



MINING AND POWER INDUSTRY

# AIP CHAIN FACTORY

*strength in every link*



aip

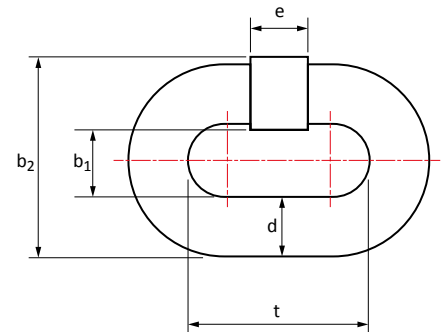


## ROUND LINK MINING CHAINS ACC. TO DIN 22252, PN-G-46701

Mining chains used for scraper conveyors, coal ploughs used in underground mining facilities and other industrial conveyors.

### DIMENSIONS

Nominal size	Diameter	Pitch	Inside width min.	Outside width max.	Weight
d x t	d	t	b <sub>1</sub>	b <sub>2</sub>	
mm					kg/m
14 x 50	14 ±0,4	50 ±0,5	17	48	4
18 x 64	18 ±0,5	64 ±0,6	21	60	6,6
19 x 64,5	19 ±0,6	64,5 ±0,6	22	63	7,4
22 x 86	22 ±0,7	86 ±0,9	26	73	9,5
24 x 86	24 ±0,7	86 ±0,9	28	79	11,6
24 x 87,5	24 ±0,7	87,5 ±0,9	28	79	11,5
26 x 92	26 ±0,8	92 ±0,9	30	85	13,7
30 x 108	30 ±0,9	108 ±1,1	34	97	18
34 x 126	34 ±1,0	126 ±1,3	38	110	22,7

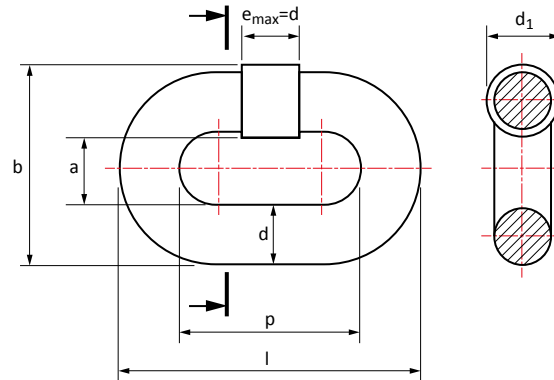


### MECHANICAL PROPERTIES

Nominal size	Grade	Breaking Load min.	Elongation at		Deflection of link min.	Fatigue resistance min.
			Test force max.	Breaking Force min.		
d x t		kN	%	%	mm	number of cycles
mm						
14 x 50	B	190	1,4	14	14	50000
	C	246	1,6	14		70000
18 x 64	B	321	1,4	14	18	50000
	C	410	1,6	14		70000
	WF DIN +	460	1,6	14		70000
19 x 64,5	C	454	1,6	14	19	70000
	WF DIN +	510	1,6	14		70000
22 x 86	C	610	1,6	14	22	70000
	WF DIN +	680	1,6	14		70000
24 x 86	C	720	1,6	14	24	70000
	WF DIN +	810	1,6	16		90000
26 x 92	C	850	1,6	14	26	70000
	WF DIN +	960	1,6	16		90000
30 x 108	C	1130	1,6	14	30	70000
	WF DIN +	1270	1,6	16		90000
34 x 126	C	1450	1,6	14	34	70000
	WF DIN +	1640	1,6	16		90000

# HOIST CHAINS ACC. TO DIN 5684, PN-G-46732

Calibrated and tested chains used for hoisting winches, manually and mechanical operated lifting and transportation equipment.



## DIMENSIONS

Nominal size	Diameter	Pitch	Inside width min.	Outside width max.	Weld diameter max.	Outside length max.	Weight
d x p	d	p	a	b	d <sub>1</sub>	l	kg/m
mm							kg/m
9 x 27	9 <sup>+0,4</sup>	27	+0,35	10,8	30,4	9,7	45,4
			-0,2				
11 x 31	11 <sup>+0,4</sup>	31	+0,4	13,2	37,4	11,8	53,4
			-0,2				
13 x 36	13 <sup>+0,5</sup>	36	+0,45	15,6	44,2	14	62,5
			-0,25				
16 x 45	16 <sup>+0,6</sup>	45	+0,6	19,2	54,4	17	77,6
			-0,3				

## MECHANICAL PROPERTIES

Mechanical parameters of chain	Grade			
	5	6	8	
Stress at minimum breaking load, N/mm <sup>2</sup> [MPa]	500	630	800	
Stress at maximum calibrating load, N/mm <sup>2</sup> [MPa]	315	400	500	
Stress at proof load, N/mm <sup>2</sup> [MPa]	250	315	400	
Ratio between proof load and minimum breaking load, approx. %	50			
Total elongation at breaking load, % minimum	10			
Chain Surface hardness HV (HB), minimum	up to 11 x 31	330 HV [314 HB]	330 HV [314 HB]	360 HV [342 HB]

## TEST AND MANUFACTURING LOADING

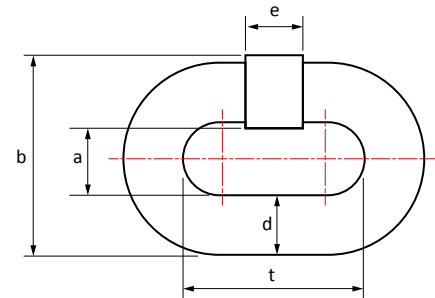
Chain Grade	Chain size	Loading	9 x 27	11 x 31	13 x 36	16 x 45
			kN			
5	Preload		3	5	7	10
		Proof load	32	50	67	100
	Calibrating load	minimum	40	63	85	125
		maximum	57	85	119	180
	Breaking load, minimum		63	100	132	200
6	Preload		3	5	7	10
		Proof load	40	60	85	125
	Calibrating load	minimum	50	75	106	160
		maximum	68	102	141	212
	Breaking load, minimum		80	125	170	250
8	Preload		3	5	7	10
		Proof load	50	75	106	160
	Calibrating load	minimum	63	95	132	200
		maximum	85	127	180	272
	Breaking load, minimum		100	150	212	320

# CHAINS FOR SUSPENSION AND TRANSPORTATION ACC. TO DIN 20637

Calibrated and tested chains used as a suspension elements for rails of transport facilities and other equipment. Chains with 20% elongation at break as minimum.

## DIMENSIONS

Nominal size	Diameter	Pitch	Inside width min.	Outside width max.	e	Weight
d x t	d	t	a	b	e	
mm						
16 x 80	16 ±0,6	80 ±1,5	22,4	58,8	13	4,7
18 x 90	18 ±0,9	90 ±1,5	25	65,8	16	6

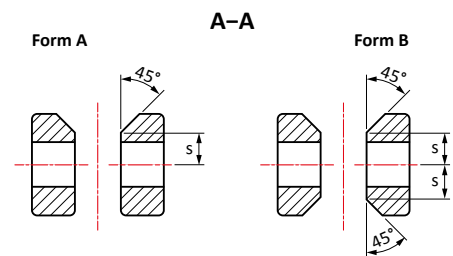
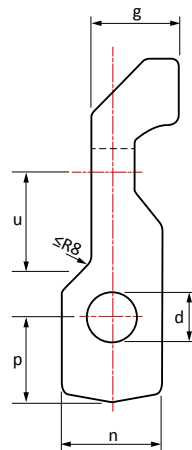
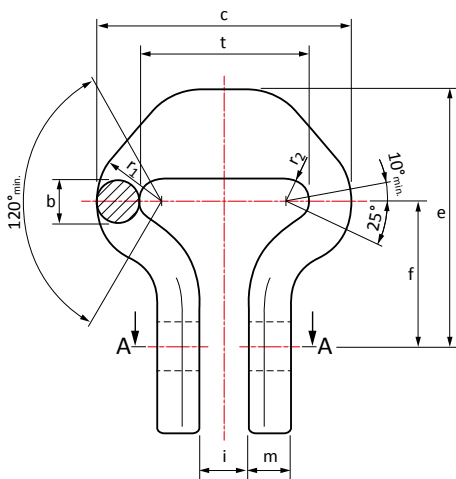


## MECHANICAL PROPERTIES

Nominal size	Manufacturing Proof Load		Preload	Proof Load	Breaking Load	Elongation at		Deflection of link min.
	min.	max.				Proof Load max.	Breaking Load min.	
d x t					%		f	
mm								
16 x 80	60	100	6	60	180	1,6	20	21
18 x 90	100	140	10	100	250	1,6	20	23

# SIDE LOCKS FOR MINING CHAINS ACC. TO DIN 22253, PN-G-46696

Locks used for scraper conveyors in underground mining facilities and other industrial conveyors.



## DIMENSIONS

Lock size	b	t	c	d	e	i	m	n	p	f	g	Weight
	mm											
14 x 50	15	50	78	17	78	19	15	32	17	51	29	0,7
18 x 64	19	64	100	21	100	22	19	43	37	55	40	1,2
24 x 86	25	86	136	25	133	28	25	53	44	78	55	2,75

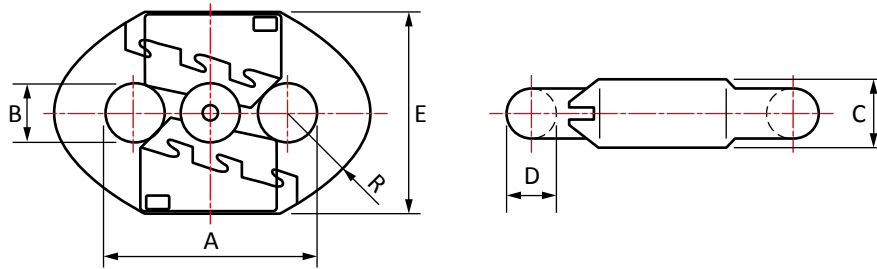
## MECHANICAL PROPERTIES

Lock size	Test face	Breaking Load min.	Fastening elements		Nut tightening torque	Weight
			Bolt	Nut		
d x t					Nn	kg/set
mm						
14 x 50	185	225	M16x70-8.8-B	M16-8-B	180	0,62
18 x 64	305	370	M20x80-10.9-B	M20-10-B	400	1,6
24 x 86	507	650	M24x110-10.9-B	M24-10-B	800	3,2

# CHAIN CONNECTING LINKS ACC. TO DIN 22258

Connecting links used to connect mining chain segments in scraper conveyors, coal ploughs used in underground mining facilities.

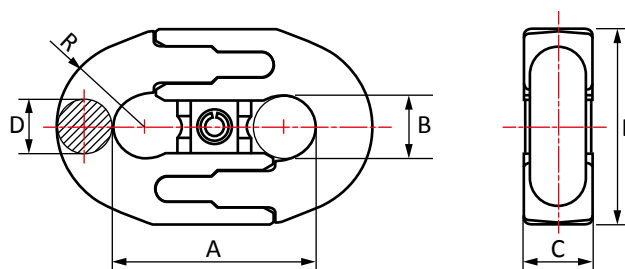
## CC SERIES CHAIN CONNECTOR ACC. TO DIN 22258



### CC SERIES CHAIN CONNECTOR ACC. TO DIN 22258

Nominal chain size	D	A	B	E	C	R	Test force TF	Breaking force	Operating force	Weight
							TF	BF	WF	
max. mm							kN			kg/pc.
22 x 86	22 ±0,7	86 ±0,9	24	85	27	35	455	645	380	1,35
26 x 92	26 ±0,8	92 ±0,9	28	97	33	41	637	900	531	1,92
30 x 108	30 ±0,9	108 ±1,1	32	109	36	47	848	1200	707	2,98
34 x 126	34 ±1,0	126 ±1,3	36	121	41	52	1090	1540	907	4,15

## UNIVERSAL CONNECTING LINKS ACC TO DIN 22258

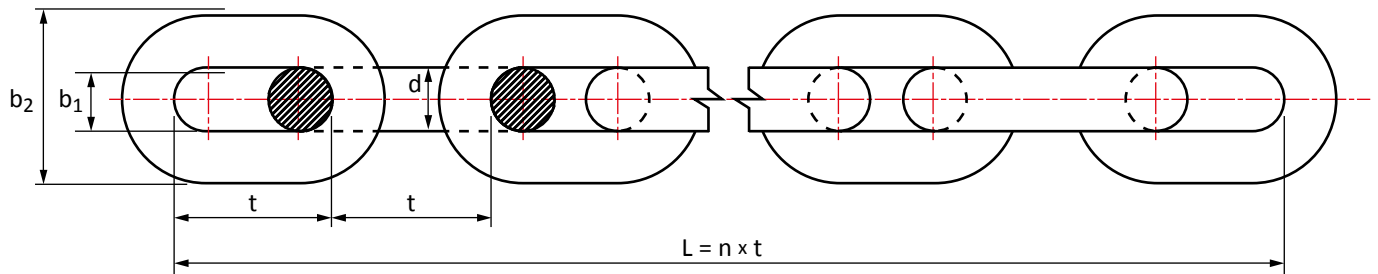


### UNIVERSAL CONNECTING LINKS ACC TO DIN 22258

Nominal chain size	D	A	B	E	C	R	Test force TF	Breaking force	Operating force	Weight
							TF	BF	WF	
max. mm							kN			kg/pc.
22 x 86	22 ±0,7	86 ±0,9	24	85	27	35	455	645	380	1,35
24 x 86	22 ±0,7	86 ±0,9	24	85	27	35	540	650	380	1,35
26 x 92	26 ±0,8	92 ±0,9	28	97	33	41	637	900	531	1,92
30 x 108	30 ±0,9	108 ±1,1	32	109	36	47	850	1020	707	2,98
34 x 126	34 ±1,0	126 ±1,3	36	121	41	52	1090	1540	907	4,15

# CHAIN FOR CONVEYORS ACC. TO DIN 764-2

Industrial medium link chains, calibrated, tested used for chain conveyors and chain elevators.



## DIMENSIONS

Diameter d	Pitch t	Inside width min. b <sub>1</sub>	Outside width max. b <sub>2</sub>	Length L = 11 x t <sup>1)</sup>			Weight kg/m					
				dimension	execution A <sup>2)</sup>	execution B <sup>3)</sup>						
mm												
10	±0,4	35	+0,6	-0,3	14	36	385	+2	+1	+3	+1	2,1
13	±0,5	45	+0,8	-0,3	18	47	495	+3	+1	+4	+1	3,5
16	±0,6	56	+1	-0,3	22	58	616	+3	+1	+5	+2	5,3
18	±0,9	63	+1,1	-0,4	24	65	693	+4	+1	+6	+2	6,7
20	±1,0	70	+1,3	-0,4	27	72	770	+4	+1	+6	+2	8,3

<sup>1)</sup> to ensure proper operation between chain and wheel, it is recommended to provide chain manufacturer with this wheel.

<sup>2)</sup> execution A – suitable to work on inside drive toothed wheels and pocket toothed wheels.

<sup>3)</sup> execution B – suitable to work on no toothed chain wheels.

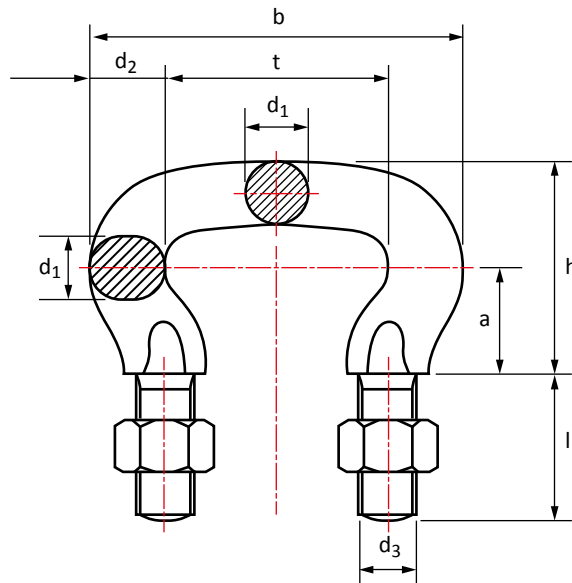
## MECHANICAL PROPERTIES

Nominal size d x t mm	Working Load Limit max.	Manufacturing Proof Load min. kN	Breaking Load min.
10 x 35	20	56	80
13 x 45	32	90	125
16 x 56	50	140	200
18 x 63	63	180	250
20 x 70	80	220	320



# BUCKET LINKS FOR CONVEYORS ACC. TO DIN 745

Industrial medium link chains, calibrated, tested used for chain conveyors and chain elevators.



## SPECIFICATION

Symbol	t	a	b	d <sub>1</sub>	d <sub>2</sub>	d <sub>3</sub>	h	l	Weight	RC 4		RC 5	
										Proof load	Breaking load	Proof load	Breaking load
										mm			
T 45	45	20	73	11,5	14	M 10	40	25	0,17	26	59	28	63
T 56	56	25	92	15	18	M 12	50	32	0,36	45	99	46	107
T 63	63	30	105	18	21	M 16	60	40	0,6	64	143	67	153
T 70	70	34	116	20	23	M 20	68	45	0,9	79	176	82	189
T 80	80	37	132	23	26	M 20	74	45	1,13	104	233	109	250
T 91	91	43	149	26	29	M 24	86	55	1,83	133	298	139	319
T 105	105	50	173	30	34	M 24	100	55	2,4	177	396	184	425



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AIP produces high quality industrial round link chains. Our company continues tradition of chain production in Gliwice, which started back in 1894.

Chains are manufactured according to international standards such as DIN and ISO. The quality of our products is confirmed by ISO 9001:2015 and by "Polish Central Mining Institute" (GIG) certificates.

Our chains are widely used in:

- agriculture machines and farming equipment,
- mining and power industry,
- fishery,
- forestry and wood industry,
- lifting and transportation.

On demand, chains can be produced according to customer's specification. We deliver chains which are hot dip or electro galvanized and also stainless steel and acid resistant chains. With our annual production of about 3000 tons, more than 30% are exported to 18 countries.