RUD®

CONVEYOR & DRIVE
NORTH AMERICA

HOIST CHAINS

for manual and motor-driven hoists

ENG
EDITION_3

RUD
CONVEYOR & DRIVE
NORTH AMERICA

HOIST CHAINS

for manual and motor-driven hoists

FOR US THERE IS ONLY ONE OBJECTIVE: BEING BETTER

CHAIN HARDNESS

Uniform surface hardness and depth, particulary in the joints, excellent wear resistance, long service life.

STRENGTH

Outstanding dynamic strength, maximum operating safety.

GEOMETRY

Narrow dimensional tolerances, symmetrical link shape, fine control using take-up wheels.

IDENTIFICATION

Chain identification is essential for clear safety information and traceability.

CALIBRATION

All RUD Hoist Chains are 100% calibrated.

CHAIN DIMENSIONS

RUD makes the smallest and largest hoist chains in the world, with sizes 3 x 9 to 32 x 90 mm.

PRODUCTION

Made in Germany, at our Aalen-Unterkochen plant.

SERVICE

Reliable delivery, consultation and technical assistance worldwide from our RUD representatives.

DEVELOPMENT

Collaboration with German technical institutes and hoist equipment manufacturers.

WE SUPPLY ALL LEADING OEMS WORLDWIDE WITH OUR RUD HOIST CHAINS - „MADE IN GERMANY“

RUD
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NORTH AMERICA

HOIST CHAINS

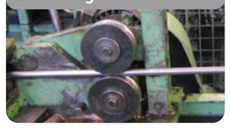
for manual and motor-driven hoists

RUD HOIST CHAINS: PERFORMANCE - OVERVIEW

1. Raw materials

Available in a variety of qualities and sizes on coil or as rods.

2. Drawing the wire



The drawing machine draws the material to precisely the desired diameter.

3. Bending

Bending of the individual chain links: Each link is cleanly bent and laced into the next link.

4. Welding

Welding the links after bending.

5. Stamping

Stamping the welded chain with critical information: The RUD emblem, quality rating, manufacturingnumber and batch number.

6. Heat treatment

Case hardened and quenched and tempered chains

7. Surface treatment

Black phosphated, galvanised, special coatings

8. Final calibration

The chain is precisely sized and loaded with manufacturing proof force.

9. Final acceptance

Quality assurance and acceptance.

10. Lubrication and packing

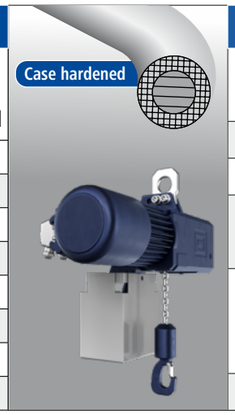
Warehousing and shipping.

APPLICATION FOR RUD HOIST CHAINS: INDUSTRY · WIND POWER STATIONS · STAGE TECHNOLOGY · OFFSHORE

RUD ROUND LINK CHAIN – DAT TYPE

FOR HIGH WEAR RESIS TANCE PER EN 818-7-DAT, USING MOTOR-DRIVEN HOISTS

DAT/T quality class execution		
Mechanism group ISO 4301-1 (FEM 9.511)	Nominal stress [N/mm²]	Limit stress [N/mm²]
M1 (1Dm)	200	250
M2 (1Cm)	160	225
M3 (1Bm)	160	200
M4 (1Am)	140	180
M5 (2m)	125	160
M6 (3m)	112	140
M7 (4m)	100	125
M8 (5m)	90	112



Quality and designation			RTS	RTD	RTB
Stress at manufacturing proof force	σ_{FPmin}	N/mm²	500		
Stress at breaking force	σ_{Bmin}	N/mm²	800		
Total ultimate elongation	A_{min}	%	10		
Surface hardened according to DIN EN 818-7	d ≤ 6,5 Ø d ≥ 7 Ø	HV 5 HV10	500 - 650		
Case depth in the joint (after macro-etching))	...d ± 0,01 d	mm	≤ Ø 4 / 0,05 Ø 4,1-7 / 0,04 Ø 8-16 / 0,03 ≥ Ø16,1 / 0,02	< Ø8 / 0,05 Ø8-11,5 / 0,04 ≥ Ø12 / 0,03	
Fatigue strength		N/mm²	130 ± 80	130 ± 90	130 ± 100

Dimensions [mm]	Material No.	Load capacity Ftr [kg] according to mechanism group				Manufacturing proof force FFPmin [kN]	Breaking force FBmin [kN]	RTS	RTD	RTB	Weight kg/m
		M3 (1Bm)	M4 (1Am)	M5 (2m)	M6 (3m)						
		Nominal stress: 160 N/mm²	Nominal stress: 140 N/mm²	Nominal stress: 125 N/mm²	Nominal stress: 112 N/mm²						
		Safety factor 5	Safety factor 5,7	Safety factor 6,4	Safety factor 7,1						
3[1] x 9	7985902	230	200	180	160	7	11,3	x			0,19
4 x 12	7100183	410	350	320	280	12,6	20,1	x	x	x	0,35
5 x 15	7100184	640	560	500	440	19,6	31,4	x	x	x	0,54
6 x 18	7101362	920	800	720	640	28,3	45,2	x	x		0,78
6,3 x 19	7983648	1000	880	790	710	31,2	49,9	x			0,86
6,3 x 19,1	7102922	1000	880	790	710	31,2	49,9	x			0,86
7 x 21	7102168	1250	1090	980	870	38,5	61,6	x	x	x	1,1
7 x 22	7100185	1250	1090	980	870	38,5	61,6	x	x		1,1
7,1 x 20,2	7103637	1250	1090	980	870	39,6	63,3	x		x	1,1
7,1 x 21,2	7102924	1290	1130	1000	900	39,6	63,3	x			1,1
8 x 24	7101363	1640	1430	1280	1140	50,3	80,4	x			1,4
9 x 27	7100186	2070	1810	1620	1450	63,6	102	x	x	x	1,8
10 x 28	7102169	2560	2240	2000	1790	78,5	126	x			2,2
10 x 30,2	7102926	2560	2240	2000	1790	78,5	126	x			2,2
11 x 31	7102955	3100	2700	2420	2160	95	152	x			2,7
11,2 x 34	7993063	3200	2800	2500	2240	98,5	157,6	x			2,7
11,2 x 34,4	7102930	3200	2800	2500	2240	98,5	157,6	x			2,7
11,3 x 31	7992923	3270	2860	2550	2280	100,3	160,5	x	x	x	2,85
13 x 36	59733	4330	3780	3380	3030	132,7	212,3	x		x	3,8
16 x 45	55004	6550	5730	5120	4590	201	322	x		x	5,7
23,5[1] x 66	7993516	14100	12370	11000	9900	434	694	x			12,2

[1] Dimensions outside of EN 818-7. Other dimensions on request.

The nominal stresses and the limit stresses may not exceed the stresses specified in the respective mechanism groups. Operating temperature - 20° C to + 200° C.

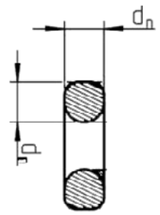
RUD D-PROFILE-CHAIN – DAT TYPE

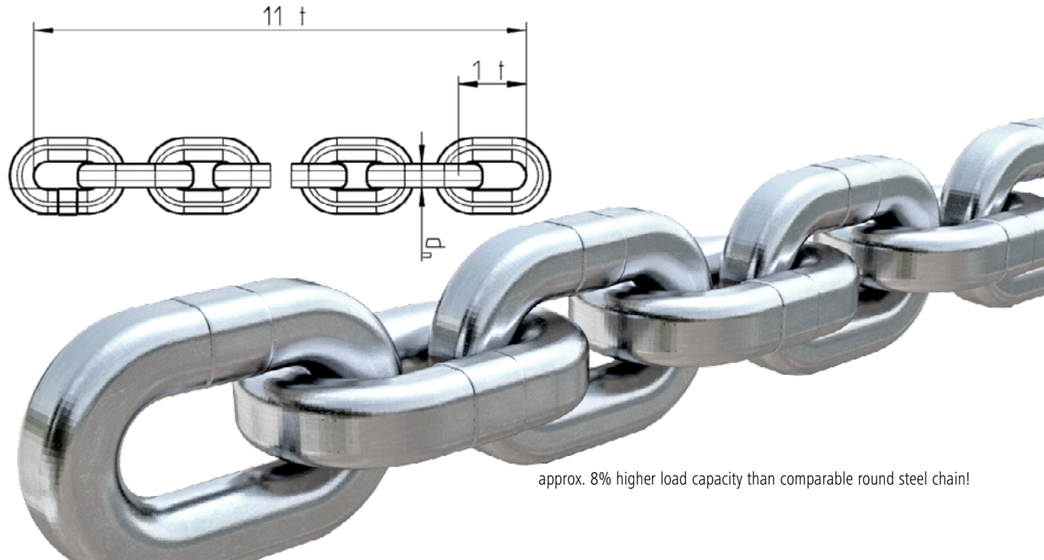
FOR HIGH WEAR RESISTANCE PER EN 818-7-DAT, USING MOTOR-DRIVEN HOISTS

DAT/T quality class execution		
Mechanism group ISO 4301-1 (FEM 9.511)	Nominal stress [N/mm²]	Limit stress [N/mm²]
M1 (1Dm)	200	250
M2 (1Cm)	160	225
M3 (1Bm)	160	200
M4 (1Am)	140	180
M5 (2m)	125	160
M6 (3m)	112	140
M7 (4m)	100	125
M8 (5m)	90	112

Quality and designation			RTS	RTD	RTB
Stress at manufacturing proof force	σ_{FPmin}	N/mm²	500		
Stress at breaking force	σ_{Bmin}	N/mm²	800		
Total ultimate elongation	A_{min}	%	10		
Surface hardness accor-ding to DIN EN 818-7	d ≤ 6,5 Ø d ≥ 7 Ø	HV 5 HV10	500 - 650		
Case depth in the joint (after macro-etching)	...d ± 0,01 d	mm	≤ Ø 4 / 0,05 Ø 4,1-7 / 0,04 Ø 8-16 / 0,03 ≥ Ø16,1 / 0,02	< Ø8 / 0,05 Ø8-11,5 / 0,04 ≥ Ø12 / 0,03	
Fatigue strength		N/mm²	130 ± 80	130 ± 90	130 ± 100

Dimensions [mm]	Quality	Material No.	Load capacity Ftr [kg] according to mechanism group				Manu-facturing proof force FFPmin [kN]	Breaking force FBmin [kN]	Manufacturing lenght	Weight kg/m
			M3 (1Bm)	M4 (1Am)	M5 (2m)	M6 (3m)				
			Nominal stress: 160 N/mm²	Nominal stress: 140 N/mm²	Nominal stress: 125 N/mm²	Nominal stress: 112 N/mm²				
			Safety factor 5	Safety factor 5,7	Safety factor 6,4	Safety factor 7,1				
3,7 x 12	RTD	7907103	380	340	320	270	12,6	20,1	200 m	0,34
3,75 x 10,75	RTS	7909389	380	340	320	270	12,6	20,1	200 m	0,34
5 x 14,3	RTD	7907401	630	600	540	480	21,3	34,0	200 m	0,61
5,25 x 15	RTS	7908823	800	670	630	530	24,7	39,5	200 m	0,59
7 x 21	RTD	7903473	1400	1220	1090	970	43	68,8	100 m	1,20
7,45 x 23	RTS	7909391	1540	1350	1200	1080	50	80	150 m	1,35
9,6 x 30	RTD	7907402	2560	2240	2000	1790	78,5	126	100 m	2,15

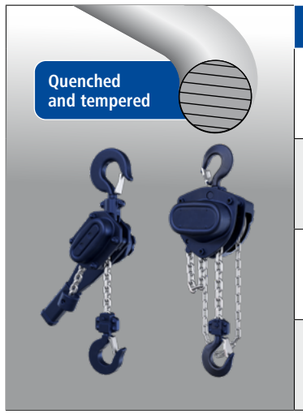




approx. 8% higher load capacity than comparable round steel chain!

RUD HOISTING CHAINS - T TYPE

FOR LOW/MODERATE WEAR APPLIC ATIONS PER EN 818- 7-T, SPECIAL DESIGNED FOR MANUAL HOISTS



Quality and designation			RT
Stress at manufacturing proof force	σ_{FPmin}	N/mm²	500
Stress at breaking force	σ_{Bmin}	N/mm²	800
Total ultimate elongation	A_{min}	%	10
Surface hardness in the joint		HV10	360

Dimensions [mm]	Material No.	Load capacity F_{tr} [kg] according to mechanism group					Manu-facturing proof force FFPmin [kN]	Breaking force FBmin [kN]	Weight kg / m
		Hand (1Dm)	M3 (1Bm)	M4 (1Am)	M5 (2m)	M6 (3m)			
		Nominal stress: 200 N/mm²	Nominal stress: 160 N/mm²	Nominal stress: 140 N/mm²	Nominal stress: 125 N/mm²	Nominal stress: 112 N/mm²			
		Safety factor 4	Safety factor 5	Safety factor 5,7	Safety factor 6,4	Safety factor 7,1			
3[1] x 9	7989206	280	230	140	180	160	7	11,3	0,19
4 x 12	53804	510	410	350	320	280	12,6	20,1	0,35
4,2 x 12,2	7983725	560	440	390	350	310	13,8	22,0	0,38
5 x 15	53008	800	640	560	500	440	19,6	31,4	0,54
5,6 x 15,8	7990657	1000	800	700	630	560	24,6	39,4	0,70
5,6 x 17	57165	1000	800	700	630	560	24,6	39,4	0,68
6 x 18	56680	1150	920	800	720	640	28,3	45,2	0,78
6 x 18,5	60144	1150	920	800	720	640	28,3	45,2	0,8
6,3 x 19	7985347	1270	1010	880	790	710	31,2	49,9	0,86
6,3 x 19,1	53012	1270	1010	880	790	710	31,2	49,9	0,86
7 x 22	7901147	1560	1250	1090	980	870	38,5	61,6	1,1
7,1 x 20,1	7990660	1560	1250	1090	980	870	39,6	63,3	1,09
7,1 x 21	53016	1560	1250	1090	980	870	39,6	63,3	1,1
7,1 x 21,2	62168	1560	1250	1090	980	870	40	67	1,1
8 x 24	62162	2050	1640	1430	1280	1140	50,3	80,4	1,4
9 x 24,8	7990664	2,590	2070	1810	1620	1470	63,6	102,0	1,82
9 x 27	55376	2590	2070	1810	1620	1470	63,6	102	1,8
10 x 28	7101451	3200	2560	2240	2000	1790	78,5	126	2,2
10 x 28,1	7990789	3200	2560	2240	2000	1790	78,5	126,0	2,23
10 x 30	57862	3200	2560	2240	2000	1790	78,5	126	2,2
11 x 31	60931	3870	3100	2710	2420	2170	95	152	2,7
11,2 x 34	53028	4010	3200	2810	2500	2250	98,5	157,6	2,7
13 x 36	53030	5400	4320	3780	3380	3030	132,7	212,3	3,8
16 x 45	53017	8150	6550	5730	5110	4590	201	322	5,7
22 x 66	7989369	15500	12500	10840	9680	8680	400	630	10,7
23,5[1] x 66	7992988	17680	14140	12380	11050	9900	434	694	12,2
32[1] x 90	7993904	32790	26200	22950	20480	18360	780	1286	21,3

[1] Dimensions outside of above mentioned standards. Other dimensions on request.

The nominal stresses and the limit stresses may not exceed the stresses specified in the respective mechanism groups. Operating temperature - 40° C to + 200° C

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RUD ROUND LINK CHAIN – TYPE VH

FOR USE IN MANUAL HOISTS ISO 16872

Quality and designation			VH
Stress at manufacturing proof force	σ_{FPmin}	N/mm²	625
Stress at breaking force	σ_{Bmin}	N/mm²	1000
Total ultimate elongation	A_{min}	%	17
Surface hardness in the joint		HV10	min. 430

Dimensions [mm]	Material No. „nature black"	Load capacity F_{tr} [kg] according to mechanism group Load traction force: 250 N/mm² Safety factor 4	Manufacturing proof force F_{FPmin} [kN]	Breaking force F_{Bmin} [kN]	Weight kg /m
4 x 12	7905884	630	15,7	25,1	0,35
5 x 15	7901430	1250	30,8	49,3	0,68
6,3 x 19,1	7900646	1600	39	62,3	0,86
7,1 x 21	7901086	2000	49,5	79,2	1,1
8 x 24	7900679	2500	62,8	101	1,4
9 x 27	7900680	3150	79,5	127	1,8
10 x 30	7900925	4000	98,2	157	2,2
10 x 30,2	7901061	4000	98,2	157	2,2

Chains in accordance with ISO 16872 may only be installed/used in manually operated hoists.
Operating temperature - 40° C to + 150° C

RUD HAND CHAINS – FOR MANUAL HOIST

Galvanised hand chain, not certificated		
Dimensions	**Designation**	**P/n [100 m length]**
5 x 18,5	galvanised hand chain	8502628
5 x 23,5	galvanised hand chain	8502627
5 x 23,8	galvanised hand chain	8502970
5 x 24	galvanised hand chain	8502626
5 x 25	galvanised hand chain	8502563
5 x 25,2	galvanised hand chain	8502629
5 x 26	galvanised hand chain	8502632
5 x 18,5	open chain link	7101773
5 x 24	open chain link	7101770
5 x 25	open chain link	59381

1.4404 stainless steel hand chain, not certificated		
Dimensions	**Designation**	**P/n**
5 x 18,5	stainless steel hand chain	63656
5 x 24	stainless steel hand chain	7103866
5 x 25	Stainless steel hand chain	53943
5 x 25,2	stainless steel hand chain	62473
5 x 18,5	open chain link	8500193
5 x 25	open chain link	8500194

RUD ROUND LINK CHAIN RUST AND ACID RESISTANT QUALITY

SIMILAR TO DIN 5684 PARTS 1 AND 2, FOR MOTOR-DRIVEN AND MANUAL HOISTS

STEEL Stain-less

Quality classes RPA and RSA				
Mechanism group ISO 4301-1 (FEM 9.511)	Nominal stress: [N/mm²]		Limit stress [N/mm²]	
	RPA	RSA	RPA	RSA
M1 (1Dm)	125	160	187,5	240
M2 (1Cm)	100	125	138	175
M3 (1Bm)	100	125	125	160
M4 (1Am)	90	112	112	140
M5 (2m)	80	100	100	125
M6 (3m)	70	90	90	112
M7 (4m)	60	80	80	100
M8 (5m)	55	70	70	90

Quality and designation			Quality class P RPA	Quality class S RSA
Material			AISI 316	
Stress at manufacturing proof force	σ_{FPmin}	N/mm²	315	400
Stress at breaking force	σ_{Bmin}	N/mm²	500	630
Total ultimate elongation	A_{min}	%	15	
Surface hardness in the joint	d ≤ 6,5 Ø d ≤ 7 Ø	HV 5 HV10	ca. 250	

Dimensions [mm]	Material No.	Quality class	Load capacity F_{tr} [kg] according to mechanism group					Manufacturing proof force F_{FPmin} [kN]	Breaking force F_{Bmin} [kN]	Weight kg / m
			Hand (1Dm)	M3 (1Bm)	M4 (1Am)	M5 (2m)	M6 (3m)			
			Nominal stress: ≤ Ø 7 = 160 N/mm² ≥ Ø 8 = 125 N/mm²	Nominal stress: ≤ Ø 7 = 125 N/mm² ≥ Ø 8 = 100 N/mm²	Nominal stress: ≤ Ø 7 = 110 N/mm² ≥ Ø 8 = 90 N/mm²	Nominal stress: ≤ Ø 7 = 100 N/mm² ≥ Ø 8 = 80N/mm²	Nominal stress: ≤ Ø 7 = 90 N/mm² ≥ Ø 8 = 70 N/mm²			
			Safety factor 4	Safety factor 5	Safety factor 5,7	Safety factor 6,4	Safety factor 7,1			
4 x 12	54079	S	400	320	280	250	230	10	16	0,35
5 x 15	54100	S	630	500	440	400	360	16	25	0,54
6 x 18	54333	S	900	720	630	570	510	22,4	36	0,78
6,3 x 19,1	53998	S	1010	790	700	635	570	25	40	0,86
7 x 21	54130	S	1250	1000	860	780	700	32	50	1,1
8 x 24	58778	P	1250	1000	920	820	710	32	50	1,4
9 x 27	58779	P	1600	1250	1160	1000	900	40	63	1,8
10 x 28	58780	P	2000	1600	1440	1250	1120	50	80	2,2
10 x 30	52303	P	2000	1600	1440	1250	1120	50	80	2,2
11,3 x 31	7984841	P	2500	2000	1800	1600	1400	63	100	2,85
13 x 36	58784	P	3350	2650	2430	2100	1890	85	132	3,8
16 x 45	7988746	P	5000	4000	3680	3270	2860	125	200	5,7

Other dimensions on request.

The nominal stresses and the limit stresses may not exceed the stresses specified in the respective mechanism groups.

Attention: Because of the austenitic materials with low hardness, reduction of the nominal stress and good lubrication of the chain will produce a satisfactory service life.
For continuous operation, a nominal stress of σ_{tr} = 80 N/mm² should not be exceeded for motor-driven hoists.

RUD
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NORTH AMERICA

CORROSION PROTECTION COATINGS FOR RUD HOIS T CHAINS

Surfaces	Short description of surface coating	New condition
Natural dark blue oil polished	Thick oxide layer with corrosion protection oil	
Phosphated oil polished (POP)	Zinc phosphate with corrosion protection oil (5 µm)	
Electrolytic galvanised	Electrolytic metal deposition	
Corrud-DT coating	Inorganic zinc-plated coating with a combination of zinc and aluminium plates	
Topcoat SI	An organic high networked micro layer with prevailing ingredients of aluminum and epoxy resin	

STANDARD PACKING RUD HOIST CHAINS

- Disponsable packaging RUD 1: 80 x 60 x 55 cm
- Disponsable packaging RUD 2: 80 x 60 x 75 cm
- Disponsable packaging RUD 3: 80 x 60 x 95 cm

Including VCI film for each packaging size.

RUD PORTAL FOR RUD HOIST CHAINS

THE RUD PORTAL IS OUR SECURE PLATFORM FOR OUR CUSTOMERS WITH ACCESS TO INFORMATION AND APPLICATIONS.

In our RUD portal, you will find everything you need for a safe and efficient use of hoist chains: from easy-to-understand operating instructions for the proper use of hoist chains to lubricant recommendations that optimize the lifespan of your chains. Discover our products in detailed product presentations and use our discard criteria to determine the wear level of your hoist chains. Our catalogs provide you with a comprehensive overview of our range of hoist chains and ensure that you are always up-to-date.

Easy registration:

www2.rud.com
or by email to:
hoistchains@rud.com

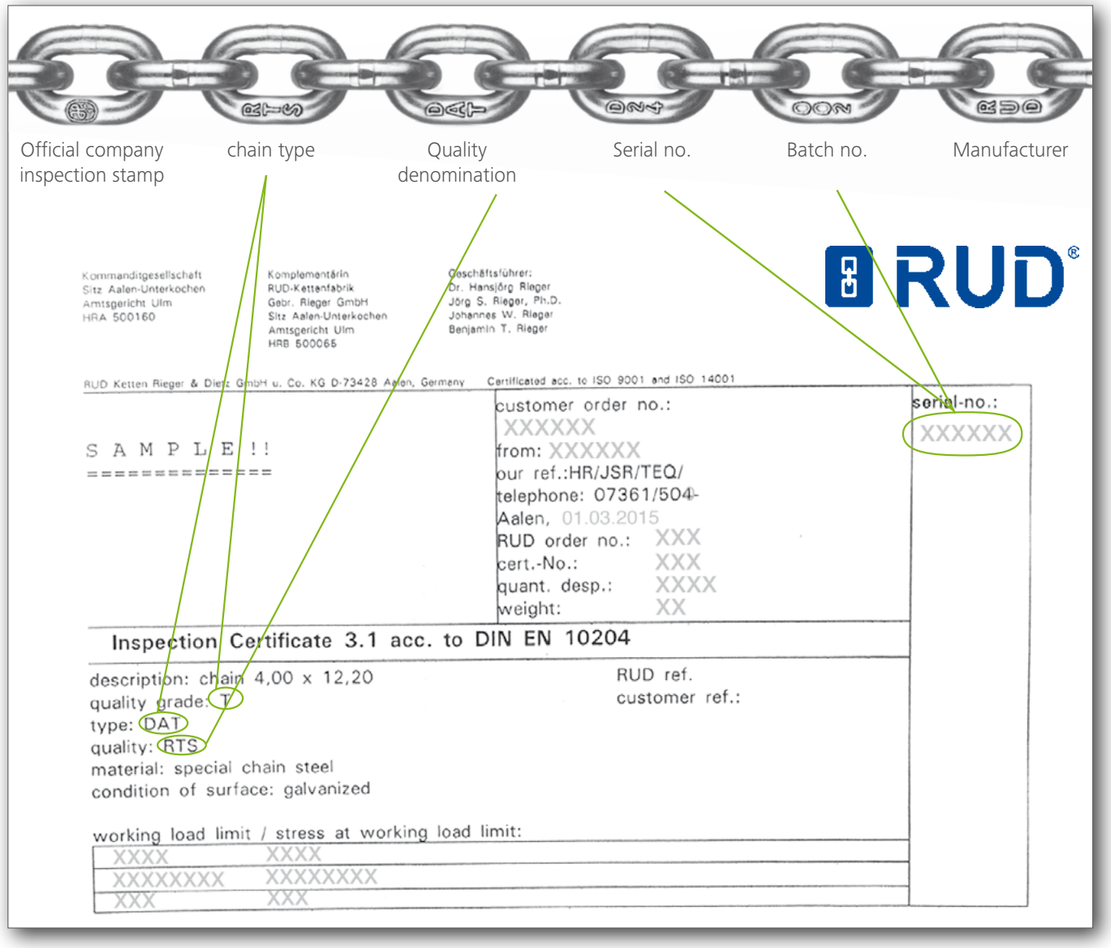
More information about RUD hoist chains at:

www.hoistchains.rud.com

TEST CERTIFICATE – RUD HEBEZEUGKETTEN

UNIQUELY TRACEABLE FROM THE CUSTOMER TO THE STEEL MILL

Thanks to the RUD test certificate and the clearly identifiable stamping, RUD hoist chains guarantee 100% traceability. In addition to the chain RUD hoist chains guarantee 100% traceability. In addition to the chain type and quality, the production number (e.g., D24) and batch numbertype and quality, the production number (e.g., D24) and batch number (e.g., 002) are stamped on each chain. These numbers form the clearly identifiable manufacturing number printed on the test certificate. With identifiable manufacturing number printed on the test certificate. With these numbers we guarantee the clear allocation of the inspections these numbers we guarantee the clear allocation of the inspections and tests at RUD. Thus, we create a further security feature.



- **Grade designation + design**
  Grade designation according to standard DIN EN 818-7 or according to other standards for hoist chains.
- **Quality**
  The RUD quality designation.
- **Production and batch number**
  RUD production and batch number for clear traceability of the chain.

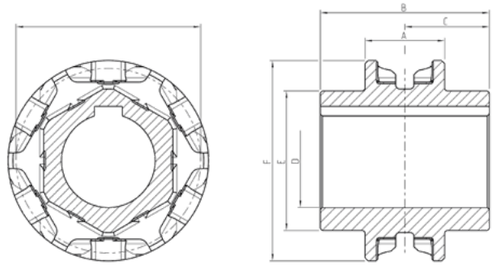
WHEELS AND GUIDES

RUD wheels and guides are the optimum solution for every hoist. Classic pocket wheels and X-drive wheels from RUD have optimally matched pocket numbers and are individually adapted to each customer requirement. RUD chain guides complement the portfolio and ensure a fully comprehensive complete package for every hoist.

Proven RUD design and know-how in the construction and production of chains, wheels and guides make the difference.
We also design and produce wheels and guides for any hoist, regardless of the chain used.

INFORMATION REQUIRED FOR ORDERING RUD POCKET CHAIN WHEELS::

- Chain dimensions and number of pockets
- Hub length E + C
- Drill-Ø D with fit (if no details are given, fit H7 and bore chambers 1.5 x 45° are used)
- Groove for feather key DIN 6885 Bl. 1 P9 or IS9 or keyway with details about key insertion direction
- Possibly threaded hole for set screw with indication of position

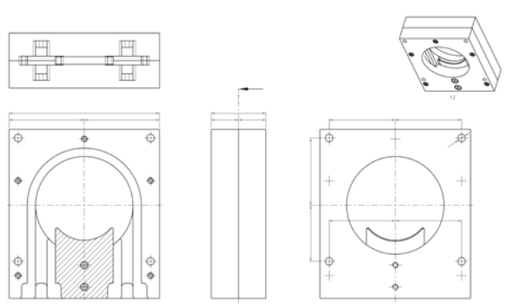


Chain d x t (mm)	Number of pockets	Pitch circle Ø	Crown width A	Max. boring B
5 x 15	5	48	25	20
7 x 21	6	81	35	40
9 x 27	6	104	45	50
13 x 36	6	139	65	70
16 x 45	6	174	80	90
23,5 x 66	5	212	88	95

Further wheel types available on request. The design and selection of shaft/hub coupling must be handled by the plant manufacturer in relation to the forces in play. Recommendation: E ≈1,7 x B

INDIVIDUALLY ADJUSTABLE FOR EVERY WHEEL AND EVERY CUSTOMER REQUEST.

- Chain dimension required for determination
- Pocket wheel required for determination



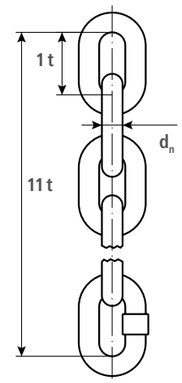
RUD LIMIT GAUGE FOR HOIST CHAINS

Manufacture	Motor driven Hoist	Manual driven Hoist	Article number
CM / Yale		×	7993866
CM / Yale	×		7996272
DEMAG (DK / DC + PK)	×		7101452
GIS	×		51622
HADEF		×	7995835
HADEF (AK + GEDI)	×		7900303
KITO		×	7994684
LIFTKET	×		7992010
J.D. NEUHAUS	×		62540
R.STAHL / STAHL CRANESYSTEMS	×		7994103
TIGER (T + VH)		×	7907394
VERLINDE / KONE / SWF	×		7993092
ABUS	×		7909386
INGERSOLL RAND	×		7913718

...SIMPLE SETUP FOR F AST RESULTS...

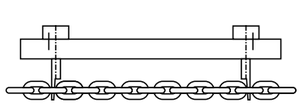
- Our RUD limit gauge consists of a sturdy aluminium strip with guide holes for the measuring pins as well as locking holes for the locking studs attached to the measuring pin.
- The size of the chain to be tested – d_n × t – is engraved below the guide holes.

The two galvanised measuring pins provided with locking studs are located, together with the limit gauge, in a highquality softshell pocket.

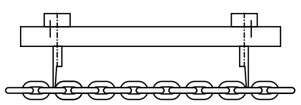


d_n = Nominal diameter
t = Inner pitch attachment
11 t = Length over 11 links

More information about the RUD limit gauge in our brochure or in RUD Portal.



Gauge to be introduced: chain is alright



Gauge cannot be introduced: chain has to be replaced wear > 2 % respectively 3 %

REQUIREMENTS ON RUD HOIST CHAINS

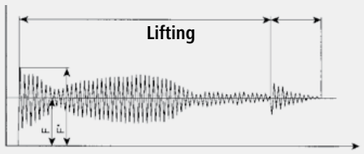
LOADS · HARDNESS · WEAR

Dynamic chain loading

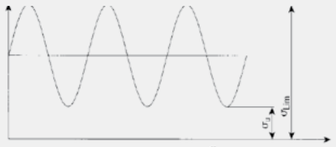
Requirements per DIN EN 818-7

RUD meets the challenge of dynamic chain loading with the most modern fabrication and testing methods.

Example of dynamic chain loading in the hoist during the lifting cycle



Dynamic chain testing in the pulsator

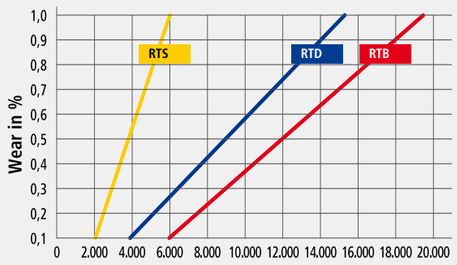


Traction relationship $R = \frac{\sigma_u}{<\sigma_o} = 0{,}2$
Limit vibration $n = 2 \times 10^6$
Permitted limit traction $= \sigma_o = \sigma_{Lim}$

Wear testing

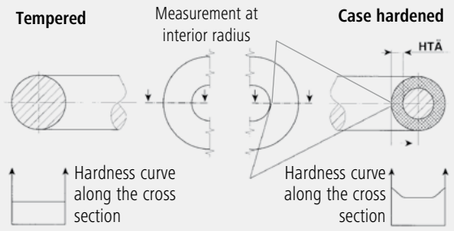
Parameter:
Load tractio $\sigma_{tr} = 100\ N/mm^2$
Pocket number $Z = 5$
Speed $v = 8 m/min.$
Dry, ungreased chain
1 chain

A well lubricated chain and properly designed chain drive make for several times higher load alternation. As a rule of thumb: up to 15 times greater. The RTB quality can yield load cycles of up to 300.000.



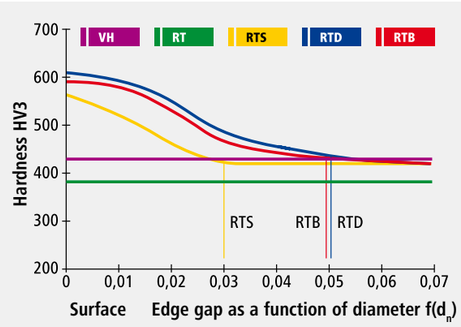
The quality classes relate to material, chain design and production process. Values given in case of test stand testing. Drive wheel, chain guide and scraper all designed and fabricated to to the state of the art.
Tip: For RT chains, the load change number < 1000.
Conditions such as abrasive dust reduce the load change number for all chains.

Surface hardness and hardness curve

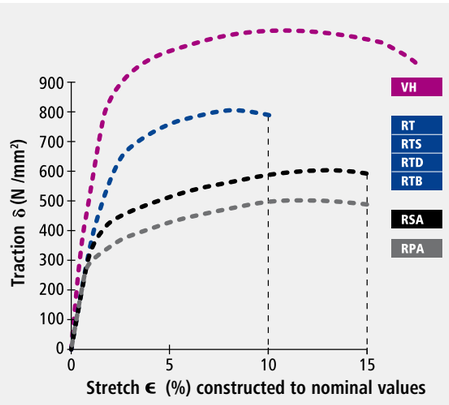


Example hardness curves

RTS quality = conventional heat treatment, low case hardening depth
RTD quality = modified fabrication process
RTB quality = chain with especially high wear resistance. In addition, this quality is optimised for vibration resistance.



Traction - stretch diagram



THE FUCHS LUBRITECH LUBRICANTS LISTED BELOW HAVE PROVED THEIR VALUE FOR LUBRICATING HOIST CHAINS IN PRACTICE.

LUBRICANTS. TECHNOLOGY. PEOPLE. FUCHS

STABYLAN 2001 Partly synthetic lubricant with creep and outstanding lubricating qualities, as well as excellent corrosion proofing. Application range -15°C to + 150°C. Available as spray, open canisters or drums. Tried and tested **standard RUD lubricant for** general applications.

CEPLATTYN 300 Graphite paste with high-pressure and adhesion agents, creates an almost dry dust-repellent solid lubricant film, application from –30°C to +250°C. Available in open containers or as spray. **For use per mining hygiene regulations (GesBergV) above and below ground.**

STABYLAN 5006 Fully synthetic high temperature chain lubricant (chain honey) **for extreme temperatures up to 240°C.** Salt water resistant, mineral oil resistant, penetrates and displaces water, outstanding adhesion. Available as a spray, in canisters and drums.

CASSIDA CHAIN OIL 1500 Fully synthetic high performance chain lubricant with very good adhesion and extreme resistance to being washed off. Temperature range –10°C to +140°C. Available in canisters, drums, or as a spray. Listed per NSF H1 and suited **to use in the vicinity of food.** Especially suited to meat processing applications, approved for KOSHER and HALAL processing.

DECORDYN 350 High adhesion corrosion proofing film with good lubrication qualities, for temperatures –40°C to +70°C. used in **wind power installations, offshore and for general protection in aggressive environments.**

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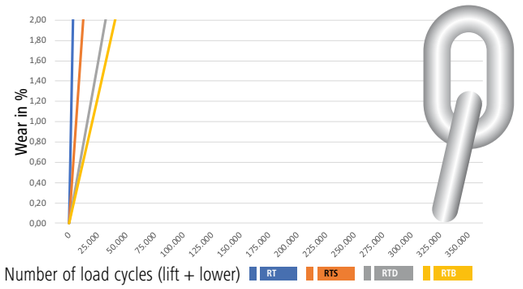
Chain lubrication - An important contribution to reducing wear

WITHOUT CHAIN LUBRICATION

LOAD CYCLES WITH UNLUBRICATED CHAIN:

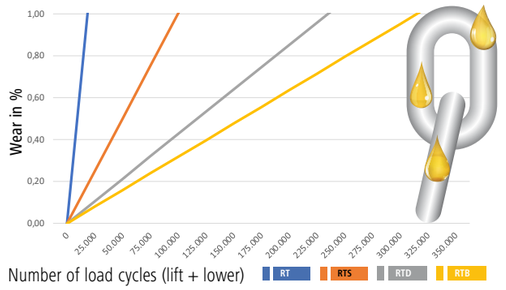


- When running over drive and reversing wheels, the chains links are angled under load.
- In order to minimise the resulting joint friction, hoist chains should be lubricated at regular intervals according to the conditions of use.

The indicated load cycles are achieved with a ungreased chain with load traction force of 100 N/mm², pocket wheel Z = 5 and speed V = 8 m/min.

REGULAR CHAIN LUBRICATION

LOAD CYCLES WITH LUBRICATED CHAIN:



- Through a regular lubrication a 15-20 times higher number of cycles can be obtained than with a dry, unlubricated chain.
- During lubrication, ensure that the lubricant penetrates into the chain links most susceptible to wear.

The indicated load cycles are achieved with a unlubricated chain with load traction force of 100 N/mm2, pocket wheel Z = 5 and speed V = 8 m/min.

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February 2023 / We reserve the right to make technical changes. P.1 annafarsai / stock.adobe.com; P.1 twixter / stock.adobe.com; P.3 refresh(PIX) / stock.adobe.com; P.3 alexrow / stock.adobe.com; P.10 goodluz / stock.adobe.com