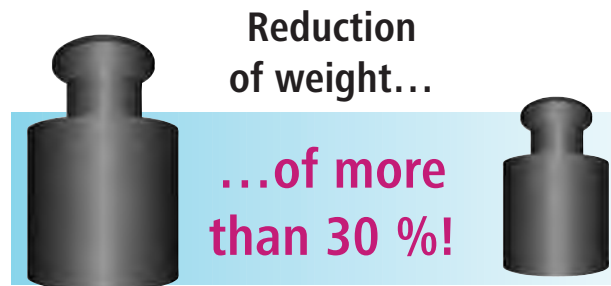
RUD – Grade 80
DIN EN 818-4



WLL	8 t	8 t
Chain diameter	13 mm	16 mm
Component	IAK-SC-13	AK 1-16 + 3 links + VS-16 + 3 links + V16
	ICE-Chain 13 x 39	Chain 16 x 48 GK 8
	Length 3.000 mm	Length 3.000 mm
	ICE-STAR-Hook 13	GSH 16
Weight	20.7 kg = 100 %	26.8 kg = 130 %
Price gross	100 %	130 %

Reduction of weight = extremely light construction

- Clearly less material
- Less energy used
- Easier handling due to light construction



- Environmentally-friendly
- Health and safety advantages because of lighter construction

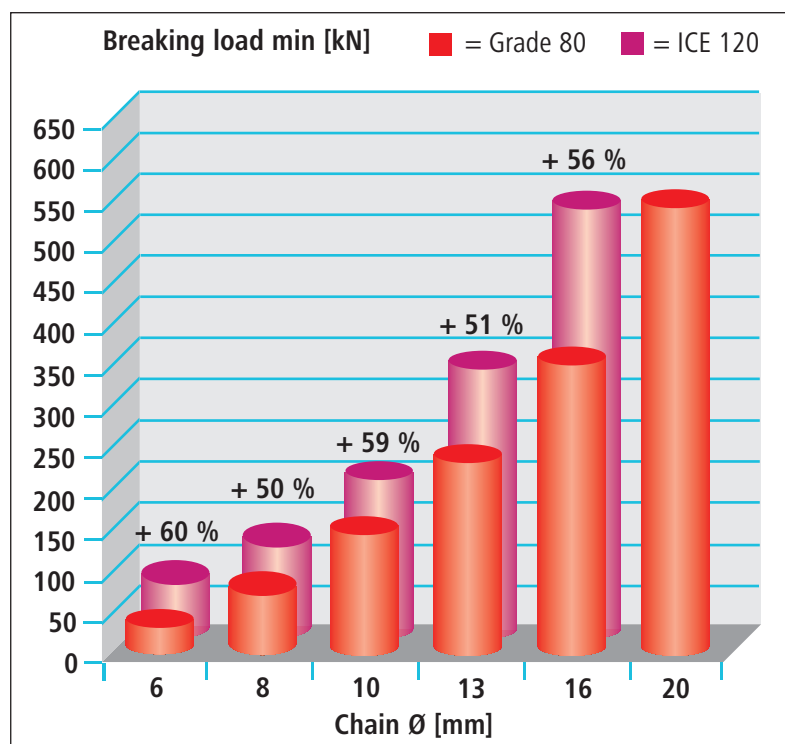
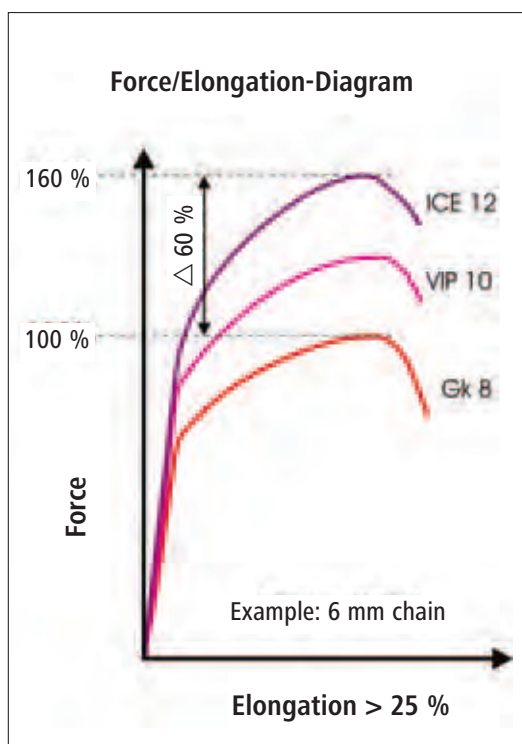
The decisive ICE-advantages – always one diameter thinner than Grade 8!

Chain diameter mm	WLL in kg	
	Grade 80	ICE
6	–	1800
8	2000	3000
10	3150	5000
13	5300	8000
16	8000	12500
20	12500	–

Due to the enormous high durability of the patented ICE-material, we are able, for the first time, to continuously utilize a chain diameter smaller compared with Grade 80 on diameters ≤ 16 mm. This means that, no matter which diameter, whether lifting of lashing, an ICE lifting or lashing chain is able to replace a Grade 80 chain of the next larger size.

The reduction in weight of more than 30 % is a considerable factor in work ergonomics.

ICE → up to 60 % higher Breaking Force/WLL than Grade 80!

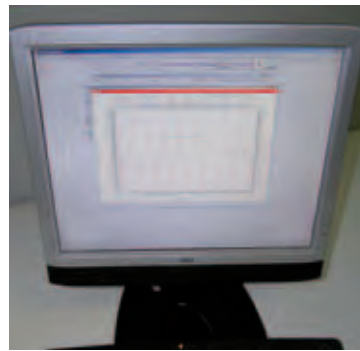
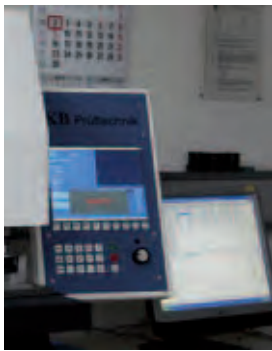


Quality class 12 – Grade 120 – Breaking strength = 1200 N/mm²



Despite ICE having a considerably higher breaking strength = 1200 N/mm² compared with Quality grade 80 – 800 N/mm² the elongation at break remains the same!

The elongation at rupture is guaranteed with $\geq 25\%$ in natural black condition. When pink powder coated, the elongation is $\geq 20\%$.



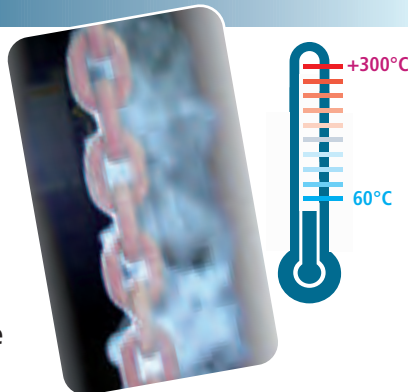
Dynamic test results guarantee at least 20.000 load cycles with ICE in 50 % over load!

In permanent operation, e.g. in connection with hoist devices and cranes with high dynamic applications - > 20.000 load cycles, the WLL must be determined according to EN 818-7 Mechanism group 1 Bm (M3), a mean stress of 160 N/mm² that means, for example, a larger chain diameter.

Temperature

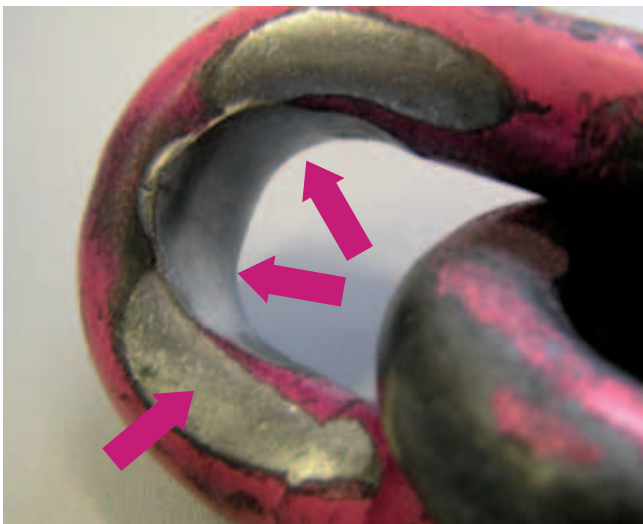
Hot or cold – ICE is the best!

Ideal for Polar and Arctic use;
Extremely temperature resistant
-60°C up to +300°C
Resistance to brittle fracture < -70°C.

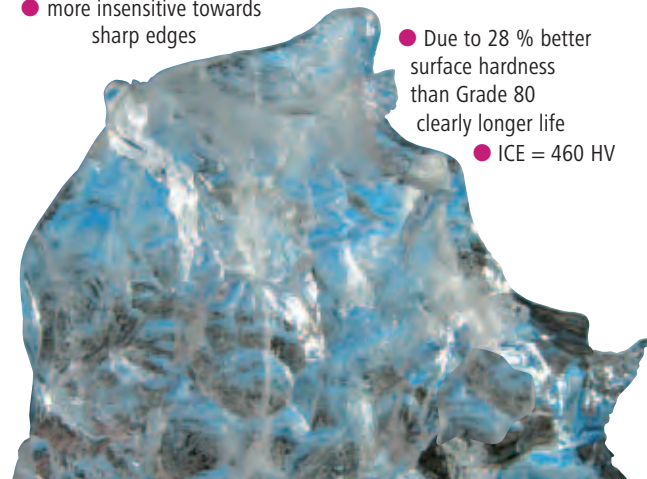


Overheating indicator

EP 677681 (European Patent)



- higher abrasion toughness
- more insensitive towards sharp edges



- Due to 28 % better surface hardness than Grade 80 clearly longer life
- ICE = 460 HV

Most economical due to special hardness!

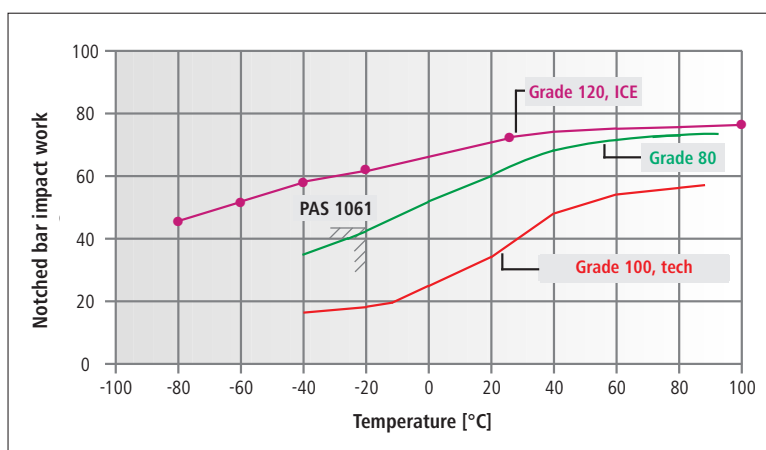


When it's sharp
edged and rough



No matter whether it's hot or cold, when the usage is extreme, especially material handling at ports or usage at construction sites etc., the patented material and the special RUD-ICE hardening provides advantages to the user.

Damages on the chain caused by sharp edges will be reduced compared to chain with lower hardness due to the increased strength.



Notched bar
impact testing

With an impact test, it can be shown if the chain has enough toughness when it is exposed to severe conditions.

Compared with a chain Grade 80 = 40 J at -20°C, the RUD-ICE-Chain has = > 55 J at -60°C.

This is a very important property when there are extreme demands!

Inspection and documentation made easy!

RUD ID System®



Required, regularly inspections of lifting means are currently still time consuming and often sensible in regard of fault-prone.

But due to the **RFID-technology** (**R**adio-**F**requenz-**I**dentifikation) these time consuming methods and huge amount of paper work become history.

Chain slings/components can now contactless, faultless and fast identified and with the clear Identification number they can be registered and conducted.

The modern and digital times of documentation and administration of work means reaches hereby a new peak point.



RUD ID System®

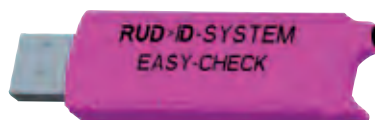
RUD-ID-POINT®

The components can be marked by the **RUD-ID-Point®** (RFID chip) and with the clear identification number distinguished.



RUD-ID-EASY-CHECK®

The robust **RUD-ID-EASY-CHECK®** readers capture the Identification number of the **RUD-ID-Point®** and transfer it to the **RUD-ID-NET®** application (software), resp. optionally to your PC application like WordPad, MS Word, MS Excel, SAP etc.



RUD-ID-NET®

The extendable **RUD-ID-NET®** application (software) will support your product administration and documentation



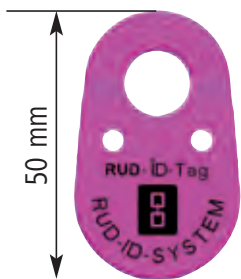
RUD-ID-POINT®



Reference no.:
7998881

The exclusive and unbeatable **RUD-ID-Point®** persuades at difficult applications and ambient conditions. Applicable between -80°C and +270°C. Extreme high resistance against beats, water and pollution. No impairment of serviceability and capability of components by the embedded RFID-Chip.

The usage of **RFID-Chips** embedded into a hole of a lifting and conveying? Safety component is protected by a patent.



Reference no.:
7901288

RUD-ID-Point® 8 mm

(13.56 MHz HF):
Press-fit transponder (in metal). No glue necessary. Size: 8 mm x 3.25 mm.

RUD-ID-TAG® (13.56 MHz HF):
Metal reinforced tag for chains, connecting links, wire ropes, alternatively also for bolting. Size: 50 mm x 32 mm x 6 mm

RUD-ID-EASY-CHECK®



Reference no.: 7901000



Reference no.: 7901524 (Bluetooth)

The **RUD-ID-EASY-CHECK®** readers are compatible with the **RUD-ID-Points®** as well as with common high frequency transponders/chips (ISO 15693). The transfer of the identification number is carried out either by USB or Bluetooth and can be linked up with the **RUD-ID-NET®** application (software), almost all Office applications (WordPad, MS Word, MS Excel, Open Office) and also with SAP or other programs.

RUD-ID-EASY-CHECK® (13.56 MHz):
USB-reader for reading out of the **RUD-ID-Point®** identification number.

RUD-ID-DISPLAY-CHECK® (13.56 MHz):
Bluetooth reader, reads out the unique **RUD-ID-Point®** identification number, shows it on the integrated LCD display and transforms it up to a distance of 15 mm to the PC (laptop).

RUD-ID-NET®



The **RUD-ID-NET®** application (software) makes many things easier. This application supports you amongst others, like test inspection.

- Uncomplicated digital maintenance, analysis, administration of product datas, test reports, as well as documents (efficient carry out of test, automatic test reminder in addition to the by law required test, automatic test reports).

- Digital connection to current product information and documents (f.e. test reports) with access to the RUD web portal.

- Extendable software for different work equipment which has to be inspected regularly (f.e. work platforms, roller shutter).



The Modular-Mecano System ICE Grade 120

ICE-Master links

ICE-Connector ICE-Connecting link ICE-H-Chain-Connector ICE-Connecting items

ICE-Shortening Coupler ICE-Shortening hook ICE-Multi Shortening Claw Shortening elements

ICE-Star-Hook (Star-Haken) ICE-Automatic-Clevis hook ICE-Dump truck-Automatic-Clevis hook ICE-Dumper truck suspension-ring IB IA End fittings

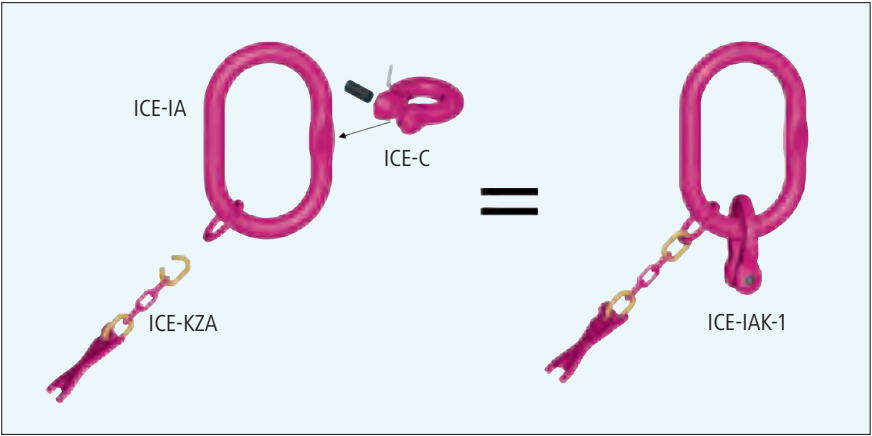
ICE-Balancer ICE-Curt with spindle- or clevis connection *Clevis-shackle Additional components

Assembly

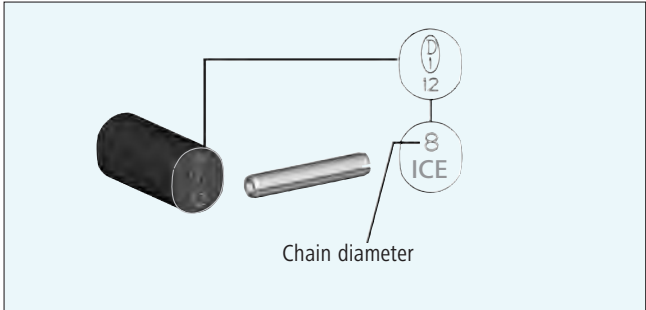
Handling:
Chains and components of ICE-Grade 120 must not be combined with chains and components of other manufacturers or quality classes.

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, BGR 500 chapter 2.8, EU-Directives 2006/42/EG and manufacturer's manual.



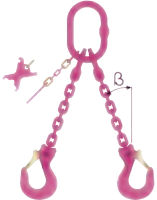
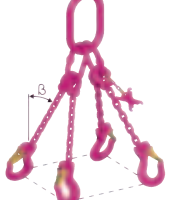
We do not assume liability for damage which in respect of disregard of these norms and safety information.



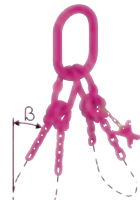
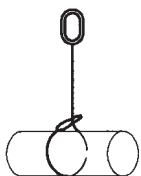
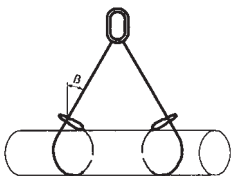
ICE-oval G-pin and retaining pin		
Chain	Type	Ref. No.
6	IOG-6/Retaining pin 6	7998740
8	IOG-8/Retaining pin 8	7995739
10	IOG-10/Retaining pin 10	7995740
13	IOG-13/Retaining pin 13	7995741
16	IOG-16/Retaining pin 16	7999102*

Only available in packs of 10 (*packs of 4).
Only use original RUD-ICE parts. Design of load pin results in "Fool-proof" system compared with other RUD Grades.

ICE Grade 120 WLL chart [t]

	1-leg	2-leg		3- and 4-leg		endless
Nominal size of sling chain in mm						 endless chain in choke hitch
Inclination- β	0°	0-45°	> 45-60°	0-45°	> 45-60°	-
Load factor	1	1.4	1	2.1	1.5	1.6
Ø 6	1.8	2.5	1.8	3.75	2.7	2.88
Ø 8	3.0	4.25	3.0	6.3	4.5	4.8
Ø 10	5.0	7.1	5.0	10.6	7.5	8.0
Ø 13	8.0	11.2	8.0	17.0	11.8	12.8
Ø 16	12.5	17.0	12.5	26.5	19.0	20.0
	In case of unsymmetrical loading, the WLL must be reduced by 50 %.					

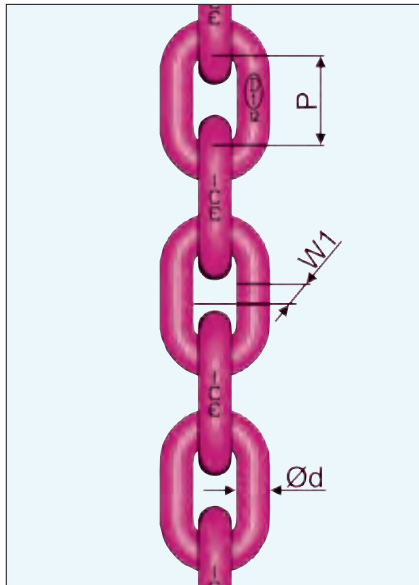
When requiring lower or higher WLL, up to 126 tons, please choose the corresponding chain from our VIP-Program (s. pages 36-37).
In connection with ICE-balancer up to 22.4 t (s. page 27/W).

	Endless chain				Choke hitch		
Nominal size of sling chain in mm							
	single		double		single	double	
Inclination- β	0-45°	> 45-60°	0-45°	> 45-60°	0°	0-45°	> 45-60°
Load factor	1.1	0.8	1.7	1.2	0.8	1.1	0.8
Ø 6	2.0	1.44	3.1	2.1	1.44	2.0	1.44
Ø 8	3.3	2.4	5.1	3.6	2.4	3.3	2.4
Ø 10	5.5	4.0	8.5	6.0	4.0	5.5	4.0
Ø 13	8.8	6.4	13.6	9.6	6.4	8.8	6.4
Ø 16	14.0	10.0	21.2	15.0	10.0	14.0	10.0
	In case of unsymmetrical loading, the WLL must be reduced by 50 %.						
 Temperatur °C	When using sling chains at temperatures beyond 200°C the permissible WLL has to be reduced. Working load in % at chain temperature of:						
	-60 up to +200° C		über 200 up to 250° C		über 250 up to 300° C		
	100 %		90 %		60 %		

RUD ICE-120-Chains and components conform fully to the requirements of EN 818 and 1677 for dynamic applications of 20,000 load cycles, with 50 % over load.

The German employer's liability assurance association requires: When there are dynamic applications with high load cycles (permanent operation) the mean stress corresponding to the Mechanism group 1 Bm (M3 according to DIN EN 818-7) must be reduced, for example, by using a larger chain diameter.

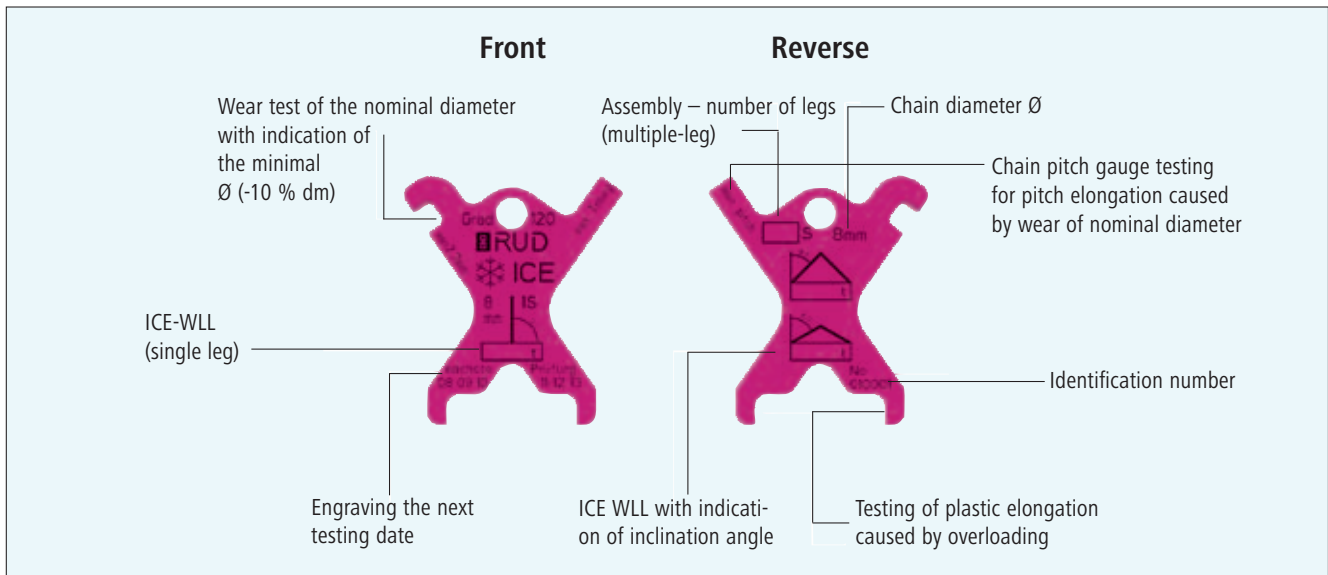
ICE-Round steel link chain in special quality 120



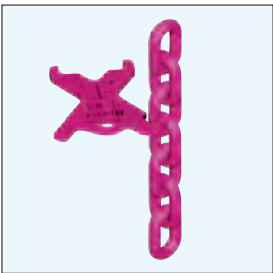
Size d in mm Ø	6	8	10	13	16
Pitch P mm	18	24	30	39	48
Inside, width W1 bi min. mm	7.8	10.4	13	17	21
WLL in t	1.8	3.0	5.0	8.0	12.5
Proof load MPF in kN	44.1	73.5	123	196	314
Breaking load BF min. kN	71	118	196	314	503
Weight kg/m	0.98	1.66	2.62	4.25	6.72
Surface	pink powder coated ICE-Pink				
Order no.	7998048	7996116	7996117	7996118	7998735
Surface	phosphated in natural black				
Order no.	7994424	7996122	7996123	7996124	7994428

Minimal ultimate elongation: natural black ≥ 25 % ICE-PINK ≥ 20 %
 Stamped: ICE identification on every chain link, manufacturing number and the BG approval stamp < 0.5 mm

ICE identification tag with an integrated chain testing gauge – ICE-KZA



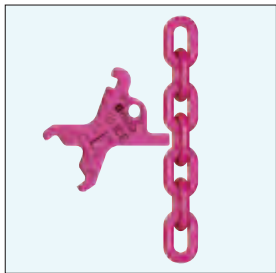
The patented idea!



Testing wear of nominal diameter



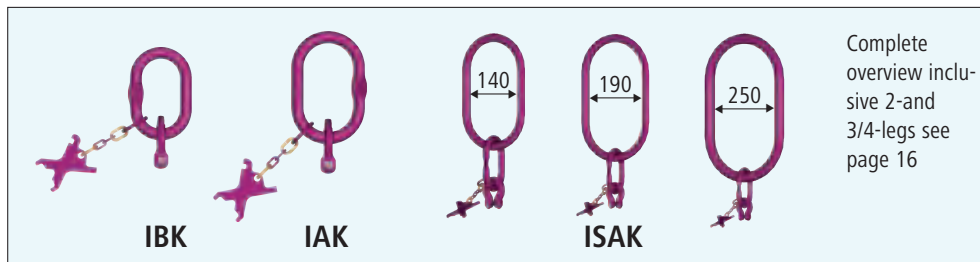
Testing of plastic elongation caused by overload



Testing for pitch elongation caused by wear of nominal diameter

Subject to technical modifications.

ICE possible combinations – chain slings

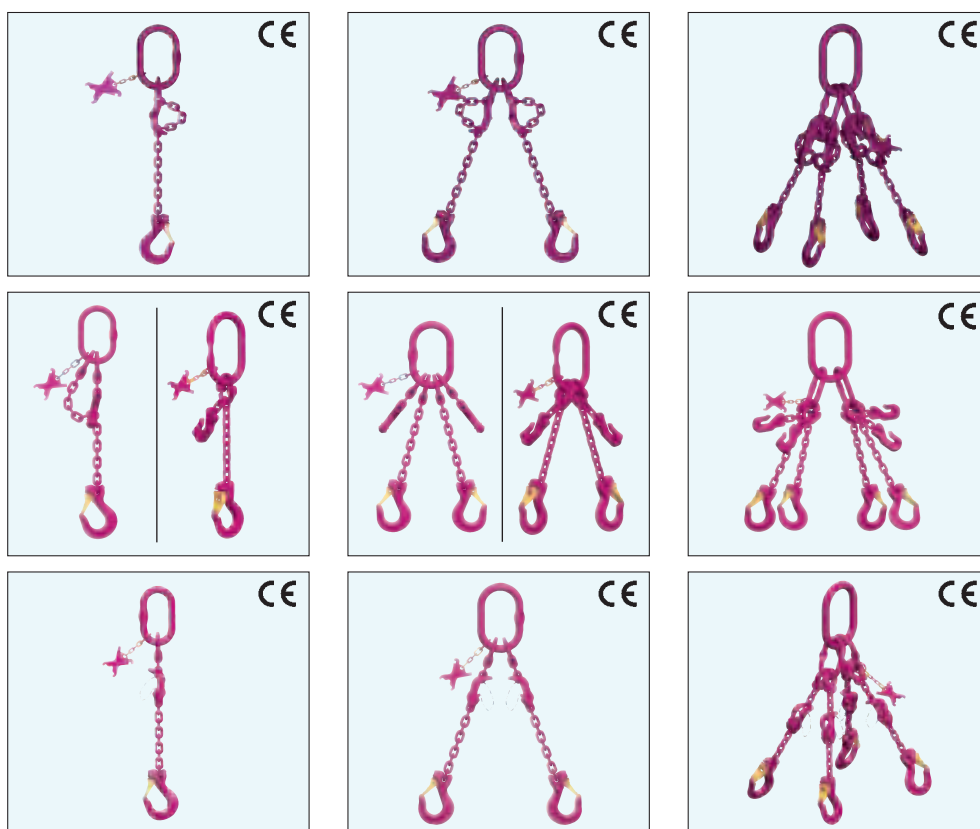


Masterlinks with coupler variations



Sling without shortener

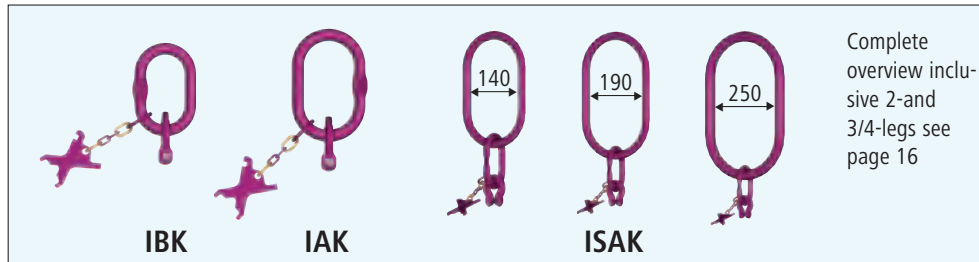
Shortening variations



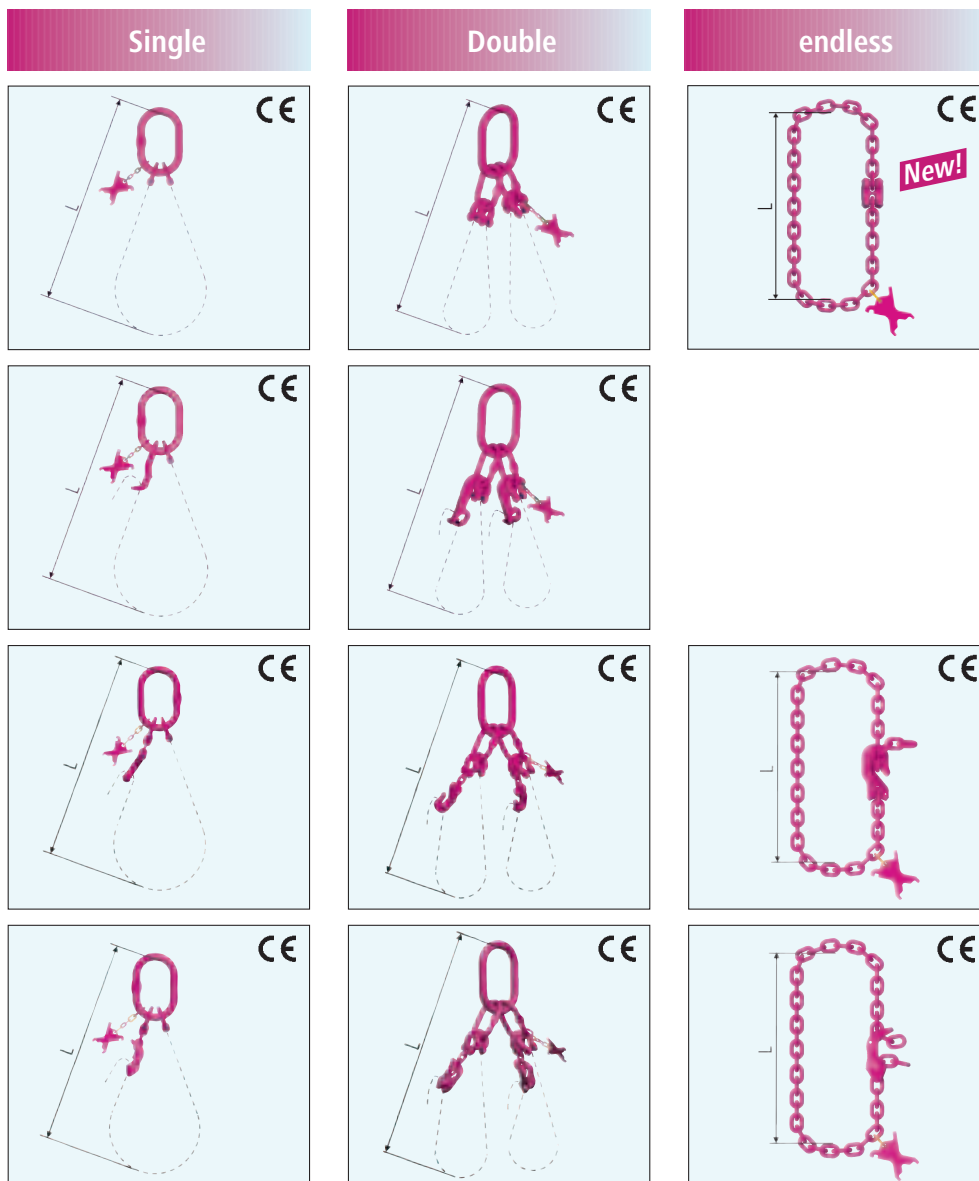
End fittings



ICE combination variations – endless chains



Masterlink variations



endless chain
unshortened
IH

Endless chain
shortened with
ICE-shortenig coupler
ISC

Endless chain
shortened with
ICE-shortenig coupler
IVH

Endless chain
shortened with
ICE-Multi-shortenig
coupler
IMVK

ICE-master links and ICE-end links – Variety example of ICE connector *end fitting

1-leg

2-leg

3/4-leg

IBK/IB*

IBK

IB*

IAK/IA*

IAK

IA*

ISAK

140

190

250

*End fittings

Alternatively the ICE Connector can either be replaced with the ICE-Shortening coupler (1) or with the ICE-connector (2).

(1)

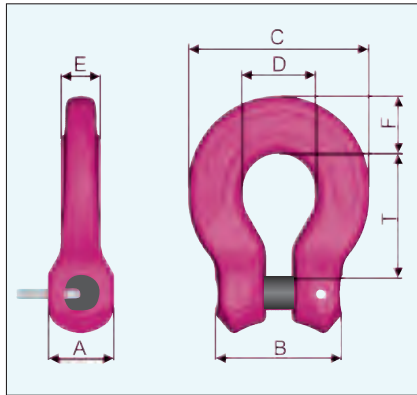
(2)

Example:	Quality grade	No. of strands	Masterlink	Shortening/ strands	Shortening/ component	End fitting	Chain diameter	Requested reach [mm] unshortened
	ICE	G1	(IBK)	–	–	ISH	13	2000
	ICE-G1(IBK)-ISH/13x2000							
Example:	Grade	Endless chain	Single (E)/ Double (D)	Without shortening (U)/ shortened (V)	Shortening/ Component	Chain diameter	Requested reach [mm] unshortened	
	ICE	KR	single = E	shortened = V	ISC	8	2000	
	ICE-KREV(ISC)-8-2000							

Subject to technical modifications.

15

ICE-C ICE-Connector (Connecting ring)



ICE connecting ring for the original RUD-ICE master link with a 40° angled flattened section to enable easy fitting of the chain connecting element.

Can be used on the chain to attach foreign components such as flanges, lifting clamps and so on – comes complete with ICE load and retaining pin.

Fits on all sizes of RUD-ICE master links.

When preparing the coupling arrangement, always check that the right combination is used – number of legs, WLL and chain diameter!

Chain	WLL t	Type	A	B	C	D	E	F	T	kg/pc.	Ref. No.
6	1.8	ICE-C-6	18	34	51	21	11	16	35	0.15	7998183
8	3.0	ICE-C-8	24	45	64	26	14	21	44	0.33	7995465
10	5.0	ICE-C-10	30	56	80	32	18	26	54	0.65	7995466
13	8.0	ICE-C-13	38	73	104	42	23	33	72	1.44	7995467
16	12.5	ICE-C-16	46	92	132	52	26	40	88	2.58	7995468

ICE Identification tag



ICE Identification tag **IKZA** with integrated chain gauge

Chain	Type	1-leg	2-leg	3-/4-leg	without WLL stamping
6	IKZA-...Strg-6	7998743	7998744	7998745	7998736
8	IKZA-...Strg-8	7996286	7996287	7996288	7995552
10	IKZA-...Strg-10	7996289	7996290	7996291	7995553



Universell
(up size13)

ICE Identification tag **IKZA** (universal size)

Chain	Type	1-leg	2-leg	3-/4-leg	without WLL stamping
13	IKZA-...Strg-13	7902488	7902489	7902490	7901059
16	IKZA-...Strg-16	7902491	7902492	7902493	7901059

universal
identification tag

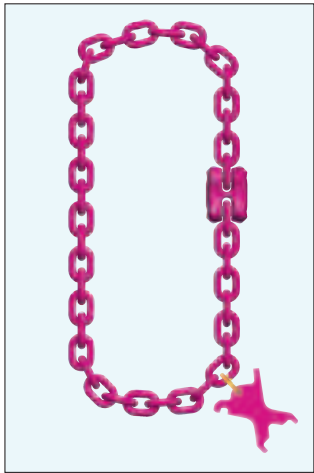


ICE Identification tag as a chain gauge*

Chain	Type	Ref. No.
6	IKPL-6	7998167
8	IKPL-8	7995525
10	IKPL-10	7995521
13*	IKPL-13	7995530
16*	IKPL-16	7998949

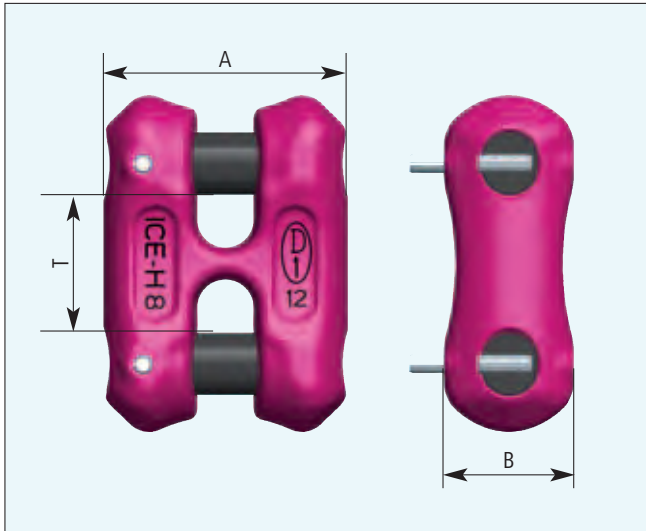
*Will be attached in bulk to each masterlink of this specific size.

IH ICE-H-Connector



Endless chain with H-Connector [WLL in t]

ICE IKR-H		Ø 6 mm	Ø 8 mm	Ø 10 mm	Ø 13 mm	Ø 16 mm
	endless chain in choke hitch	2.88	4.8	8.0	12.8	20.0
	0-45°	2.0	3.3	5.5	8.8	14.0
	45-60°	1.44	2.4	4.0	6.4	10.0



- New!
- Fast, easy and economical endless-making of endless chains
 - Pitch of the H-Connector analogue Chain pitch
 - Compacter and easier to handle than conventional chain locks
 - Heat-treated body, therefore more wear resistant
 - Economically formed
 - Enhanced slide over corners
 - Very jointed: adapts to the chain as well as to the component

Chain	Type	A	B	T	kg/pc.	Ref. No.
6	IH-6	34	19.6	18	0.11	7901922
8	IH-8	45	25.5	24	0.26	7901453
10	IH-10	56	31.5	30	0.55	7901454
13	IH-13	73	40	39	1.16	7901455
16	IH-16	89	49	48	2.16	7901924



ICE masterlinks with pre-assembled ICE connector (connecting link), without shortening.

All masterlinks shown at this page are equipped with a flexible, complete assembled identification tag with an integrated gauge function.

IAK master links

Dimensions comply to master link type A acc. to DIN 5688, but one nominal size bigger.

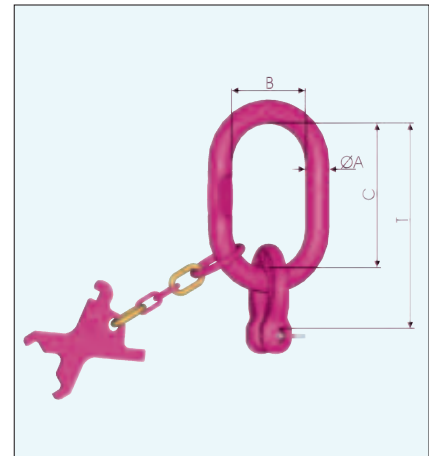
IBK-master links

The inside width of the IBK master links is adequate to fit high tensile load hooks of hoists.

IAK-1-and IBK-master links or end links with pre-assembled ICE-Connector

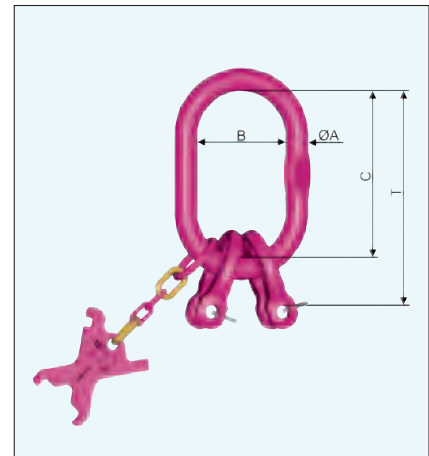
Chain	WLL t	Type	Ø A	B	C	T	kg/pc.	Ref. No.
6	1.8	IAK-1-6 (IA-1-6)	13	60	110	145	0.6 (0.5)	7998989 (7998991)
8	3.0	IAK-1-8 (IA-1-8)	18	75	135	179	1.4 (1.2)	7995561 (7996133)
10	5.0	IAK-1-10 (IA-1-10)	22	90	160	214	2.5 (2.2)	7995562 (7996134)
13	8.0	IAK-1-13 (IA-1-13)	26	100	180	252	4.2 (3.9)	7995563 (7996135)
16	12.5	IAK-1-16 (IA-1-16)	32	140	260	348	8.0 (7.5)	7998990 (7998992)
6	1.8	IBK-1-6 (IB-1-6)	13	40	85	120	0.6 (0.5)	7998987 (7998995)
8	3.0	IBK-1-8 (IB-1-8)	18	60	110	154	1.3 (1.1)	7995715 (7996139)
10	5.0	IBK-1-10 (IB-1-10)	22	65	140	194	2.2 (2.0)	7995716 (7996140)
13	8.0	IBK-1-13 (IB-1-13)	26	75	135	207	3.7 (3.3)	7995717 (7996141)
16	12.5	IBK-1-16 (IB-1-16)	32	90	160	248	6.5 (6.0)	7998988 (7998996)

- ICE connecting bolts and securing sleeve pin pre-assembled
- Also available as end link (IA-1), without identification tag



IAK-2- and IBK-2-master link with two pre-assembled ICE-connectors

Chain	WLL t	Type	Ø A	B	C	T	kg/pc.	Ref. No.
6	2.5/1.8	IAK-2-6	16	75	135	170	1.1	7998997
8	4.25/3.0	IAK-2-8	22	90	160	204	2.4	7995565
10	7.1/5.0	IAK-2-10	26	100	180	234	4.0	7995566
13	11.2/8.0	IAK-2-13	32	110	200	272	7.5	7995567
16	17.0/12.5	IAK-2-16	36	180	340	428	14.1	7998998
6	2.5/1.8	IBK-2-6	13	40	85	120	0.7	7998999
8	4.25/3.0	IBK-2-8	18	60	110	154	1.6	7995718
10	7.1/5.0	IBK-2-10	22	65	140	194	2.1	7995719
13	11.2/8.0	IBK-2-13	26	75	135	207	5.1	7995720
16	17.0/12.5	IBK-2-16	32	90	160	248	9.0	7999000



IAK-3-4 master link

with 3 or 4 in 2 intermediate links pre-assembled ICE-connectors

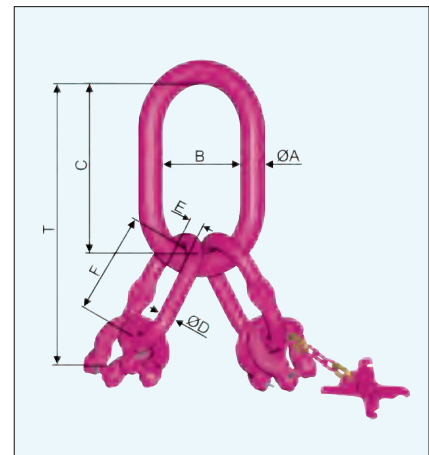
Chain	WLL t	Type	Ø A	B	C	Ø D	E	F	T	kg/pc.	Ref. No.
6	3.75/2.7	IAK-4-6 (IAK-3-6)	18	90	160	13	40	85	280	3.1 (2.9)	7998216 (7999001)
8	6.3/4.5	IAK-4-8 (IAK-3-8)	26	100	180	18	60	110	334	5.4 (5.0)	7995568 (7996321)
10	10.6/7.5	IAK-4-10 (IAK-3-10)	32	110	200	22	65	140	394	9.7 (9.0)	7995569 (7996322)
13	17.0/11.8	IAK-4-13 (IAK-3-13)	36	140	260	26	75	135	467	16.6 (15.1)	7995570 (7996323)
16	26.5/19.0	IAK-4-16 (IAK-3-16)	46	190	350	32	90	160	598	31.3 (28.7)	7999003 (7999002)

- Values in brackets are for 3 leg master links

IAK-master links:

suitable up to crane hook size no. (DIN 15401)

Size	6	8	10	13	16
IAK 1	No. 2.5	No. 5	No. 6	No. 8	No. 16
IAK 2	No. 5	No. 6	No. 8	No. 10	No. 25
IAK 3/4	No. 6	No. 8	No. 10	No. 16	No. 32



ICE special master links with pre-assembled ICE-connector (connecting link), without shortener

All masterlinks shown at this page are equipped with a flexible, complete assembled identification tag with an integrated gauge function.

The larger grading of the inside width “B” avoids a prohibited usage (BGR 500, chapter 2.8)

ICE special master links: suitable up to simple hook Nr. (DIN 15401)

ISAK Maß B = 140	No. 16
ISAK Maß B = 190	No. 32
ISAK Maß B = 250	No. 50

ISAK-1-leg master link with a pre-assembled ICE-connector in the intermediate link

Chain	WLL t	Type	Ø A	B	C	Ø D	E	F	T	kg/pc.	Ref. No.
6	1.8	ISAK-1-6/140	18	140	260	13	40	85	380	2.4	7999005
8	3.0	ISAK-1-8/140	22	140	260	18	60	110	414	4.2	7996025
10	5.0	ISAK-1-10/140	26	140	260	22	65	140	455	6.7	7996026
13	8.0	ISAK-1-13/140	32	140	260	26	75	135	467	9.8	7996027
6	1.8	ISAK-1-6/190	22	190	350	13	40	85	470	3.9	7999006
8	3.0	ISAK-1-8/190	26	190	350	18	60	110	504	6.3	7996028
10	5.0	ISAK-1-10/190	32	190	350	22	65	140	545	10.4	7996029
13	8.0	ISAK-1-13/190	36	190	350	26	75	135	557	14.3	7996030
16	12.5	*IAKL-1-16/180	36	180	340	-	-	-	428	11.5	7900674
8	3.0	ISAK-1-8/250	36	250	460	18	60	110	614	13.1	7996031
10	5.0	ISAK-1-10/250	36	250	460	22	65	140	655	14.7	7996032
13	8.0	ISAK-1-13/250	36	250	460	26	75	135	667	16.8	7996033
16	12.5	ISAK-1-16/250	40	250	460	32	90	160	708	23.7	7999007

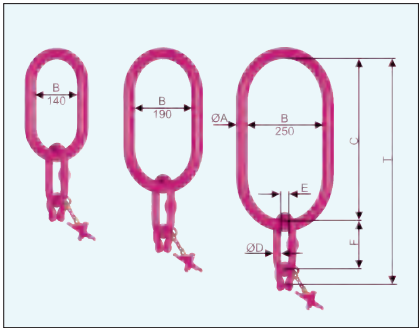
ISAK-2-leg master link with 2 in each case pre-assembled ICE-connectors

Chain	WLL t	Type	Ø A	B	C	Ø D	E	F	T	kg/pc.	Ref. No.
6	2.5/1.8	ISAK-2-6/140	18	140	260	13	40	85	380	2.5	7999008
8	4.25/3.0	ISAK-2-8/140	22	140	260	18	60	110	414	4.5	7996037
10	7.1/5.0	ISAK-2-10/140	26	140	260	22	65	140	455	7.4	7996038
13	11.2/8.0	ISAK-2-13/140	32	140	260	26	75	135	467	11.3	7996039
6	2.5/1.8	ISAK-2-6/190	22	190	350	13	40	85	470	4.1	7999009
8	4.25/3.0	ISAK-2-8/190	26	190	350	18	60	110	504	6.6	7996040
10	7.1/5.0	ISAK-2-10/190	32	190	350	22	65	140	545	10.1	7996041
13	11.2/8.0	ISAK-2-13/190	36	190	350	26	75	135	557	15.8	7996042
8	4.25/3.0	ISAK-2-8/250	36	250	460	18	60	110	614	13.5	7996043
10	7.1/5.0	ISAK-2-10/250	36	250	460	22	65	140	655	15.4	7996044
13	11.2/8.0	ISAK-2-13/250	36	250	460	26	75	135	667	18.2	7996045
16	17.0/12.5	ISAK-2-16/250	40	250	460	32	90	160	708	26.3	7999010

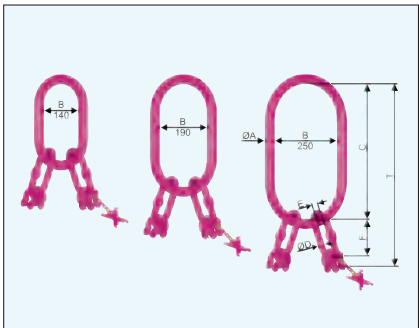
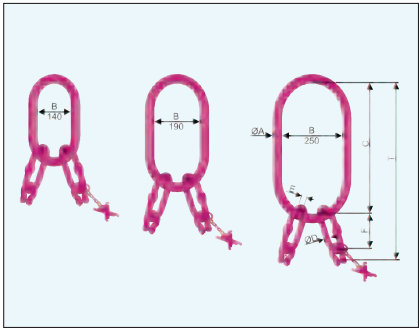
ISAK-3-4-leg master link with 3/4 in 2 intermediate links pre-assembled ICE-connectors

Chain	WLL- t	Type	Ø A	B	C	Ø D	E	F	T	kg/pc.	Ref. No.
6	3.75/2.7	ISAK-4-6/140 (ISAK-3-6/140)	22	140	260	13	40	85	380	3.5 (3.3)	7999014 (7999011)
8	6.3/4.5	ISAK-4-8/140 (ISAK-3-8/140)	26	140	260	18	60	110	414	6.1 (5.8)	7996048 (7996303)
10	10.6/7.5	ISAK-4-10/140 (ISAK-3-10/140)	32	140	260	22	65	140	455	10.7 (10.1)	7996049 (7996304)
6	3.75/2.7	ISAK-4-6/190 (ISAK-3-6/190)	26	190	350	13	40	85	470	5.6 (5.4)	7999015 (7999012)
8	6.3/4.5	ISAK-4-8/190 (ISAK-3-8/190)	32	190	350	18	60	110	504	9.8 (9.5)	7996050 (7996305)
10	10.6/7.5	ISAK-4-10/190 (ISAK-3-10/190)	36	190	350	22	65	140	545	14.2 (13.5)	7996051 (7996306)
13	17.0/11.8	ISAK-4-13/190 (ISAK-3-13/190)	40	190	350	26	75	135	557	20.7 (19.3)	7996052 (7996308)
8	6.3/4.5	ISAK-4-8/250 (ISAK-3-8/250)	36	250	460	18	60	110	614	14.1 (13.8)	7996053 (7996309)
10	10.6/7.5	ISAK-4-10/250 (ISAK-3-10/250)	36	250	460	22	65	140	655	16.6 (16.0)	7996054 (7996310)
13	17.0/11.8	ISAK-4-13/250 (ISAK-3-13/250)	40	250	460	26	75	135	667	23.7 (22.2)	7996055 (7996311)
16	26.5/19.0	ISAK-4-16/250 (ISAK-3-16/250)	47	250	460	32	90	160	708	35.2 (32.6)	7999016 (7999013)

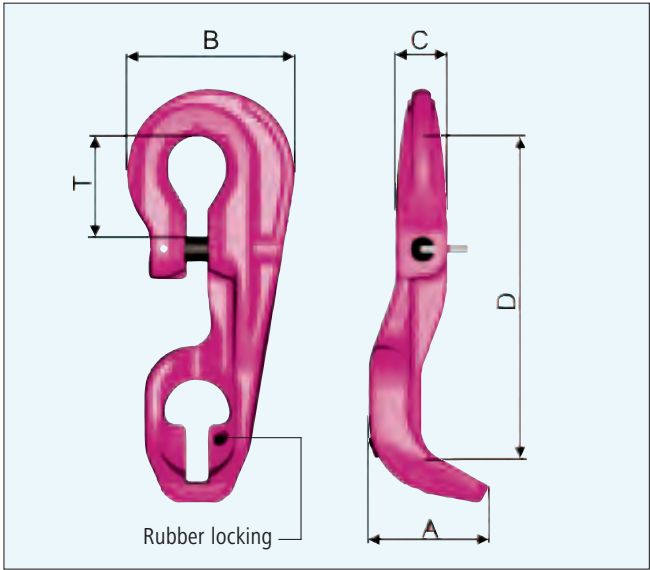
● Values in brackets are for 3 leg master links



*without intermediate link



ICE-SC ICE-Shortening Coupler



Successful optimization of the coupling system. Designed for use with original RUD-ICE-Master links with a 40° angled flattened section (RUD original feature) to enable easy assembly of the coupling system.

Only **one weight saving designed** component combines a chain connection and fool proof shortening at any required position; **one load and retaining pin**.

Misuse of the pins is not possible. Faster inspection possible due to fewer load bearing components. Perfect pocket design fully supports the shortened chain link – no reduction of WLL in static and dynamic applications.

That means 100 % WLL and at least 20,000 load cycles even when the shortened chain is tested at 50 % overload! – including Polar applications!
Additional rubber locking device prevents an unintentional loosening of the chain.

Please observe the user instructions!

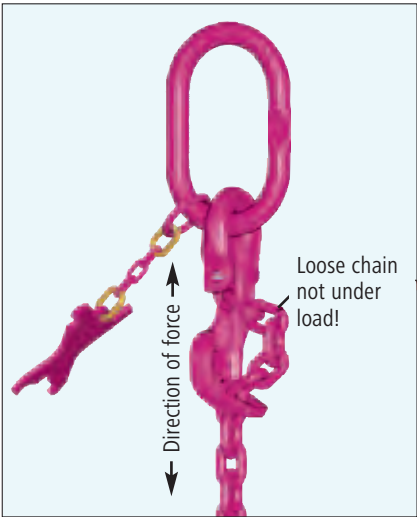
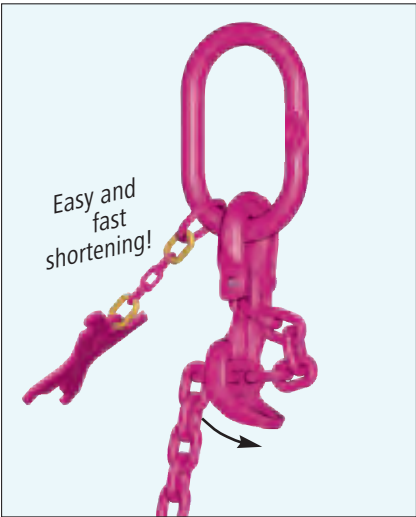
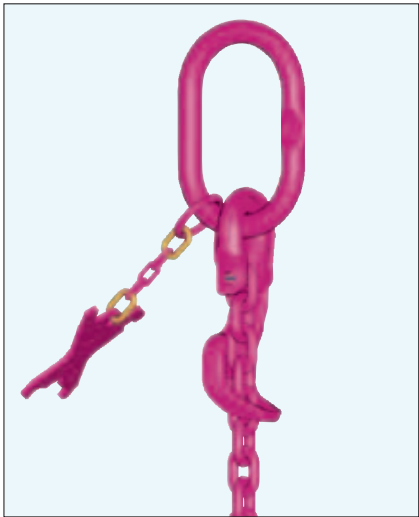
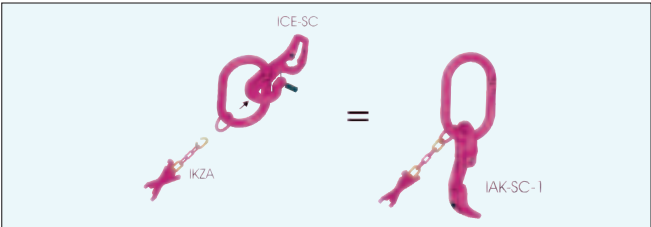
Chain	WLL t	Type	A	B	C	D	T	kg/pc.	Ref. No.
8	3.0	ICE-SC-8	54	75	23.5	150	44	1.0	7995754
10	5.0	ICE-SC-10	67	94	29	187	54	1.9	7995755

For all other size please use multi shortening claw IMVK (page 28) or shortening hook (page 26).

Simple assembly and disassembly

When preparing the coupling arrangement, always check that the right combination is used – number of legs, WLL and chain diameter!

Only purchase from a RUD specialist dealer!



ICE master links with pre-assembled shortening device (ICE-Shortening Coupler)

All master links shown at this page are equipped with a pre-assembled ICE-Shortening Coupler.

Easy shortening of the chain sling without WLL reduction.

Only one bolt with securing sleeve pin necessary (pre-assembled).

With flexible assembled, complete identification tag with integrated chain gauge.

IAK-masterlinks

Dimensions comply to master link type A acc. to DIN 5688, but one nominal size bigger.

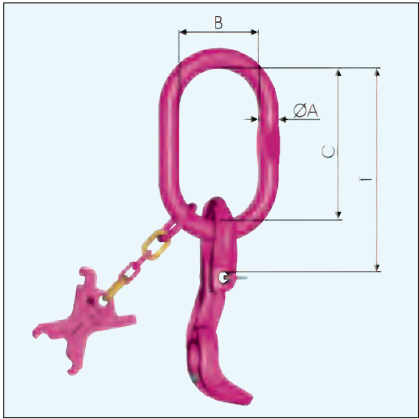
IBK master links

The inside width of the IBK master links is adequate to fit high tensile load hooks of hoists..

IAK-SC-1 and IBK-SC-1 master links with pre-assembled ICE-Shortening Coupler

Chain	WLL t	Type	Ø A	B	C	T	kg/pc.	Ref. No.
8	3.0	IAK-SC-1-8	18	75	135	179	2.0	7995757
10	5.0	IAK-SC-1-10	22	90	160	214	3.6	7995758

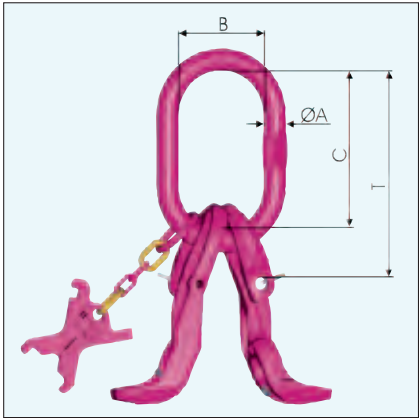
8	3.0	IBK-SC-1-8	18	60	110	154	1.8	7995766
10	5.0	IBK-SC-1-10	22	65	140	194	3.3	7995767



IAK-SC-2- and IBK-SC-2 master links with 2 pre-assembled ICE-Shortening Couplers

Chain	WLL t	Type	Ø A	B	C	T	kg/pc.	Ref. No.
8	4.25/3.0	IAK-SC-2-8	22	90	160	204	3.6	7995760
10	7.1/5.0	IAK-SC-2-10	26	100	180	234	6.3	7995761

8	4.25/3.0	IBK-SC-2-8	18	60	110	154	2.7	7995769
10	7.1/5.0	IBK-SC-2-10	22	65	140	194	4.5	7995770



IAK-SC-3-4 master links with 3 or 4 pre-assembled ICE-Shortening Couplers

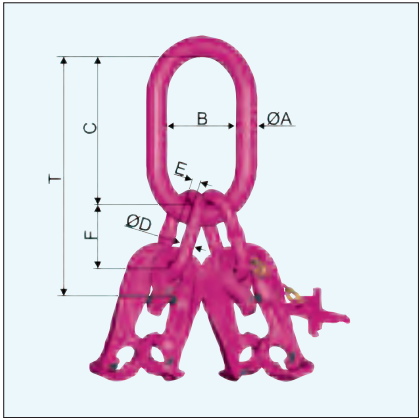
Chain	WLL t	Type	Ø A	B	C	Ø D	E	F	T	kg/pc.	Ref. No.
8	6.3/4.5	IAK-SC-4-8 (IAK-SC-3-8)	26	100	180	18	60	110	334	7.7 (6.8)	7995763 (7996324)
10	10.6/7.5	IAK-SC-4-10 (IAK-SC-3-10)	32	110	200	22	65	140	394	14.3 (12.5)	7995764 (7996325)

● Values in brackets are for 3 leg master links

*Hint: For all other sizes please use master link variants of page 15 in combination with the ICE multi shortening claw (see page 28).

IAK-master links
suitable up to crane hook size no. (DIN 15401)

Size	8	10
IAK-SC-1	No. 5	No. 6
IAK-SC-2	No. 6	No. 8
IAK-SC-3/4	No. 8	No. 10



ICE Special-master links with pre-assembled shortener (ICE-Shortening Coupler)

ISAK-1-Master link with a preassembled ICE-Shortening Coupler on the intermediate link. Easy shortening of the sling chain, no reduction of the WLL.

Additional rubber locking device prevents an unintentional loosening of the chain.

Only one load and retaining pin necessary (preassembled).

The larger grading of the inside width "B" avoids a prohibited usage (BGR 500, chapter 2.8) and reduces wear at the crane hook.

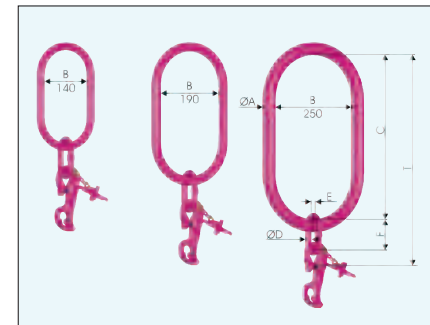
ISAK-SC-special master links:
suitable up to simple hook Nr. (DIN 15401)

ISAK-SC Maß B = 140	No. 16
ISAK-SC Maß B = 190	No. 32
ISAK-SC Maß B = 250	No. 50

ISAK-SC-1-leg master links

With ICE-Shortening Coupler pre-assembled in the intermediate link

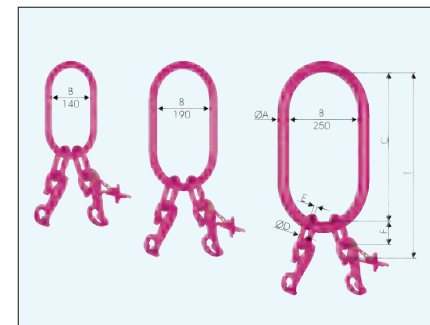
Chain	WLL	Type	Ø A	B	C	Ø D	E	F	T	kg/pc.	Ref. No.
8	3.0	ISAK-SC-1-8/140	22	140	260	18	60	110	414	4.7	7996063
10	5.0	ISAK-SC-1-10/140	26	140	260	22	65	140	455	7.8	7996064
8	3.0	ISAK-SC-1-8/190	26	190	350	18	60	110	504	6.9	7996066
10	5.0	ISAK-SC-1-10/190	32	190	350	22	65	140	545	11.5	7996067
8	3.0	ISAK-SC-1-8/250	36	250	460	18	60	110	614	13.7	7996069
10	5.0	ISAK-SC-1-10/250	36	250	460	22	65	140	655	15.8	7996070



ISAK-SC-2-leg master links

with 2 in each case pre-assembled ICE-connectors

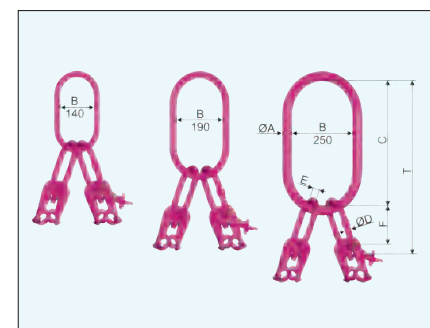
Chain	WLL	Type	Ø A	B	C	Ø D	E	F	T	kg/pc.	Ref. No.
8	4.25/3.0	ISAK-SC-2-8/140	22	140	260	18	60	110	414	5.7	7996072
10	7.1/5.0	ISAK-SC-2-10/140	26	140	260	22	65	140	455	9.7	7996073
8	4.25/3.0	ISAK-SC-2-8/190	26	190	350	18	60	110	504	7.8	7996075
10	7.1/5.0	ISAK-SC-2-10/190	32	190	350	22	65	140	545	13.3	7996076
8	4.25/3.0	ISAK-SC-2-8/250	36	250	460	18	60	110	614	14.5	7996078
10	7.1/5.0	ISAK-SC-2-10/250	36	250	460	22	65	140	655	17.6	7996079



ISAK-SC-2-leg master links

with 3/4 in 2 intermediate links pre-assembled ICE-connectors

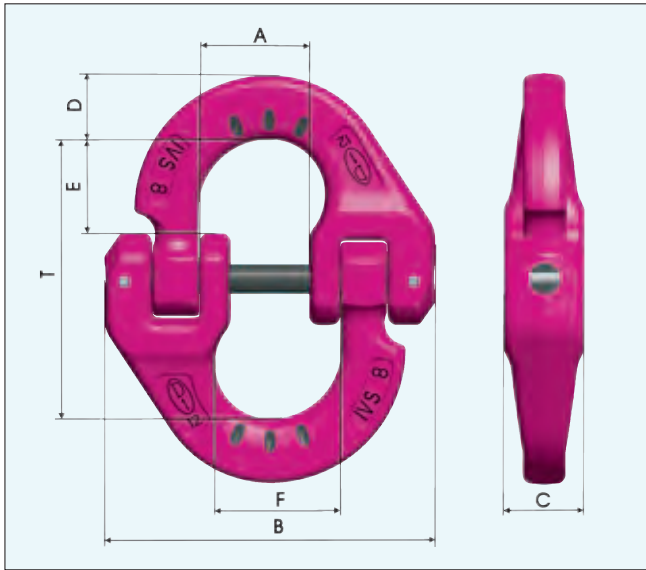
Chain	WLL	Type	Ø A	B	C	Ø D	E	F	T	kg/pc.	Ref. No.
8	6.3/4.5	ISAK-SC-4-8/140 (ISAK-SC-3-8/140)	26	140	260	18	60	110	414	8.4 (7.5)	7996081 (7996312)
10	10.6/7.5	ISAK-SC-4-10/140 (ISAK-SC-3-10/140)	32	140	260	22	65	140	455	15.3 (13.5)	7996082 (7996313)
8	6.3/4.5	ISAK-SC-4-8/190 (ISAK-SC-3-8/190)	32	190	350	18	60	110	504	12.1 (11.2)	7996083 (7996314)
10	10.6/7.5	ISAK-SC-4-10/190 (ISAK-SC-3-10/190)	36	190	350	22	65	140	545	18.8 (17.0)	7996084 (7996315)
8	6.3/4.5	ISAK-SC-4-8/250 (ISAK-SC-3-8/250)	36	250	460	18	60	110	614	14.1 (13.2)	7996086 (7996317)
10	10.6/7.5	ISAK-SC-4-10/250 (ISAK-SC-3-10/250)	36	250	460	22	65	140	655	21.2 (19.4)	7996087 (7996318)



● Values in brackets are for 3 leg master links

*Hint: For other sizes please use master link variants of page 15 in combination with the ICE multi shortening claw (see page 28).

IVS ICE-Connecting link



New!

The all-purpose ICE-Connecting link
Lifting points, shakles and plate clamps can be attached into the halves of the connecting link.

Form and function are patent pending

No kinking of pre-assembled chain possible.

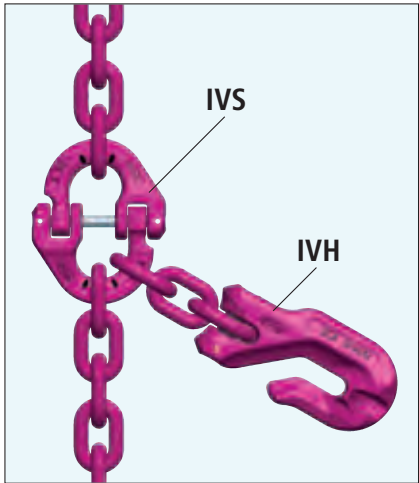
The halves are adjustable at will between each others.

No movement, no damage of the common pratice securing spring or cartridge.

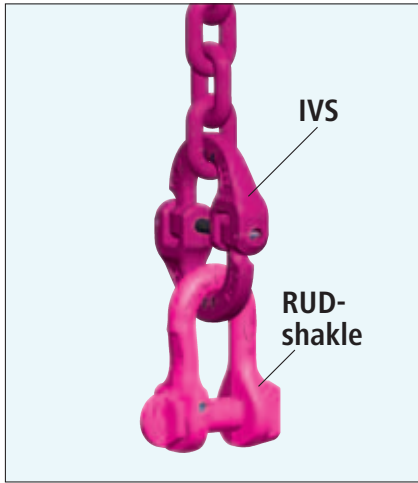
Patentet wear markings.

Chain	WLL t	Type	A	B	C	D	E	F	T	kg/pc.	Ref. No.
6	1.8	IVS-6	18	55	13	11	17	21	46	0.12	7901471
8	3.0	IVS-8	24	70	17.5	14	23	27.5	61	0.29	7901472
10	5.0	IVS-10	28	88	22	17	27	32	74	0.57	7901473
13	8.0	IVS-13	34	111	28	23	33	40	93	1.2	7901474
16	12.5	IVS-16	39	130	33	27	37	46	108	2.0	7901475

Examples – IVS application



Connecting link with shortening hook



Connecting link with shackle

Type	IVS-connection suitable to VIP shakle
IVS-6	VV-SCH 8 – 2.5 t up to VV-SCH 13 – 6.7 t
IVS-8	VV-SCH 10 – 4 t up to VV-SCH 16 – 10 t
IVS-10	VV-SCH 13 – 6.7 t up to VC-SCH 4.0 – 14 t
IVS-13	VV-SCH 16 – 10 t up to VC-SCH 5.0 – 22.4 t
IVS-16	VC-SCH 4 – 14 t up to VC-SCH 6.0 – 28.0 t

ICE-master links with pre-assembled ICE-Connecting links

All master links shown at this page are pre-assembled with ICE-Connecting links and equipped with a flexible complete assembled, stamped identification tag with integrated gauge function.

Size 13 and 16 with universal-KZA identification tag and added gauge.

ISAK master links

Dimensions comply to master link type A acc. to DIN 5688, but one nominal size bigger.

ISAK-IVS master links

The inside width of the ISAK-SC master links is adequate to fit high tensile load hooks of hoists.

IAK-1 and IBK-1 master link with pre-assembled ICE-Connecting links

Chain	WLL t	Type	Ø A	B	C	T	kg/pc.	Ref. No.
6	1.8	IAK-IVS-1-6	13	60	110	155	0.6	7901508
8	3.0	IAK-IVS-1-8	18	75	135	196	1.3	7901509
10	5.0	IAK-IVS-1-10	22	90	160	234	2.2	7901510
13	8.0	IAK-IVS-1-13	26	100	180	273	3.4	7901511
16	12.5	IAK-IVS-1-16	32	140	260	368	7.4	7901512
6	1.8	IBK-IVS-1-6	13	40	85	130	0.5	7901513
8	3.0	IBK-IVS-1-8	18	60	110	171	1.2	7901514
10	5.0	IBK-IVS-1-10	22	65	140	214	1.9	7901515
13	8.0	IBK-IVS-1-13	26	75	135	228	2.9	7901516
16	12.5	IBK-IVS-1-16	32	90	160	268	5.9	7901517

IAK-2 and IBK-2 master link with 2 pre-assembled ICE-Connecting links

Chain	WLL t	Type	Ø A	B	C	T	kg/pc.	Ref. No.
6	2.5/1.8	IAK-IVS-2-6	16	75	135	180	1.0	7901518
8	4.25/3.0	IAK-IVS-2-8	22	90	160	221	2.3	7901519
10	7.1/5.0	IAK-IVS-2-10	26	100	180	254	3.5	7901520
13	11.2/8.0	IAK-IVS-2-13	32	110	200	293	5.9	7901521
16	17.0/12.5	IAK-IVS-2-16	36	180	340	448	12.9	7901522
6	2.5/1.8	IBK-IVS-2-6	13	40	85	130	0.6	7901529
8	4.25/3.0	IBK-IVS-2-8	18	60	110	171	1.5	7901530
10	7.1/5.0	IBK-IVS-2-10	22	65	140	214	2.3	7901531
13	11.2/8.0	IBK-IVS-2-13	26	75	135	228	3.5	7901532
16	17.0/12.5	IBK-IVS-2-16	32	90	160	268	7.9	7901533

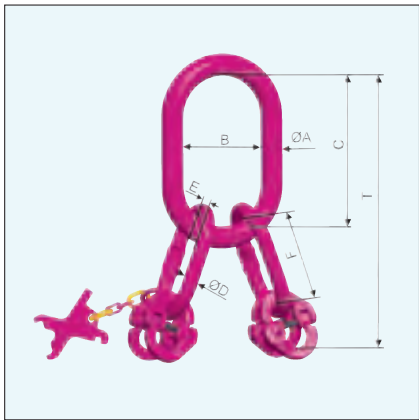
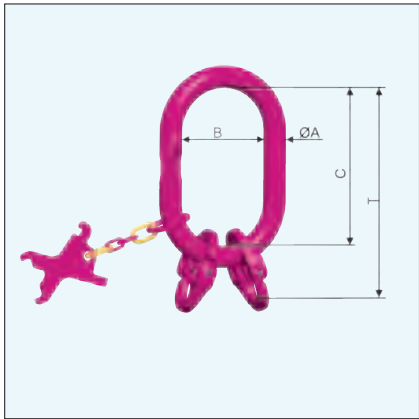
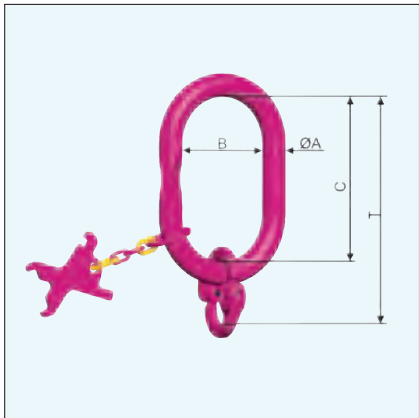
IAK-3/-4 master link with 3 or 4 in 2 intermediate links pre-assembled ICE-Connecting links

Chain	WLL t	Type	Ø A	B	C	Ø D	E	F	T	kg/pc.	Ref. No.
6	3.75/2.7	IAK-IVS-4-6 (IAK-IVS-3-6)	18	90	160	13	40	85	290	3.1 (3.0)	7901534 (7901539)
8	6.3/4.5	IAK-IVS-4-8 (IAK-IVS-3-8)	26	100	180	18	60	110	351	5.2 (4.9)	7901535 (7901540)
10	10.6/7.5	IAK-IVS-4-10 (IAK-IVS-3-10)	32	110	200	22	65	140	414	8.7 (8.3)	7901536 (7901541)
13	17.0/11.8	IAK-IVS-4-13 (IAK-IVS-3-13)	36	140	260	26	75	135	488	13.4 (12.7)	7901537 (7901542)
16	26.5/19.0	IAK-IVS-4-16 (IAK-IVS-3-16)	46	190	350	32	90	160	618	28.9 (26.9)	7901538 (7901543)

● Values in brackets are for 3 leg master links

IAK-IVS-master links suitable up to crane hook size no. (DIN 15401)

Size	6	8	10	13	16
IAK-IVS 1	No. 2.5	No. 5	No. 6	No. 8	No. 16
IAK-IVS 2	No. 5	No. 6	No. 8	No. 10	No. 25
IAK-IVS 3/4	No. 6	No. 8	No. 10	No. 16	No. 32



Subject to technical modifications.

Subject to technical modifications.

ICE special master links with pre-assembled ICE-Connecting links

All master links shown at this page are pre-assembled with ICE-Connecting links and equipped with a flexible complete assembled, stamped identification tag with integrated gauge function.

Size 13 and 16 with universal-KZA identification on tag and added gauge.

ISAK master links
Dimensions comply to master link type A acc. to DIN 5688, but one nominal size bigger.

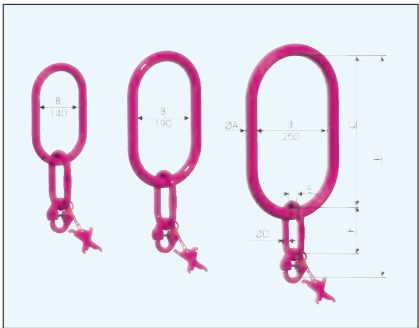
ISAK-IVS master links
The inside width of the ISAK-SC master links is adequate to fit high tensile load hooks of hoists.

ISAK-IVS-special master links:
suitable up to simple hook Nr. (DIN 15401)

ISAK-IVS Maß B = 140	No. 16
ISAK-IVS Maß B = 190	No. 32
ISAK-IVS Maß B = 250	No. 50

ISAK-1 leg master link
with pre-assembled ICE-Connecting links in the intermediate link

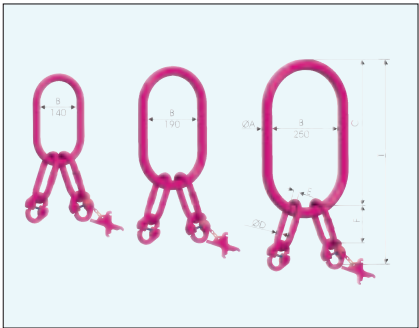
Chain	WLL t	Type	Ø A	B	C	Ø D	E	F	T	kg/pc.	Ref. No.
6	1.8	ISAK-IVS-1-6/140	18	140	260	13	40	85	390	2.4	7901544
8	3.0	ISAK-IVS-1-8/140	22	140	260	18	60	110	431	4.1	7901545
10	5.0	ISAK-IVS-1-10/140	26	140	260	22	65	140	475	6.5	7901546
13	8.0	ISAK-IVS-1-13/140	32	140	260	26	75	135	487	9.0	7901547
6	1.8	ISAK-IVS-1-6/190	22	190	350	13	40	85	480	3.9	7901548
8	3.0	ISAK-IVS-1-8/190	26	190	350	18	60	110	521	6.2	7901550
10	5.0	ISAK-IVS-1-10/190	32	190	350	22	65	140	565	10.1	7901551
13	8.0	ISAK-IVS-1-13/190	36	190	350	26	75	135	578	13.5	7901552
16	12.5*	IAKL-IVS-1-16/190	36	180	340	-	-	-	448	10.9	7901553
8	3.0	ISAK-IVS-1-8/250	36	250	460	18	60	110	631	13.1	7901554
10	5.0	ISAK-IVS-1-10/250	36	250	460	22	65	140	675	14.6	7901556
13	8.0	ISAK-IVS-1-13/250	36	250	460	26	75	135	688	15.9	7901557
16	12.5	ISAK-IVS-1-16/250	40	250	460	32	90	160	728	23.1	7901558



*without intermediate link

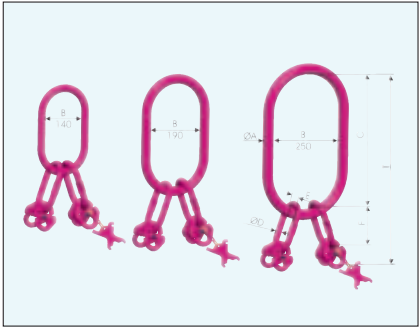
ISAK-2 master link
with one pre-assembled ICE-Connecting links in two intermediate links

Chain	WLL t	Type	Ø A	B	C	Ø D	E	F	T	kg/pc.	Ref. No.
6	2.5/1.8	ISAK-IVS-2-6/140	18	140	260	13	40	85	390	2.5	7901559
8	4.25/3.0	ISAK-IVS-2-8/140	22	140	260	18	60	110	431	4.4	7901560
10	7.1/5.0	ISAK-IVS-2-10/140	26	140	260	22	65	140	475	6.9	7901561
13	11.2/8.0	ISAK-IVS-2-13/140	32	140	260	26	75	135	487	9.7	7901562
6	2.5/1.8	ISAK-IVS-2-6/190	22	190	350	13	40	85	480	4.0	7901563
8	4.25/3.0	ISAK-IVS-2-8/190	26	190	350	18	60	110	521	6.5	7901564
10	7.1/5.0	ISAK-IVS-2-10/190	32	190	350	22	65	140	565	10.6	7901565
13	11.2/8.0	ISAK-IVS-2-13/190	36	190	350	26	75	135	578	14.1	7901566
8	4.25/3.0	ISAK-IVS-2-8/250	36	250	460	18	60	110	631	13.3	7901567
10	7.1/5.0	ISAK-IVS-2-10/250	36	250	460	22	65	140	675	14.9	7901568
13	11.2/8.0	ISAK-IVS-2-13/250	36	250	460	26	75	135	688	16.6	7901569
16	17.0/12.5	ISAK-IVS-2-16/250	40	250	460	32	90	160	728	25.1	7901570



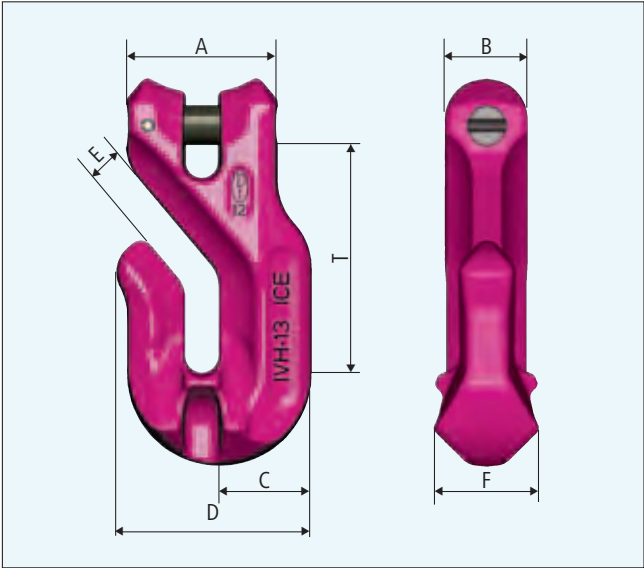
ISAK-3/4 leg master link
with 3 or 4 in two intermediat links pre-assembled ICE-Connecting links

Chain	WLL t	Type	Ø A	B	C	Ø D	E	F	T	kg/pc.	Ref. No.
6	3.75/2.7	ISAK-IVS-4-6/140 (ISAK-IVS-3-6/140)	22	140	260	13	40	85	390	3.4 (3.3)	7901571 (7901582)
8	6.3/4.5	ISAK-IVS-4-8/140 (ISAK-IVS-3-8/140)	26	140	260	18	60	110	431	5.9 (5.7)	7901572 (7901583)
10	10.6/7.5	ISAK-IVS-4-10/140 (ISAK-IVS-3-10/140)	32	140	260	22	65	140	475	9.8 (9.4)	7901573 (7901584)
6	3.75/2.7	ISAK-IVS-4-6/190 (ISAK-IVS-3-6/190)	26	190	350	13	40	85	480	5.5 (5.4)	7901574 (7901585)
8	6.3/4.5	ISAK-IVS-4-8/190 (ISAK-IVS-3-8/190)	32	190	350	18	60	110	521	9.6 (9.3)	7901575 (7901586)
10	10.6/7.5	ISAK-IVS-4-10/190 (ISAK-IVS-3-10/190)	36	190	350	22	65	140	565	13.2 (12.8)	7901576 (7901587)
13	17.0/11.8	ISAK-IVS-4-13/190 (ISAK-IVS-3-13/190)	40	190	350	26	75	135	578	17.5 (16.9)	7901577 (7901588)
8	6.3/4.5	ISAK-IVS-4-8/250 (ISAK-IVS-3-8/250)	36	250	460	18	60	110	631	13.9 (13.6)	7901578 (7901589)
10	10.6/7.5	ISAK-IVS-4-10/250 (ISAK-IVS-3-10/250)	36	250	460	22	65	140	675	15.7 (15.3)	7901579 (7901590)
13	17.0/11.8	ISAK-IVS-4-13/250 (ISAK-IVS-3-13/250)	40	250	460	26	75	135	688	20.5 (19.9)	7901580 (7901591)
16	26.5/19.0	ISAK-IVS-4-16/250 (ISAK-IVS-3-16/250)	47	250	460	32	90	160	728	32.8 (30.8)	7901581 (7901592)



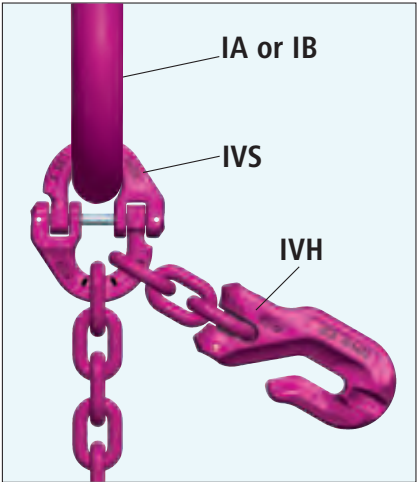
● Values in brackets are for 3 leg master links

ICE-VH-Shortening hook



- No reduction of ICE WLL.
- High dynamic strength.
- Due to offset leading-in groove chain hindered fall-out of slack chain.
- Enlarged tip of hook avoids incorrect use, f.e. attaching of chain.
- Acc. to Standard DIN 5692. Depth of chain groove > 5 x chain diameter.
- Complete assembled with connecting bolt and sleeve pin.

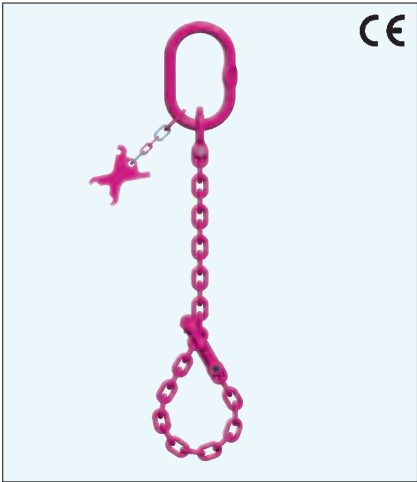
Chain	WLL t	Type	A	B	C	D	E	F	T	kg/pc.	Ref. No.
6	1.8	IVH-6	34	18	20	44	7.5	22	53	0.27	7900129
8	3.0	IVH-8	43	24	26	55	9.5	29	67	0.5	7900133
10	5.0	IVH-10	55	30	34	71	12	38	86	1.2	7900134
13	8.0	IVH-13	70	38	43	90	15	48	105	2.5	7900136
16	12.5	IVH-16	86	46	53	110	18.5	59	128	4.5	7900138



Connection with shortening hook in chain

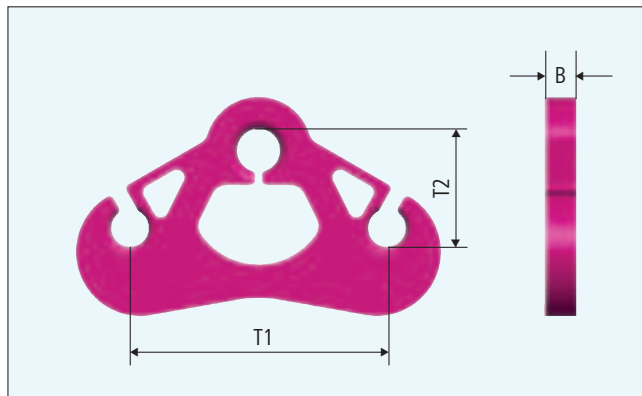


Connection with IVH-3/4-leg



Sling chain with IVH

IW ICE-Balancer



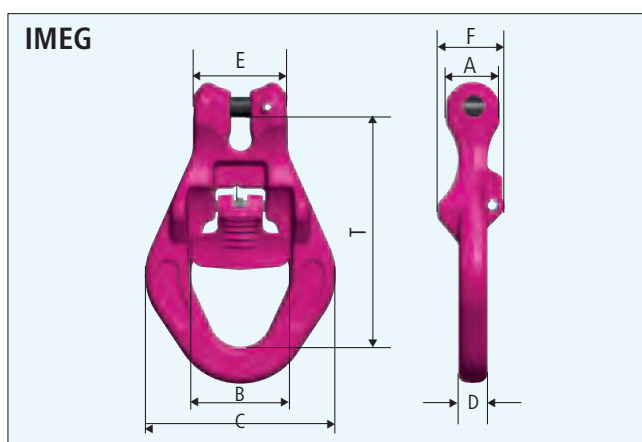
New!

- 11.2 t WLL at an inclination angle β 0-45°
- 16 t WLL, when both chain strands are parallel.
- Stress optimized design
- Easy identification of angle limit 10° by a special line at the bottom under the rocker
- Connection on top of Balancer: Either with shackle or chain connector
- Connection on bottom of Balancer: Assembly of bottom chains without tools. Simply hang ICE-masterlinks into rocker
- Balancer equipped with RFID-Chip
- Patent pending

Chain	WLL t 0-45°	Type	B	T1	T2	kg/pc.	Ref. No.
13*	11.2	IW-13	30	240	110	7.9	7902115

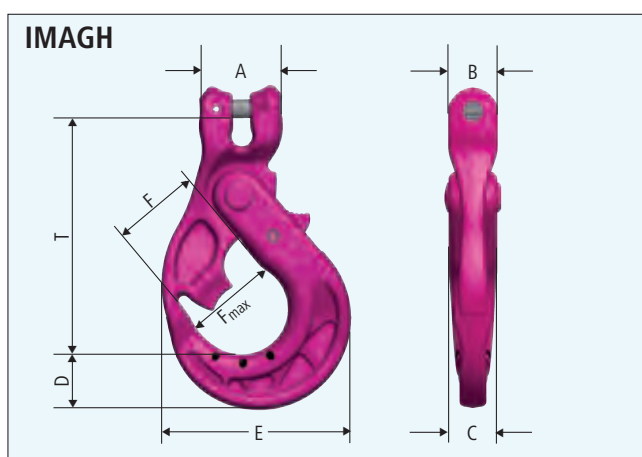
*Further sizes in preparation

IMEG ICE-Dumper truck suspension-ring/IMAGH ICE-Dump truck-Automatic-Clevis hook



New!

- Quick, robust and user friendly
- Quick attachment, without separate unlatching
- Simplified hinge and unhinge of the suspension ring by ergonomic designed locking latch
- Locking latch with slide resistant shape
- Protection ribs to prevent the locking latch from damage and impact shocks
- Suitable for standardized dump truck studs acc. to DIN/EN 30720

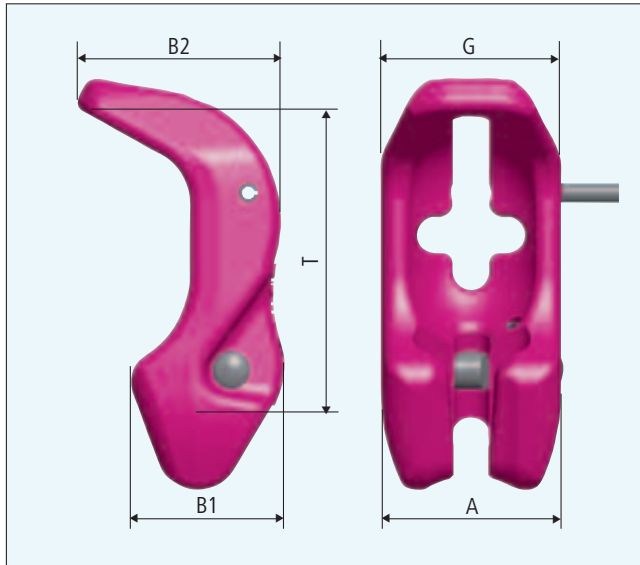


New!

- Suitable for standardized dump truck studs
- Easy operation of the pin and hook securing
- Chain connection without danger of confusion
- Markings for the inspection of the hook width
- Patented wear markings, which show the replacement of the stated wear
- Slide resistant operation of the securing lever without risk of injury

Chain	WLL t	Type	A	B	C	D	E	F	Fmax.	T	kg/pc.	Ref. No.
10	5.0	IMEG-10	37	66	128	20	64	46		153	2.2	790160
10	5.0	IMAGH-10	61	37	36	40	137	50	81	171	3.0	7902113

ICE-MVK Multishortening claw



New!

Improvement of the VMVK with modification to the ICE requirements.

Assembled captive into through going chain strand

Can be assembled relocatable at any place within the chain strand

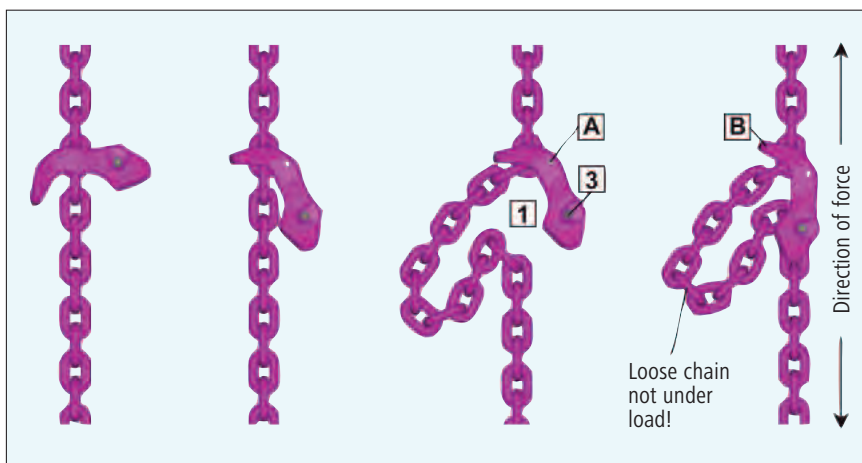
No additional chain or connection part necessary.

Ideal support of chain due to chain link shaped pocket-
therefore no reduction of WLL.

The robust, spring supported securing pin avoids unintended loosening of attached chain when either loaded or not.

Chain	WLL t	Type	A	B1	B2	G	T	kg/pc.	Ref. No.
6	1.8	IMVK-6	35	34	40	36	66	0.3	7900985
8	3.0	IMVK-8	46	41	52	48	88	0.55	7900981
10	5.0	IMVK-10	58	50	64	60	110	1.1	7900983
13	8.0	IMVK-13	74	64	86	76	143	2.4	7900984
16	12.5	IMVK-16	91	79	105	98	176	4.4	7900986

ICE-MVK-Use



1. Attach loose chain strand through cross of VMVK and secure by hammering the sleeve pin **A** in.
2. When chain is unloaded, position chain link into pocket **1**, press securing knob **3** and pull chain down.
3. Release securing knob and control locking.
4. Release, backwards (securing knob **3** must be pushed).

Attention: When IMVK is used without securing pin **A**, chain must be always totally engaged into the locking groove **B**.

ICE-CURT ratched tensioner for lifting – light and robust

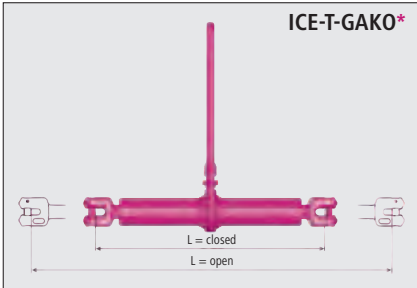
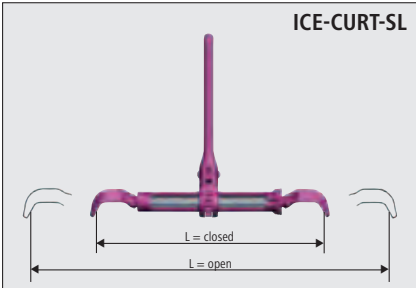
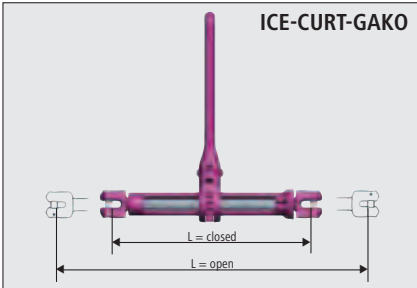
ICE-CURT-GAKO/ICE-CURT-SL

Practice friendly turn-loose securing, providing theft protection done by padlock (e.g. type ABUS 85/40 HB), 100 % crack inspected, all parts drop forged.

Easy to clean and lubricate, innovative forged design-light in weight and robust, Patent pending.
Made in Germany, user friendly – even with gloves.

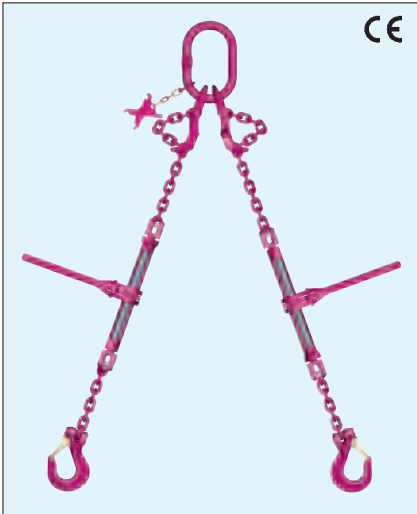
ICE-T-GAKO*

With clevis connection, inside positioned thread, lubrication nipple.



Chain Ø	Type	Lashing WLL [t]	L-open [mm]	L-closed [mm]	Reach [mm]	Weight [kg/pc.]	Ref. No.
6	ICE-CURT 6-SL	1.8	in preperation				
6	ICE-CURT-6-GAKO	1.8	in preperation				
8	ICE-CURT-8-SL	3.0	623	453	170	4.5	7999435
8	ICE-CURT-8-GAKO	3.0	520	350	170	3.9	7901125
10	ICE-CURT-10-SL	5.0	671	501	170	5.2	7999436
10	ICE-CURT-10-GAKO	5.0	532	362	170	4.3	7901126
13	ICE-T-GAKO-13*	8.0	695	445	250	7.5	7995935
13	ICE-CURT-13-GAKO	8.0	in preperation				
16	ICE-CURT-16-GAKO	12.5	in preperation				

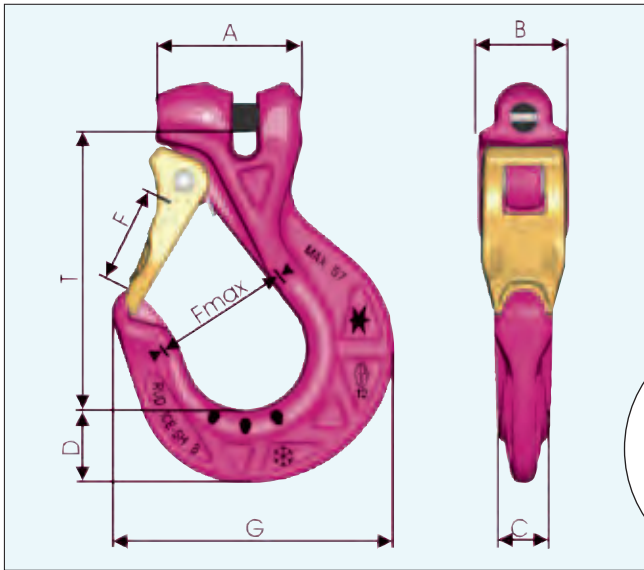
*Model expires (as long as stock lasts)



- For an exact length adjustment on a chain sling.
- Due to right/left thread on the ratchet, adjustments to the mm can be performed.
- Under load, it is only possible to elongate the chain strand.

In 8 and 10 also possible with shortening latch (SL).

ICE-SH ICE Star Hook

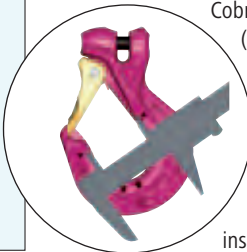


ICE Star Hook – suitable down to -60°C.

Due to its innovative construction, the skeletal design ICE-SH Star Hook is up to 25 % lighter than Grade 80 hooks of the same WLL, i.e. the next larger size.

The large width of the throat of the hook is the same dimensionally as the million fold successful Granit-Super Hook – of the next larger size – **so not everything was reduced!**

The safety latch of the RUD-Hook family, the GSH, SH, Cobra and ICE-Star Hook are interchangeable. (Make sure to select the correct diameter) – easy to supply spare parts.



All the benefits of the VIP-Cobra-Hook are included and improved:

- Edge protection – increased section at the side and top of the hook for the safety latch
- Wear ribs – which protect the first chain link into the clevis
- No protruding hook tip
- Thickened tip of the hook – prevents incorrect and dangerous use of the hook tip
- Patented wear marks that, without measuring, show instantly when the hook has reached the statutory allowable wear limit and must be replaced
- Forged, tempered and ergonomic safety latch with a triple-coiled, double-leg spring in stainless steel. Exceeds by far, the EN standard values for side loading

● Marker points to check the width of the hook on inspection – (often copied)!

Chain	WLL t	Type	A	B	C	D	F	Fmax.	G	T	kg/pc.	Ref. No.
6	1.8	ICE-SH-6	48	28	18	26	30	51	97	97	0.69	7998179
8	3.0	ICE-SH-8	45	36	20	29	36	58	112	110	1.1	7995254
10	5.0	ICE-SH-10	56	43	25	37	41	66	135	127	1.9	7995255
13	8.0	ICE-SH-13	85	52	31	48	50	80	163	153	3.5	7995256
16	12.5	ICE-SH-16	94	58	38	56	58	96	196	184	5.5	7995257



Chain	Type	kg/pc.	Ref. No.
6	Si-Set ICE-SH-6	0.09	7100300
8	Si-Set ICE-SH-8	0.11	7100301
10	Si-Set ICE-SH-10	0.15	7100302
13	Si-Set ICE-SH-13	0.24	7100303
16	Si-Set ICE-SH-16	0.40	7900419

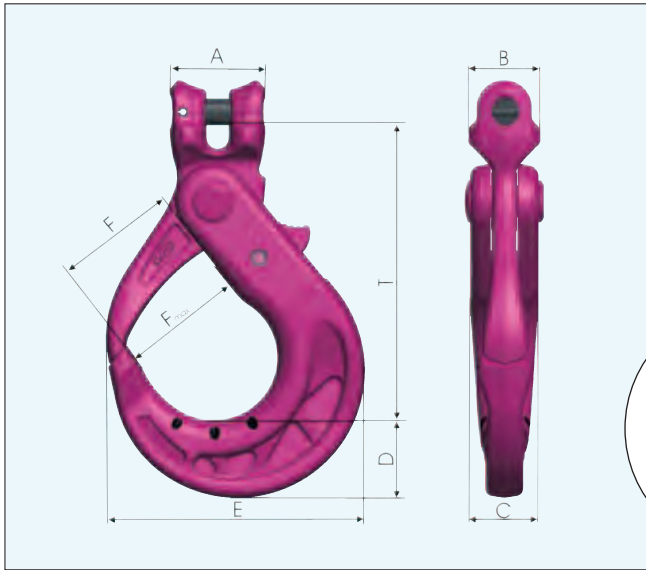


Consisting of a forged safety latch, triple-coiled corrosion protected double-leg spring and a retaining pin.

Only available as a complete set.

Easy assembly and removal using only hammer and drift punch.

ICE-AGH ICE-Clevis self locking hook



IAGH – suitable to -60°C.

Due to its innovative construction, the skeletal design ICE-SH Star Hook is up to 25 % lighter than Grade 8 hooks of the same WLL, i.e. the next larger size.

The large width of the throat of the hook is the same dimensionally as the Grade 80 hook – **so not everything was reduced!**

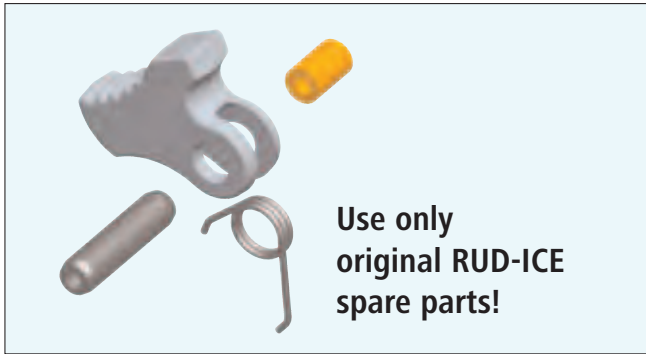
Locking device designed ergonomically, easy to handle with anti-slip surface – no danger of bruise.



- Thickened tip of the hook – prevents incorrect and dangerous use of the hook tip
- Proven marker points to check the width of the hook on inspection – (often copied)!
- Patented wear marks that, without measuring, show instantly when the hook has reached the statutory allowed.
- Wear ribs (dim. “B”) which protect the first chain link into the clevis.

Chain	WLL t	Type	A	B	C	D	E	F	F _{max.}	T	kg/pc.	Ref. No.
6	1.8	IAGH-6	34	24	27	28	97	44	60	113	0.9	7900085
8	3.0	IAGH-8	45	31	30	31	106	48	66	124	1.2	7997691
10	5.0	IAGH-10*	50	38	36	40	136	61	81	154	2.4	7997692
13	8.0	IAGH-13	73	50	44	51	173	78	107	200	4.9	7997693
16	12.5	IAGH-16	90	61	49	53	192	85	121	232	7.4	7900086

*For applications at dump trucks see page 27 IMAGH-10.



- Only available as a complete set
- Consisting of a locking device, a corrosion protected double-leg spring and a retaining pin
- Easy assembly and removal using only hammer and drift punch

Chain	Type	kg/pc.	Ref. No.
6	Si-Set IAGH-6	0.03	8503759
8	Si-Set IAGH-8	0.04	8503713
10	Si-Set IAGH-10	0.06	7998255
13	Si-Set IAGH-13	0.14	8503714
16	Si-Set IAGH-16	0.2	8503760

The strongest ICE-Lashing chain

The proven, technical advantages of the **VIP**-program have been retained and further improved. Tensioning, connecting and shortening element have been improved considerably in weight and functionality.

ICE – in ICE-Pink (traffic purple) powder coated – means significant weight saving for the user. The standard equivalent Grade 80 commercial lashing chains are on average 60 % heavier.

This improved ergonomic design, enables faster fitting and heightened safety.

It is possible to use one diameter smaller than Grade 80 <16 mm Ø.

Up to 60 % higher Lashing Capacity (LC) than Grade 80 – also up to -60°C even in Arctic applications.

All values (conditions) of EN 12195-3 are fulfilled and the essential requirements are easily exceeded. All for the health and safety of the user!

ICE-CURT

Ratcheted tensioner version with an integrated fast shortener, which is assembled captive in the chain strand. As an alternative there is a clevis type available also.

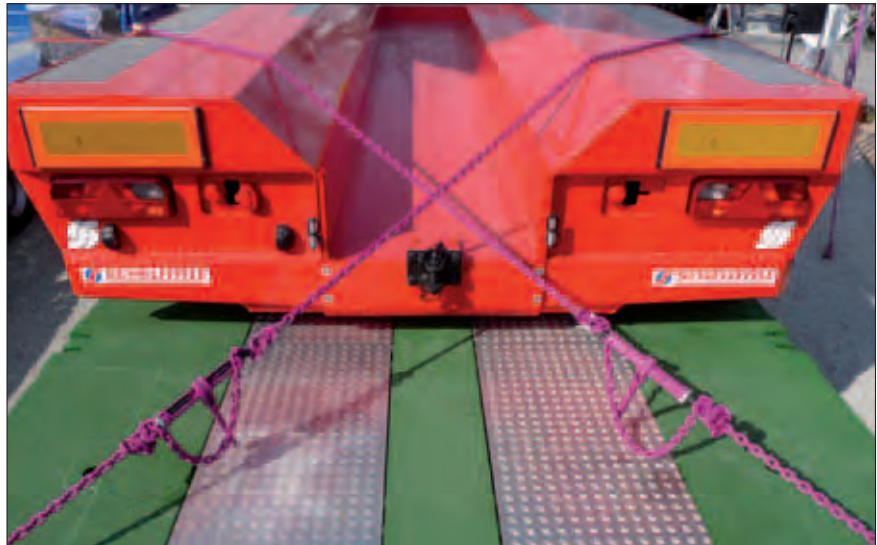
Patented:

“Secured against release by a magnet blocking clutch which can be secured with a lock. Theft protection of lashing chain and transporting goods.”

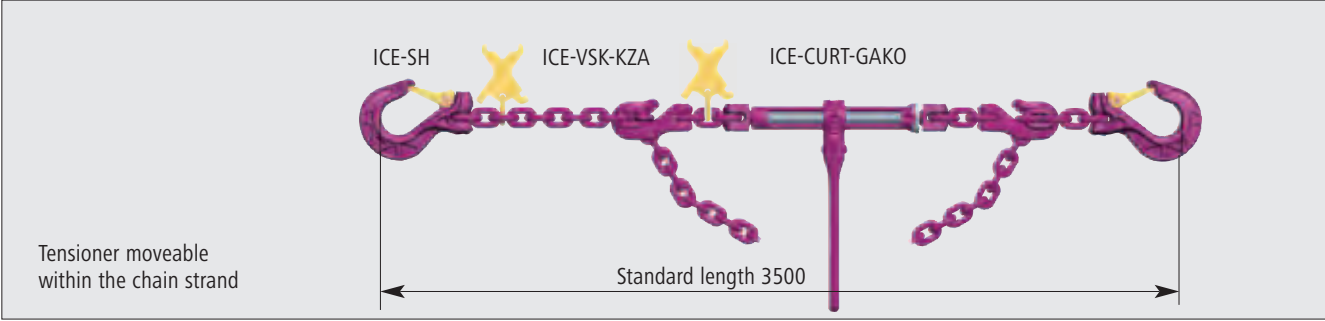
Thread tube now in a open and innovative form – robust, light in weight and due to the trapezoid thread easy to clean, check and lubricate.

Made in Germany.

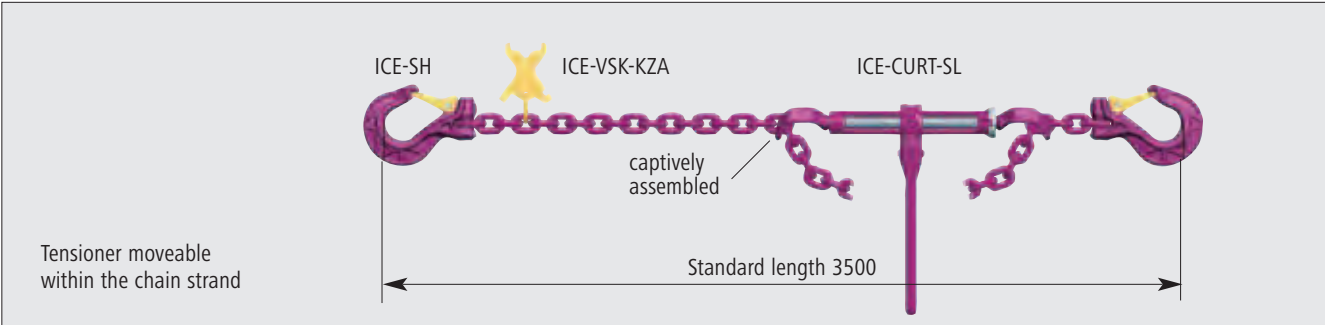
All pieces drop forged, quenched and tempered and 100 % crack inspected.



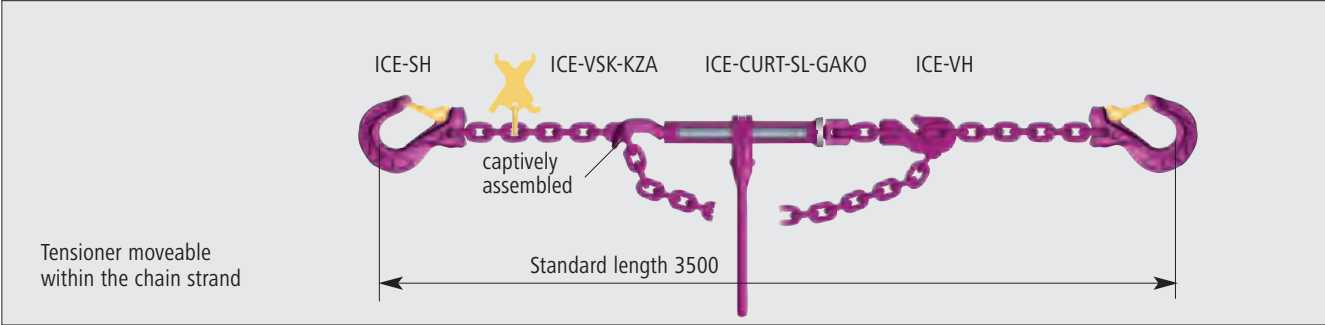
ICE-VSK-CURT lashing chains – Grade ICE-120



Chain Ø [mm]	Type	Lashing cap. LC [daN]	Tensioner			Lmin [mm]	Weight [kg/pc.]	Ref. no.
			Type	Pre-tension STF [daN]	Adjustm. [mm]			
6	ICE-VSK-6-CURT-IVH	3600	ICE-CURT-6-GAKO	in preparation – soon available				
8	ICE-VSK-8-CURT-IVH	6000	ICE-CURT-8-GAKO	2800	170	1040	13.2	7901 129
10	ICE-VSK-10-CURT-IVH	10000	ICE-CURT-10-GAKO	2800	170	1210	20.1	7901 130
13	ICE-VSK-13-CURT-IVH	16000	ICE-CURT-13-GAKO	in preparation – soon available				
16	ICE-VSK-16-CURT-IVH	25000	ICE-CURT-16-GAKO	in preparation – soon available				



6	ICE-VSK-6-CURT-SL	3600	ICE-CURT-6-SL	in preparation – soon available				
8	ICE-VSK-8-CURT-SL	6000	ICE-CURT-8-SL	2800	170	817	12.6	7900 026
10	ICE-VSK-10-CURT-SL	10000	ICE-CURT-10-SL	2800	170	935	18.1	7900 027



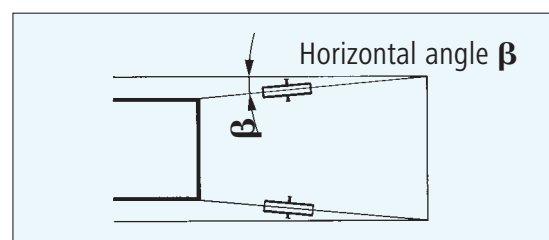
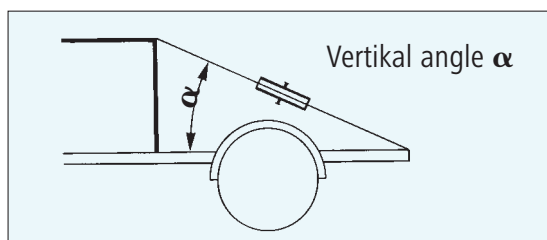
6	ICE-VSK-6-CURT-SL-IVH	3600	ICE-CURT-6-SL-GAKO	in preparation – soon available				
8	ICE-VSK-8-CURT-SL-IVH	6000	ICE-CURT-8-SL-GAKO	2800	170	956	12.9	7901 131
10	ICE-VSK-10-CURT-SL-IVH	10000	ICE-CURT-10-SL-GAKO	2800	170	1105	19.1	7901 132



ICE sets new benchmarks in lashing chain technology!
Up to 60 % more LC-Lashing Capacity than Grade 80 – with decisive handling benefits!

Which lashing chain for which load?

Diagonal lashing													
Lashing chain	LC [daN]	Max. load weight [t] (horizontal angle β : 20°-45°; 2 lashing chains per direction)											
		Vertikal angle α : 0°-30°						Vertikal angle α : 30°-60°					
		$\mu=0.1$	$\mu=0.2$	$\mu=0.3$	$\mu=0.4$	$\mu=0.5$	$\mu=0.6$	$\mu=0.1$	$\mu=0.2$	$\mu=0.3$	$\mu=0.4$	$\mu=0.5$	$\mu=0.6$
ICE-VSK 6	3600	6.2	8.4	10.4	13.0	17.4	26.2	4.5	6.3	9.0	12.8	19.2	32.0
VIP-VSK 6	3000	5.2	7.0	8.7	10.9	14.5	21.9	3.8	5.3	7.5	10.7	16.0	26.7
ICE-VSK 8	6000	10.5	14.0	17.4	21.8	29.1	43.9	7.6	10.7	15.0	21.4	32.0	53.4
ICE-VSK 10	10000	17.5	23.4	29.0	36.4	48.6	73.1	12.8	17.9	25.0	35.6	53.4	89.0
ICE-VSK 13	16000	28.0	37.5	46.4	58.2	77.8	117.0	20.5	28.6	40.0	57.1	85.5	142.4
VIP-VSK 16	20000	35.0	46.9	58.1	72.8	97.3	146.3	25.6	35.8	50.0	71.3	106.9	178.0



Frictional lashing													
RUD Lashing chain	STF [daN]	= required number of VIP + ICE lashing chains (number of lashing chains = factor from Table X load weight [t])											
		Vertikal angle α : 60°-90°						Vertikal angle α : 30°-60°					
		$\mu=0.1$	$\mu=0.2$	$\mu=0.3$	$\mu=0.4$	$\mu=0.5$	$\mu=0.6$	$\mu=0.1$	$\mu=0.2$	$\mu=0.3$	$\mu=0.4$	$\mu=0.5$	$\mu=0.6$
VIP-VSK 6	1500	3.6 x	1.6 x	0.9 x	0.6 x	0.4 x	0.2 x	6.3 x	2.7 x	1.5 x	0.9 x	0.6 x	0.3 x
VIP-VSK 8	2500	2.2 x	1.0 x	0.6 x	0.4 x	0.2 x	0.2 x	3.8 x	1.6 x	0.9 x	0.6 x	0.4 x	0.2 x
VIP-VSK 10	2800	2.0 x	0.9 x	0.5 x	0.3 x	0.2 x	0.1 x	3.4 x	1.5 x	0.8 x	0.5 x	0.3 x	0.2 x
ICE-VSK 8/10/13	2800	2.0 x	0.9 x	0.5 x	0.3 x	0.2 x	0.1 x	3.4 x	1.5 x	0.8 x	0.5 x	0.3 x	0.2 x
VIP-VSK 13/16	3600	1.5 x	0.7 x	0.4 x	0.3 x	0.2 x	0.1 x	2.6 x	1.2 x	0.7 x	0.4 x	0.3 x	0.2 x

Values of both tables refer to: stable load, road transport,
no combination with other lashing or securing methods!

Slide-coefficient of friction μ to VDI 2700-2				
Materials	dry	wet	greasy	
Wood/wood	0.20-0.50	0.20-0.25	0.05-0.15	
Metal/wood	0.20-0.50	0.20-0.25	0.02-0.10	
Metal/metal	0.10-0.25	0.10-0.20	0.01-0.10	

If there is a clear deviation from the indicated lashing angles, then it is necessary to add some safety measures (e.g. larger chain diameter, and/ or chocks – **friction increasing elements**).

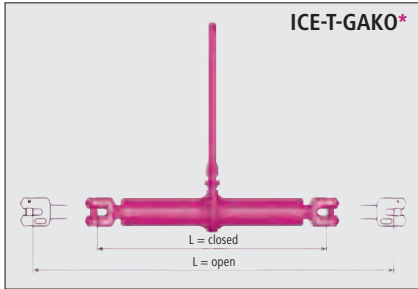
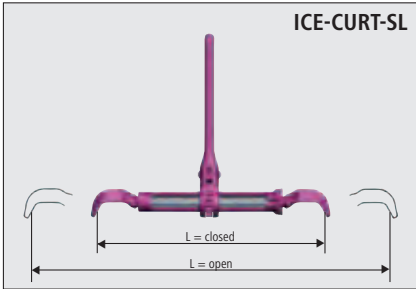
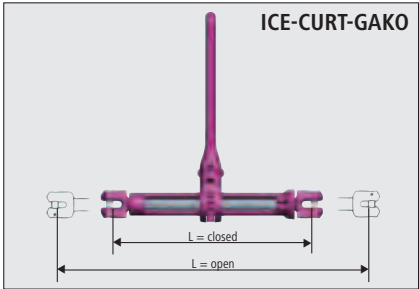
Heavy construction machinery should be positioned bucket first, tight against the step frame of the low loader.

Handbrake must be engaged and the vehicle left in gear.

Download of the essay "Optimal load securing"
under: www.rud.com

Subject to technical modifications.

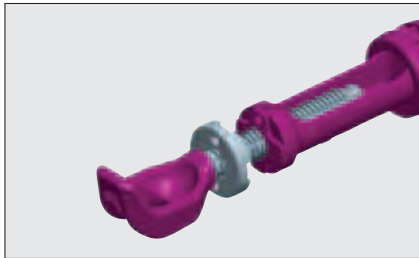
ICE-CURT Ratched tensioner for lashing



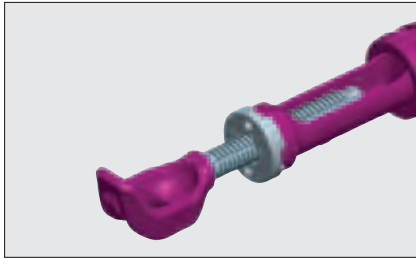
Chain Ø	Type	Lashing cap. LC [daN]	L-open [mm]	L-closed [mm]	Reach [mm]	Pretension STF [daN] [kp]	Weight [kg/pc.]	Ref. No.
6	ICE-CURT 6-SL	3.600	in preparation					
6	ICE-CURT-6-GAKO	3.600	in preparation					
6	ICE-CURT-6-SL-GAKO	3.600	in preparation					
8	ICE-CURT-8-SL	6.000	623	453	170	2.800	4.5	7999435
8	ICE-CURT-8-GAKO	6.000	520	350	170	2.800	3.9	7901125
8	ICE-CURT-8-SL-GAKO	6.000	575	405	170	2.800	4.7	7901127
10	ICE-CURT-10-SL	10.000	671	501	170	2.800	5.2	7999436
10	ICE-CURT-10-GAKO	10.000	532	362	170	2.800	4.3	7901126
10	ICE-CURT-10-SL-GAKO	10.000	605	435	170	2.800	4.8	7901128
13	ICE-T-GAKO-13*	16.000	695	445	250	2.800	7.5	7995935
13	ICE-CURT-13-GAKO	16.000	in preparation					
16	ICE-CURT-16-GAKO	25.000	in preparation					

*Model expires (as long as stock lasts)

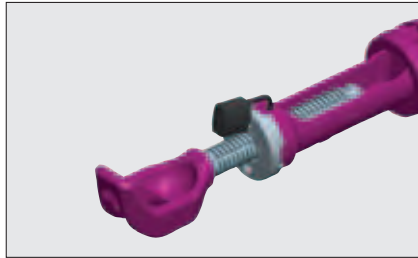
For the user of ICE-lashing chains, this offers a treamendous weight saving, improved ergonomics, quicker installation and more safety.



Locking device opened



Locking device closed

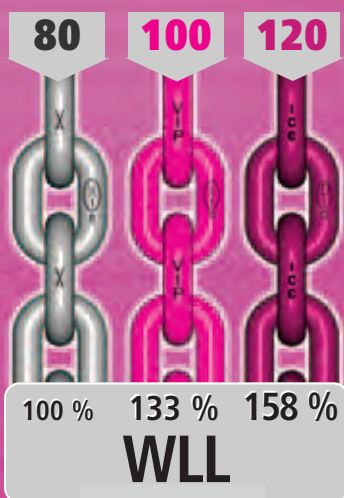


Locking device closed and secured against thefts

RUD-Quality in PINK

Grade 80, Grade 100 (VIP) and
WLL »in metric tons« of sling &
According to inclination angle at symmetrical

RUD quality grades



Grade **80** **VIP 100** **ICE 120**



Methods of sling		1-leg	2-leg	3-4 leg	endless Basket sling with choke	
inclination angle: β		0	0-45°	> 45-60°	0-45°	> 45-60°
load factor		1.0	1.4	1.0	2.1	1.5
Diam. of chains	Quality grade					
Ø 4	VIP	0.63	0.88	0.63	1.32	0.95
Ø 6	Gk 8	1.12	1.6	1.12	2.36	1.7
	VIP	1.5	2.1	1.5	3.15	2.25
	ICE	1.8	2.5	1.8	3.75	2.7
Ø 8	Gk 8	2.0	2.8	2.0	4.25	3.0
	VIP	2.5	3.5	2.5	5.25	3.75
	ICE	3.0	4.2	3.0	6.3	4.5
Ø 10	Gk 8	3.15	4.25	3.15	6.7	4.75
	VIP	4.0	5.6	4.0	8.4	6.0
	ICE	5.0	7.0	5.0	10.5	7.5
Ø 13	Gk 8	5.3	7.5	5.3	11.2	8.0
	VIP	6.7	9.5	6.7	14.0	10.0
	ICE	8.0	11.2	8.0	16.8	12.0
Ø 16	Gk 8	8.0	11.2	8.0	17.0	11.8
	VIP	10.0	14.0	10.0	21.0	15.0
	ICE	12.5	17.0	12.5	26.5	19.0
Ø 18	Gk 8	10.0	14.0	10.0	21.0	15.0
Ø 20	Gk 8	12.5	17.0	12.5	26.5	19.0
	VIP	16.0	22.4	16.0	33.6	24.0
Ø 22	Gk 8	15.0	21.2	15.0	31.5	22.4
	VIP	20.0	28.0	20.0	42.0	30.0
Ø 26	Gk 8	21.2	30.0	21.2	45.0	31.5
Ø 28	VIP	31.5	45.0	31.5	67.0*	47.5*
Ø 32	Gk 8	31.5	45.0	31.5	67.0	47.5
Attention: WLL has to be reduced by 50 % when load is unsymmetrical!					Temperature °C	Grade + VIP 1 ICE 12

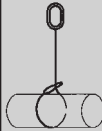
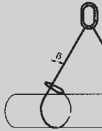
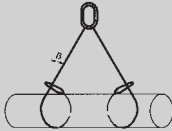
Subject to technical modifications. *Only 2 x 2-leg type available.

ANK!

and Grade 120 (ICE)
ing chains
mmetric loading



„Made in Germany“

	endless* Basket sling chain with choke hitch 	Basket sling chain*				single 	Choke hitch**		
		single 	double 	single 	double 				
		0-45°	> 45-60°	0-45°	> 45-60°	0°	0-45°	> 45-60°	
5-60°	–	0-45°	> 45-60°	0-45°	> 45-60°	0°	0-45°	> 45-60°	
1.5	1.6	1.1	0.8	1.7	1.2	0.8	1.1	0.8	
1.95	1.0	0.69	0.5	1.1	0.75	0.5	0.69	0.5	
2.7	1.8	1.2	0.9	1.9	1.3	0.9	1.2	0.9	
3.25	2.4	1.65	1.2	2.55	1.8	1.2	1.65	1.2	
3.7	2.88	2.0	1.44	3.1	2.1	1.44	2.0	1.44	
4.0	3.2	2.2	1.6	3.4	2.4	1.6	2.2	1.6	
4.75	4.0	2.75	2.0	4.25	3.0	2.0	2.75	2.0	
5.5	4.8	3.3	2.4	5.1	3.6	2.4	3.3	2.4	
6.75	5.0	3.5	2.5	5.3	3.8	2.5	3.5	2.5	
8.0	6.4	4.4	3.2	6.8	4.8	3.2	4.4	3.2	
9.5	8.0	5.5	4.0	8.5	6.0	4.0	5.5	4.0	
11.0	8.5	5.8	4.0	9.0	6.0	4.0	5.8	4.0	
13.0	10.6	7.5	5.3	11.2	8.0	5.3	7.5	5.3	
15.0	12.8	8.8	6.4	13.6	9.6	6.4	8.8	6.4	
17.8	12.5	8.8	6.4	13.6	9.6	6.4	8.8	6.4	
20.0	16.0	11.0	8.0	17.0	12.0	8.0	11.0	8.0	
24.0	20.0	14.0	10.0	21.2	15.0	10.0	14.0	10.0	
29.0	16.0	11.0	8.0	17.0	12.0	8.0	11.0	8.0	
34.0	20.0	14.0	10.0	21.2	15.0	10.0	14.0	10.0	
40.0	25.6	17.6	12.8	27.2	19.2	12.8	17.6	12.8	
48.4	23.6	16.5	12.0	25.5	18.0	12.0	16.5	12.0	
57.0	32.0	22.0	16.0	34.0	24.0	16.0	22.0	16.0	
68.5	33.5	23.3	17.0	36.0	25.4	17.0	23.0	17.0	
82.5*	50.0	35.5	25.0	53.0*	37.5*	25.0	35.5	25.0	
97.5	50.0	35.5	25.0	53.0	37.5	25.0	35.5	25.0	
Temperature	When sling chains are used in temperature higher 200°C (392°) the WLL has to be reduced. WLL in % at chain temperature of						**20 % reduction for basket chains, due to sharp edges, is considered.		
	Grade 80 + VIP 100	-40° up to +200° C (-40° F up to +392° F)		higher 200° up to 300° C (higher 392° F up to 572° F)		higher 300° up to 400° C (higher 572° F up to 752° F)			
		100 %		90 %		75 %			
	ICE 120	-60° up to +200° C (-76° F up to +392° F)		higher 200° up to 250° C (higher 392° F up to 482° F)		higher 250° up to 300° C (higher 482° F up to 572° F)			
		100 %		90 %		60 %			



RUD Ketten
Rieger & Dietz GmbH u. Co. KG
Friedensinsel
73432 Aalen/Germany
Tel.: +49 7361 504-1316-1370-1224
Fax: +49 7361 504-1460
info@rud.com · www.rud.com



The suitable range of modern and safe Lifting Points – for bolting

Thread sizes M 6- M 150 Imperial (UNC,...) and special lengths on request			PP-S (Vario) PowerPoint-Star			PP-B (Vario) PowerPoint-B			PP-VIP (Vario) PowerPoint-VIP			VLBG – Load Ring (Vario)																																		
																																														
	Number of legs	Load direction	Thread size	Type	PP-S 0.63 t		PP-S 1.5 t		PP-S 2.5 t		PP-S 4 t		PP-S 5 t		PP-S 8 t		VLBG 0.3 t		VLBG 0.63 t		VLBG 1 t		VLBG 1.5 t		VLBG 2.5 t		VLBG 4 t		VLBG 5 t		VLBG 7 t SPEC		VLBG 8 t		VLBG 10 t		VLBG 15 t		VLBG 20 t		VLBG (3) M16 RS 1 t		VLBG (3) M20 RS 2 t			
					M	12	M	16	M	20	M	24	M	30	M	36	M	8	M	10	M	12	M	16	M	20	M	24	M	27	M	30	M	36	M	36	M	42	M	42	M	48	M	16	M	20
	1	0°			0.6		1.5		2.5		4		6.7		10		0.3	0.6	1	1.5	2.5	4	4	5	7	8	10	15	20	1	2															
	2	0°			1.2		3		5		8		13.4		20		0.6	1.2	2	3	5	8	8	10	14	16	20	30	40	2	4															
	1	90°			0.6		1.5		2.5		4		5		8		0.3	0.6	1	1.5	2.5	4	4	5	7	8	10	15	20	1	2															
	2	90°			1.2		3		5		8		10		16		0.6	1.2	2	3	5	8	8	10	14	16	20	30	40	2	4															
	2	0-45°			0.8		2.1		3.5		5.6		7.1		11.2		0.4	0.8	1.4	2.1	3.5	5.6	5.6	7	9.8	11.2	14	21	28	1.4	2.8															
	2	45-60°			0.6		1.5		2.5		4		5		8		0.3	0.6	1	1.5	2.5	4	4	5	7	8	10	15	20	1	2															
	2	unsymmetrical			0.6		1.5		2.5		4		5		8		0.3	0.6	1	1.5	2.5	4	4	5	7	8	10	15	20	1	2															
	3+4	0-45°			1.3		3.2		5.3		8.4		10.5		16.8		0.6	1.3	2.1	3.1	5.2	8.4	8.4	10.5	14.7	16.8	21	31.5	42	2.1	4.2															
	3+4	45-60°			0.9		2.2		3.8		6		7.5		12		0.4	0.9	2.2	2.2	3.7	6	6	7.5	10.4	12	15	22.5	30	1.5	3															
	3+4	unsymmetrical			0.6		1.5		2.5		4		5		8		0.3	0.6	1.5	1.5	2.5	4	4	5	7	8	10	15	20	1	2															
			Thread size		M	12	M	16	M	20	M	24	M	30	M	36	M	8	M	10	M	12	M	16	M	20	M	24	M	27	M	30	M	36	M	36	M	42	M	42	M	48	M	16	M	20

- All parts are either 100 % crack detected or proof loaded accord. to EN 1677.
- All original bolts from RUD are 100 % crack detected.
- Safety factor 4 : 1 in any direction.
- The types VRS, VRM and VLBG have to be adjusted to the load direction.

- The types VRS, VRM and VLBG have to be adjusted to the load direction.
- RUD features such as clamping spring (VLBS) for noise reduction and distance lugs for a perfect root pass weld increase the ease of use.
- Low installation height, high dynamic and static strength.

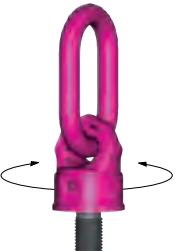
- RUD Lifting Points are in accordance with DIN EN 818 and 1677 with a dynamic loading of more than 20.000 load cycles.
- The BG recommends: At high dynamic applications with high load cycles (permanent operation), the WLL must ber educed or ask the manufacturer.

Subject to technical modifications.

Subject to technical modifications.



...for the unique lifting chains!

VWBG-V Load Ring											VWBG Load Ring																						
																																	
VWBG-V 0.3 t	VWBG-V 0.45 t	VWBG-V 0.6 t	VWBG-V 1.0 t	VWBG-V 1.3 t	VWBG-V 1.8 t	VWBG-V 2 t	VWBG-V 2 t	VWBG-V 3.5 t	VWBG-V 3.5 t	VWBG-V 5 t	VWBG 6 (7.5)	VWBG 8 (10)	VWBG 8 (10)	VWBG 12 (13)	VWBG 12 (13)	VWBG 12 (15)	VWBG 13 (16)	VWBG 13 (16)	VWBG 14 (20)	VWBG 16 (22)	VWBG 16 (22)	VWBG 16 (25)	VWBG 16 (25)	VWBG 31.5 (40)	VWBG 31.5 (40)	VWBG 35 (48)	VWBG 35 (48)	VWBG 40 (50)	VWBG 40 (50)				
M 8	M 10	M 12	M 14	M 16	M 18	M 20	M 22	M 24	M 27	M 30	M 33	M 36	M 36-39	M 42	M 42-45	M 45	M 48	M 48-52	M 52	M 56	M 56-62	M 64	M 64-76	M 72	M 72-76	M 80	M 80-85	M 90	M 90-150				
0.6	0.9	1.2	2.0	2.6	3.6	4	4	7	7	10	15	15	15	17	17	18	18	18	25	28	28	28	28	50	50	50	50	50	50				
1.2	1.8	2.4	4.0	5.2	7.2	8	8	14	14	20	30	30	30	34	34	36	36	36	50	56	56	56	56	100	100	100	100	100	100				
0.3 (0.4)	0.45 (0.6)	0.6 (0.7)	1.0 (1.25)	1.3 (1.5)	1.8 (2.0)	2 (2.5)	2 (2.5)	3.5 (4)	3.5 (4)	5 (6)	6 (7.5)	8 (10)	8 (10)	12 (13)	12 (13)	12 (15)	13 (16)	13 (16)	14 (20)	16 (22)	16 (22)	16 (25)	16 (25)	31.5 (40)	31.5 (40)	35 (48)	35 (48)	40 (50)	40 (50)				
0.6 (0.8)	0.9 (1.2)	1.2 (1.5)	2.0 (2.5)	2.6 (3)	3.6 (4.0)	4 (5)	4 (5)	7 (8)	7 (8)	10 (12)	12 (15)	16 (20)	16 (20)	24 (26)	24 (26)	24 (30)	26 (32)	26 (32)	28 (40)	32 (44)	32 (44)	32 (50)	32 (50)	63 (80)	63 (80)	70 (96)	70 (96)	80 (100)	80 (100)				
0.4	0.6	0.8	1.4	1.8	2.5	2.8	2.8 (3.5)	4.9	4.9 (5.6)	7	8.4 (10.5)	11.2 (14)	11.2 (14)	16.8 (18.2)	16.8 (18.2)	16.8 (21)	18.2 (22.4)	18.2 (22.4)	19.6 (28)	22.4 (30.8)	22.4 (30.8)	22.4 (35)	22.4 (35)	44.1 (56)	44.1 (56)	49 (67.2)	49 (67.2)	56 (70)	56 (70)				
0.3	0.4	0.6	1.0	1.3	1.8	2	2 (2.5)	3.5	3.5 (4)	5	6 (7.5)	8 (10)	8 (10)	12 (13)	12 (13)	12 (15)	13 (16)	13 (16)	14 (20)	16 (22)	16 (22)	16 (25)	16 (25)	31.5 (40)	31.5 (40)	35 (48)	35 (48)	40 (50)	40 (50)				
0.3	0.4	0.6	1.0	1.3	1.8	2	2 (2.5)	3.5	3.5 (4)	5	6 (7.5)	8 (10)	8 (10)	12 (13)	12 (13)	12 (15)	13 (16)	13 (16)	14 (20)	16 (22)	16 (22)	16 (25)	16 (25)	31.5 (40)	31.5 (40)	35 (48)	35 (48)	40 (50)	40 (50)				
0.6	0.9	1.2	2.1	2.7	3.7	4.2	4.2 (5.25)	7.3	7.3 (8.4)	10.5	12.6 (15.75)	16.8 (21)	16.8 (21)	25.2 (27.3)	25.2 (27.3)	25.2 (31.5)	27.3 (33.6)	27.3 (33.6)	29.4 (42)	33.6 (46.2)	33.6 (46.2)	33.6 (52.5)	33.6 (52.5)	66.15 (84)	66.15 (84)	73.5 (100)	73.5 (100)	84 (105)	84 (105)				
0.4	0.6	0.9	1.5	1.9	2.7	3	3 (3.75)	5.2	5.2 (6)	7.5	9 (11.25)	12 (15)	12 (15)	18 (19.5)	18 (19.5)	18 (22.5)	19.5 (24)	19.5 (24)	21 (30)	24 (33)	24 (33)	24 (37.5)	24 (37.5)	47.25 (60)	47.25 (60)	52.5 (72)	52.5 (72)	60 (75)	60 (75)				
0.3	0.4	0.6	1.0	1.3	1.8	2	2 (2.5)	3.5	3.5 (4)	5	6 (7.5)	8 (10)	8 (10)	12 (13)	12 (13)	12 (15)	13 (16)	13 (16)	14 (20)	16 (22)	16 (22)	16 (25)	16 (25)	31,5 (40)	31.5 (40)	35 (48)	35 (48)	40 (50)	40 (50)				
M 8	M 10	M 12	M 14	M 16	M 18	M 20	M 22	M 24	M 27	M 30	M 33	M 36	M 36-39	M 42	M 42-45	M 45	M 48	M 48-52	M 52	M 56	M 56-60	M 64	M 64-76	M 72	M 72-76	M 80	M 80-85	M 90	M 90-150				

● RUD Lifting Point CD-ROM makes it easy to select the right Lifting Point.

● RUD Lifting Points conform fully dynamic applications of 20.000 load cycles, with 50 % overload.

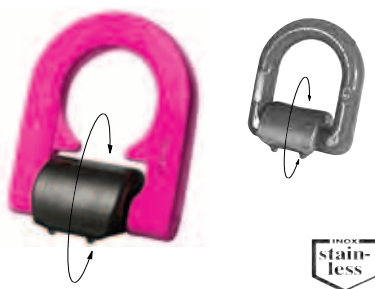
● In case of higher dynamic application please ask manufacturer.



Thread sizes M6-M150 Imperial (UNC...) and special lengths on request			Starpoint VRS (Vario) eyebolt			Starpoint VRM eyenut			INOX-STAR			RS & RM High-tensile eyebolt/eye nut			RBG/VRBG Load ring																												
	Number of legs	Load direction	Thread size	Type	VRS M6	VRS M8 /VRM M8	VRS M10 /VRM M10	VRS M12 /VRM M12	VRS M16 /VRM M16	VRS M20 /VRM M20	VRS M24 /VRM M24	VRS M30 /VRM M30	VRS M36	VRS M42	VRS M48	INOX M12	INOX M16	INOX M20	INOX M24	RS M6	RS M8	RS M10	RS M12	RS M14	RS M16	RS M20	RS M24	RS M30	RS M36	RS M42	RS M48	RBG 3 t	VRBG 10 t	VRBG 16 t	VRBG 31.5 t	VRBG 50 t	WBPG 80 t	WBPG 100 t	WBPG 200 t				
	1	0°	M6		0.5	1	1	2	4	6	8	12	16	24	32	1.2	2.4	3.6	5.2	M6	M8	M10	M12	M14	M16	M20	M24	M30	M36	M42	M48	2x M16	4x M20	4x M30	6x M30	8x M36	6x M48	6x M48	10x M48				
	2	0°	M6		1	2	2	4	8	12	16	24	32	48	64	2.4	4.8	7.2	10.4	0,8	1.6	2	3.2	6	8	12	16	24	32	48	64	6	20	32	63	100	170	200	400				
	1	90°	M6		0.1	0.3	0.4	0.7	1.5	2.3	3.2	4.5	7	9	12	0.5	1.0	2.0	2.5	We recommend to use either »VRS-Starpoint« or »PowerPoint« which can be adjusted to the direction of pull!																3	10	16	31.5	50	85	100	200
	2	90°	M6		0.2	0.6	0.8	1.5	3	4.6	6.4	9	14	18	24	1.0	2.0	4.0	5.0																	6	20	32	63	100	170	200	400
	2	0-45°	M6		0.14	0.42	0.56	1	2.1	3.2	4.5	6.3	9.8	12.6	16.8	0.7	1.4	2.8	3.5																	4.2	14	22.4	45	70	119	140	280
	2	45-60°	M6		0.1	0.3	0.4	0.7	1.5	2.3	3.2	4.5	7	9	12	0.5	1.0	2.0	2.5																	3	10	16	31.5	50	85	100	200
	2	unsymmetrical	M6		0.1	0.3	0.4	0.7	1.5	2.3	3.2	4.5	7	9	12	0.5	1.0	2.0	2.5																	3	10	16	31.5	50	85	100	200
	3+4	0-45°	M6		0.21	0.63	0.8	1.5	3.1	4.8	6.7	9.4	14.7	18.9	25	1.0	2.1	4.2	5.3																	6.3	21	33.6	67	105	178	210	420
	3+4	45-60°	M6		0.15	0.45	0.6	1.1	2.2	3.4	4.8	6.7	10.5	13.5	18	0.7	1.5	3.0	3.7	4.5	15	24	47.5	75	127	150	300																
	3+4	unsymmetrical	M6		0.1	0.3	0.4	0.7	1.5	2.3	3.2	4.5	7	9	12	0.5	1.0	2.0	2.5	3	10	16	31.5	50	85	100	200																
			Thread size		M6	M8	M10	M12	M16	M20	M24	M30	M36	M42	M48	M12	M16	M20	M24	M6	M8	M10	M12	M14	M16	M20	M24	M30	M36	M42	M48	2x M16	4x M20	4x M30	6x M30	8x M36	6x M48	6x M48	10x M48				

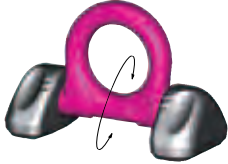
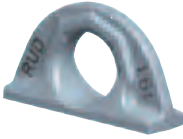


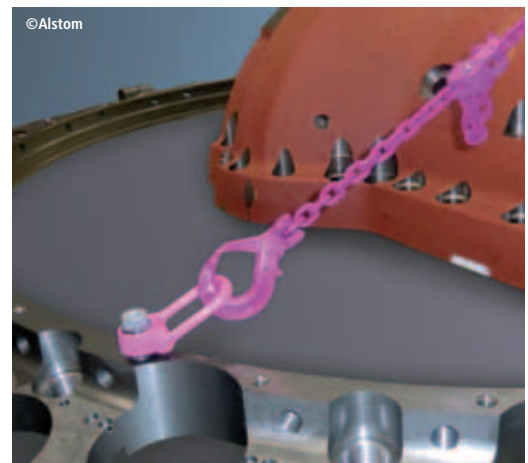
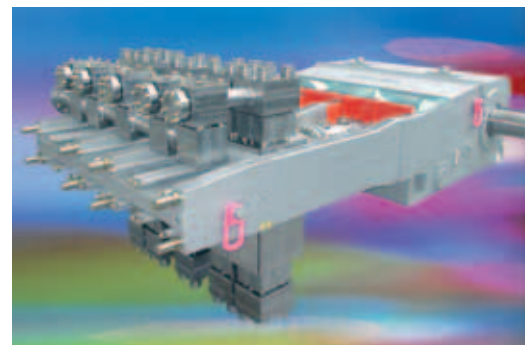
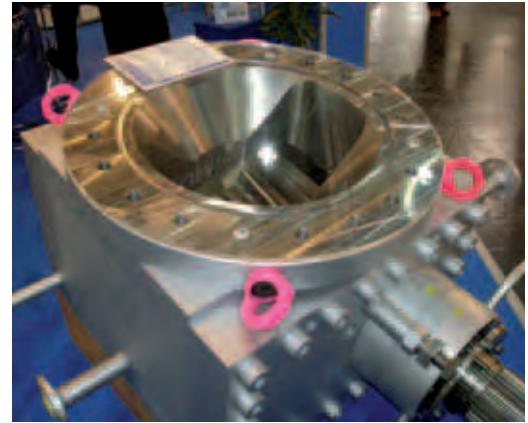
The suitable range of modern and safe Lifting Points – for welding –

			WPP-Serie PowerPoint rotation						WPPH-Serie PowerPoint fixed						VLBS Load ring for welding									
																								
	Number of legs	Load direction	WPP 0.63 t	WPP 1.5 t	all variations		WPP 5 t	WPP 8 t	WPPH 0.63 t	WPPH 1.5 t	all variations		WPPH 5 t	WPPH 8 t	VLBS 1.5 t	VLBS 2.5 t	VLBS 4 t	VLBS 6.7 t	VLBS 10 t	VLBS 16 t	LBS(1) RS 0.5 t	LBS(3) RS 1 t	LBS(5) RS 2 t	
					WPP 2.5 t	WPP 4 t									WPPH 2.5 t	WPPH 4 t								
	1	0°	0.6	1.5	2.5	4	6.7	10	0.6	1.5	2.5	4	6.7	10	1.5	2.5	4	6.7	10	16	0.5	1	2	
	2	0°	1.2	3	5	8	13.4	20	1.2	3	5	8	13.4	20	3	5.0	8	13.4	20	32	1	2	4	
	1	90°	0.6	1.5	2.5	4	5	8	0.6	1.5	2.5	4	5	8	1.5	2.5	4	6.7	10	16	0.5	1	2	
	2	90°	1.2	3	5	8	10	16	1.2	3	5	8	10	16	3	5.0	8	13.4	20	32	1	2	4	
	2	0-45°	0.8	2.1	3.5	5.6	7.1	11.2	0.8	2.1	3.5	5.6	7.1	11.2	2.1	3.5	5.6	9.38	14	22.4	0.7	1.4	2.8	
	2	45-60°	0.6	1.5	2.5	4	5	8	0.6	1.5	2.5	4	5	8	1.5	2.5	4	6.7	10	16	0.5	1	2	
	2	unsymmetrical	0.6	1.5	2.5	4	5	8	0.6	1.5	2.5	4	5	8	1.5	2.5	4	6.7	10	16	0.5	1	2	
	3+4	0-45°	1.3	3.2	5.3	8.4	10.5	16.8	1.3	3.2	5.3	8.4	10.5	16.8	3.15	5.25	8.4	14.1	21	33.6	1.05	2.1	4.2	
	3+4	45-60°	0.9	2.2	3.8	6	7.5	12	0.9	2.2	3.8	6	7.5	12	2.25	3.75	6	10.1	15	24	0.75	1.5	3	
	3+4	unsymmetrical	0.6	1.5	2.5	4	5	8	0.6	1.5	2.5	4	5	8	1.5	2.5	4	6.7	10	16	0.5	1	2	
			▽ 3.5	▽ 4.5	HY 3+4.5	HY 3+5	HY 3+8	HY 3+10	▽ 3.5	▽ 4.5	HY 3+5	HY 3+6	HY 3+8	HY 3+10	HV 5+3	HV 7+3	HV 8+3	HV 12+4	HV 16+4	HV 25+6	HV 5+3	HV 8+3	HV 12+4	



The suitable range of modern and safe Lifting Points – for welding –

			VRBS-FIX						VRBK-FIX Eye Plate for corners 90°			ABA					
																	
	Number of legs	Load direction	VRBS-FIX 4 t	VRBS-FIX 6.7 t	VRBS-FIX 10 t	VRBS-FIX 16 t	VRBS-FIX 31.5 t	VRBS 50 t	VRBK-FIX 4 t	VRBK-FIX 6.7 t	VRBK-FIX 10 t	ABA 1.6 t	ABA 3.2 t	ABA 5 t	ABA 10 t	ABA 20 t	ABA 31.5 t
	1	0°	4	6.7	10	16	31.5	50	4	6.7	10	1.6	3.2	5	10	20	31.5
	2	0°	8	13.4	20	32	63	100	8	13.4	20	3.2	6.4	10	20	40	63
	1	90°	4	6.7	10	16	31.5	50	4	6.7	10	1.6	3.2	5	10	20	31.5
	2	90°	8	13.4	20	32	63	100	8	13.4	20	3.2	6.4	10	20	40	63
	2	0-45°	5.6	9.38	14	22.4	45	70	5.6	9.38	14	2.2	4.5	7.1	14.1	28	45
	2	45-60°	4	6.7	10	16	31.5	50	4	6.7	10	1.6	3.2	5	10	20	31.5
	2	unsymmetrical	4	6.7	10	16	31.5	50	4	6.7	10	1.6	3.2	5	10	20	31.5
	3+4	0-45°	8.4	14.1	21	33.6	67	105	8.4	14.1	21	3.4	6.8	10.6	21.2	42	67
	3+4	45-60°	6	10.1	15	24	47.5	75	6	10.1	15	2.4	4.8	7.5	15	30	47.5
	3+4	unsymmetrical	4	6.7	10	16	31.5	50	4	6.7	10	1.6	3.2	5	10	20	31.5
Weld →			HY 3	HY 5	HY 6	HY 9	HY 12	HY 25+8	HY 3+4	HY 3+5	HY 8+3	Δ 4	Δ 6	Δ 7	Δ 8	Δ 10	Δ 12



Subject to technical modifications.

Subject to technical modifications.





Tradition in Dynamic Innovation

RUD Ketten
Rieger & Dietz GmbH u. Co. KG
Friedensinsel
73432 Aalen/Germany
Telefon +49 7361 504-1371
Telefax +49 7361 504-1460
slings@rud.com
www.rud.com

Lifting chain poster,
Size: 60 : 80 cm for RUD
chains of Grade 80,
VIP and ICE.

Reference No.:
7996432

www.rud.com
klick–lifting means
klick–ICE
...details correct at time
of going to print!

RUD-Quality in PINK!

Grade 80, Grade 100 (VIP) and Grade 120 (ICE)
WLL »in metric tons« of sling chains
According to inclination angle at symmetric loading

Made in Germany

RUD quality grades

Grade	80	100	120
WLL	100 %	133 %	158 %

Grade 80, 100, 120

Methods of sling

	1-leg	2-leg	3-4 leg	endless*	Basket sling chain*	choke hitch**
inclination angle: β	0	0-45°	>45-60°	0-45°	>45-60°	0°
load factor	1.0	1.4	1.0	1.5	1.6	1.1
Quality grade	0.63	0.88	0.63	1.32	0.95	1.0
Ø 4	VIP	0.63	0.88	0.63	1.32	0.95
Ø 6	GK II	1.12	1.6	1.12	2.36	1.7
VIP	1.5	2.1	1.5	3.15	2.25	2.4
ICE	1.8	2.5	1.8	3.75	2.7	2.88
Ø 8	GK II	2.0	2.8	2.0	4.25	3.0
VIP	2.5	3.5	2.5	5.25	3.75	4.0
ICE	3.0	4.2	3.0	6.3	4.5	4.8
Ø 10	GK II	3.15	4.25	3.15	6.7	4.75
VIP	4.0	5.6	4.0	8.4	6.0	6.4
ICE	5.0	7.0	5.0	10.5	7.5	8.0
Ø 13	GK II	5.3	7.5	5.3	11.2	8.0
VIP	6.7	9.5	6.7	14.0	10.0	10.6
ICE	8.0	11.2	8.0	16.8	12.0	12.8
Ø 16	GK II	8.0	11.2	8.0	17.0	11.8
VIP	10.0	14.0	10.0	21.0	15.0	16.0
ICE	12.5	17.0	12.5	26.5	19.0	20.0
Ø 18	GK II	10.0	14.0	10.0	21.0	15.0
VIP	12.5	17.0	12.5	26.5	19.0	20.0
ICE	16.0	22.4	16.0	33.6	24.0	25.6
Ø 20	GK II	12.5	17.0	12.5	26.5	19.0
VIP	16.0	22.4	16.0	33.6	24.0	25.6
ICE	20.0	28.0	20.0	42.0	30.0	32.0
Ø 22	GK II	15.0	21.2	15.0	31.5	22.4
VIP	20.0	28.0	20.0	42.0	30.0	32.0
ICE	25.0	35.0	25.0	52.5	37.5	40.0
Ø 26	GK II	21.2	30.0	21.2	45.0	31.5
VIP	31.5	45.0	31.5	67.0	47.5	50.0
ICE	37.5	52.5	37.5	80.0	57.5	60.0
Ø 28	GK II	31.5	45.0	31.5	67.0	47.5
VIP	42.0	58.8	42.0	89.0	63.0	66.0
ICE	52.5	73.5	52.5	109.0	78.0	82.0
Ø 32	GK II	31.5	45.0	31.5	67.0	47.5
VIP	42.0	58.8	42.0	89.0	63.0	66.0
ICE	52.5	73.5	52.5	109.0	78.0	82.0

Attention: WLL has to be reduced by 50 % when load is unsymmetrical!

Subject to technical modifications. *Only 2 x 2-leg type available.

