

Rotary kilns Kiln chains, hangers and shackles

PRÜNTE Kettenwerk GmbH & Co. KG is a manufacturer of welded rotary kiln chains. The company's origins go back to the year 1887 kiln chains are used in the cement, paper, metallurgical and chemical industry. In addition to heat-resistant and standard chains from alloy steel, PRÜNTE Kettenwerk supplies all kinds of accessories and fastenings for rotary kiln chains. Mainly in forged execution.

PRÜNTE Kettenwerk delivers worldwide, first-class chains for wet and dry process kilns. We guarantee maximum service life for our chains and accessories, depending on the different material qualities and dimensions. Process monitoring guarantees perfect welds of the oven chains in compliance with the defined welding parameters. The oval chains are frequently used also as curtain chain / spillage protection.

Based on more than 50 years of experience in the collaboration with the cement industry all over the world, **PRÜNTE Kettenwerk** is a leading specialist for the production, design and control of kiln chain systems. With the know-how of **PRÜNTE Kettenwerk**, we are able to optimize the efficiency of the oven systems.

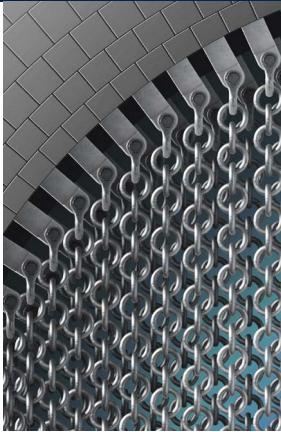
PRÜNTE Kettenwerk has been part of the **HEKO Group** since the year 2004.





Rotary kilns

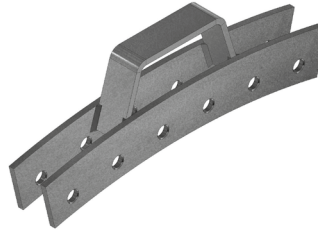
Kiln chains, hangers and shackles



Curtain chain system with single hanger and shackle



Forged shackle with bolt and nut



Hanger – segment type



Forged single hanger

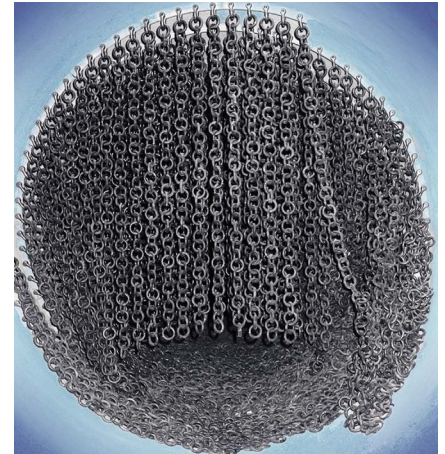


Welded kiln chain – round pattern

Material specifications

	German material number (DIN)	US standard AISI	chemical composition average in %							heat resistance – gas stream				recommended installation in the kiln	for kilns with oil or gas firing	for kilns with coal-, pet coke- or waste firing
			C	Si	Mn	Cr	Ni	Al	min.		max.					
									°C	°F	°C	°F				
Carbon steel	1.0035	C 1008	0.20 max.	0.30 max.	0.30	-	-	-	-	-	500	932	dust curtain plastic zone	•	•	
	1.0402	C 1022	0.22	0.20	0.40	-	-	-	-	-	500	932		•	•	
	1.0501	C 1035	0.35	0.20	0.70	-	-	-	-	-	500	932		•	•	
	1.6523	8620	0.20	0.30	0.70	0.50	0.55	-	-	-	550	1022		•	•	
Ferritic material	1.4724	9F	0.10	1.00	1.00 max.	13.00	-	1.00	500	932	900	1742	preheating zone	•	-	
	1.4742	10 F	0.10	1.00	1.00 max.	18.00	-	1.00	800	1472	1100	2012	hot zone	•	-	
Austenitic Cr-Ni-Mn steel	1.4892	85 MA	0.20	1.00	8.00	17.00	4.00	-	500	932	850	1562	preheating zone	•	•	
	1.4872-93 [1.4892]	105 MA	0.20	0.45	9.00	20.00	4.50	-	750	1382	1050	1922	hot zone	•	•	
	1.4872-91 [1.4892]	115 MA	0.20	0.80	9.00	25.00	6.00	-	850	1562	1200	2192	hot zone	•	•	
Austenitic steel	1.4301	304	0.05	1.00 max.	2.00 max.	18.00	8.00	-	500	932	850	1562	preheating zone	•	•	
	1.4541	321	0.10	1.00	2.00 max.	18.00	10.50	-	500	932	850	1562	preheating zone	•	•	
	1.4828	-	0.15	2.00	2.00 max.	20.00	12.00	-	750	1382	1050	1922	hot zone	•	•	
	1.4841	310	0.15	2.00	2.00 max.	25.00	20.00	-	800	1472	1200	2192	hot zone	•	•	

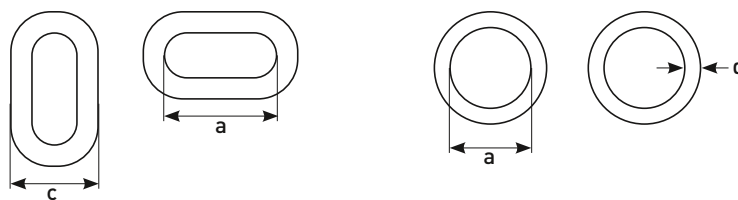
Other alloys on request.



Oval type chain for kilns and as curtain chains

Diameter (d)	mm	20		23	25	26	28	30
	inch	3/4"		7/8"	1"	1"	1 1/8"	1 3/16"
pitch (a)	mm	70	80	80	120	91	98	105
	inch	2 3/4"	3 1/8"	3 1/8"	4 3/4"	3 19/32"	3 7/8"	4 5/32"
outside width (c)	mm	67	69	77	100	89	101	106
	inch	2 3/5"	2 7/10"	3"	4"	3 1/2"	4"	4 1/5"
Weight per chain link	approx. kgs	0.573	0.624	0.864	1.48	1.274	1.617	1.995
	approx. pound	1.26	1.38	1.91	3.26	2.81	3.56	4.40
Weight per meter	approx. kgs	8.2	7.8	10.8	12.33	14.0	16.5	19.0
	approx. pound	18.08	17.20	23.81	27.17	30.87	36.38	41.90
Number of chain links	approx. per meter	14.3	12.5	12.5	8.33	10.99	10.20	9.52
	approx. per foot	4.35	3.81	3.81	2.54	3.35	3.11	2.90
Surface each chain link	approx. per cm ³	147	159	193	295	248	288	331
	approx. per inch ³	22.7	24.7	30	45.7	38.4	44.6	51.2
Surface per	meter approx. cm ³	2098	1991	2415	2458	2723	2935	3147
	1 foot approx. inch ³	0.686	0.653	0.793	0.806	0.894	0.963	1.032

Other sizes on request.



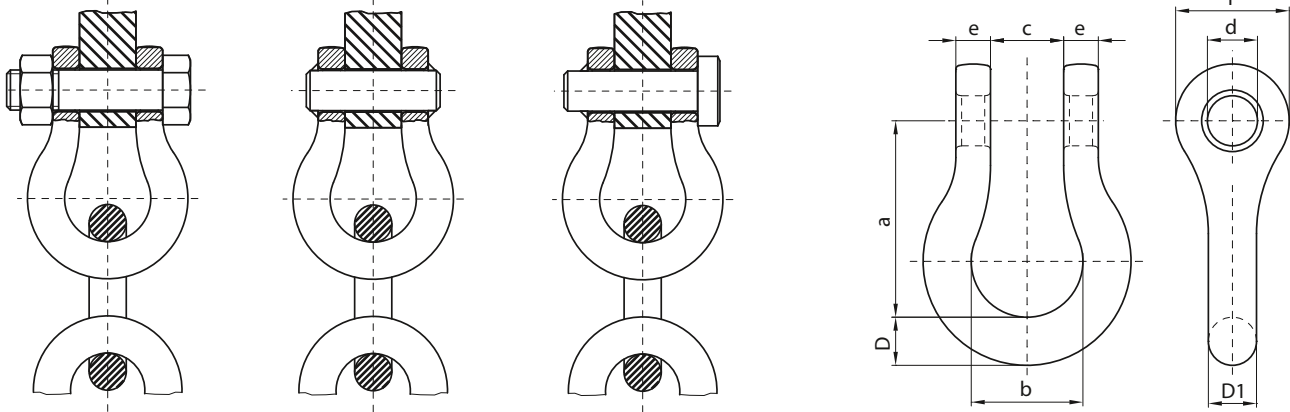
Round link type

Diameter (d)	mm	19		20		22		23	25		28	30			
	inch	3/4"		3/4"		7/8"		7/8"	1"		1 1/8"	1 3/16"			
pitch (a)	mm	70	76	65	80	100	76	80	76	76	80	89	100	100	100
	inch	2 3/4"	3"	2 9/16"	3 1/8"	4"	3"	3 1/8"	3"	3"	3 1/8"	3 1/2"	4"	4"	4"
Weight per ring	approx. kgs	0.62	0.66	0.66	0.77	0.93	0.92	0.96	1.02	1.22	1.27	1.38	1.51	1.94	2.27
	approx. pound	1.36	1.46	1.45	1.71	2.05	2.02	2.11	2.25	2.69	2.80	3.04	3.33	4.27	4.99
Weight per meter	approx. kgs	8.86	8.69	10.13	9.68	9.25	12.11	12.00	13.42	16.06	15.87	15.51	15.10	19.40	22.70
	approx. pound	19.54	19.16	22.33	21.35	20.49	26.58	26.46	29.60	35.40	35.00	34.20	33.30	42.68	49.94
Number of rings	approx. per meter	14.30	13.16	15.38	12.50	10.00	13.16	12.50	13.16	13.16	12.50	11.24	10.00	10.00	10.00
	approx. per foot	4.36	4.01	4.69	3.81	3.05	4.01	3.81	4.01	4.01	3.81	3.43	3.05	3.05	3.05
Surface each ring	approx. cm ³	167	178	168	197	237	213	221	224.70	249	259	281	308	353	385
	approx. each inch ³	26	27.6	26	31	37	33	34.3	34.8	38.6	40.1	43.6	47.8	54.8	59.6
Surface each	meter approx. cm ³	2388	2344	2580	2467	2369	2803	2766	2957	3279	3235	3161	3081	3534	3845
	1 foot approx. inch ³	0.786	0.769	0.847	0.810	0.778	0.917	0.907	0.970	1.075	1.06	1.039	1.012	1.160	1.262

Other sizes on request.

Shackles, bolts and hangers made of forged steel or cast

Shackles for chain fastening



Execution (A)
with bolt and thread

Execution (B)
with plain pin

Execution (C)
with head bolt

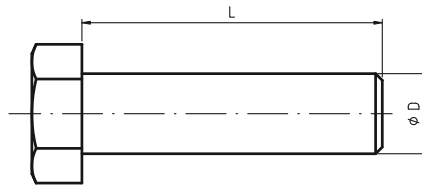
Shackle number	weight (kg)	dimensions (mm)							
		a	b	c	d	D / D1	e	f	
1216	0.75	95	50	34.0	22	19	14	45	
947	1.05	100	55	36.5	26	22	16	52	
947-30	1.05	100	57	30.0	25	24	17	52	
947-37	1.05	100	57	37.0	28	24	17	52	
950	1.50	102	58	38.0	29	25	18	59	

Other sizes on request.

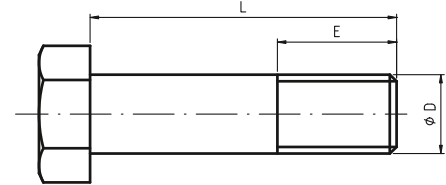
Bolts for the shackle, hangers and segments



Plain bolt



Bolt without thread



Bolt with thread

For shackle no.	dimensions (mm)		weight (kg)
	D Ø	L	
1216	20	85	0.210
947	24	92	0.327
950	27	100	0.450

Other sizes on request.

For shackle no.	dimensions (mm)		weight (kg)
	D Ø	L	
1216	20	80	0.300
947	24	90	0.480
950	27	95	0.640

Other sizes on request.

For shackle no.	dimensions (mm)			weight (kg)
	D Ø	L	E	
1216	20	90	30	0.330
947	24	100	35	0.547
-	24	220	50	0.800
950	27	105	35	0.750

Other sizes on request.

Hanger for kiln shell fastening

Hanger type	dimensions (mm)					weight (kg)
	a Ø	b	c	d	e	
Mod. 1	30.0	60	195	80	25	3.6
Mod. 2	30.0	70	70	100	25	2.0
Mod. 3	29.0	60	220	88/120	25	6.1
Mod. 4	29.0	60	150	88/120	25	4.6

Other dimensions (for example, the segment) on request

Tolerances for all weights and measurements: +/- 6%

