



Mining Chain

High Quality Solutions



MORE THAN CHAIN

Mining Chain

In terms of quality and technology, JDT mining chains are one of the best in the world and in this field of technology, they represent the future generation.

In the field of mining, JDT produces high quality mining chain from 22-60 mm. For example, thanks to its patented design and material, as well as the company's special

production equipment, the F-Class® Chain has outstanding qualities in terms of wear and tear, running, toughness, strength and resistance to corrosion.

This catalogue will provide you with information concerning the entire product range of JDT mining chains alongside the complete range of accessories.

Business Units



Industry

Lifting Equipment NORM 8 Grade 8



Industry

Lifting Equipment ENORM 10 Grade 10



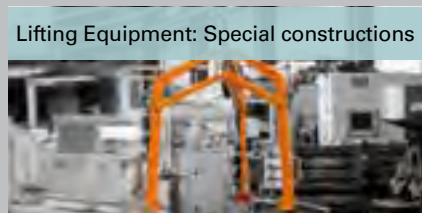
Industry

Lifting Equipment MAXNORM 12 Grade 12



Industry

Lifting Points



Lifting Equipment: Special constructions

Individual solutions for your applications



Offshore

Welded chain slings and master links acc. DNVGL-ST-E271



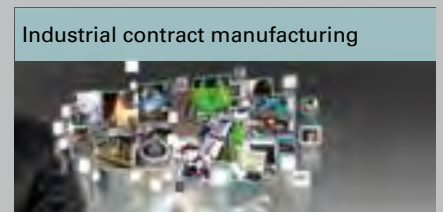
Mining

High quality solutions



Robotics

Automation – simple and cost-effective



Industrial contract manufacturing

Benefit from our diversity

JDT More than chain

As a company that is proud to offer products that are made in Germany, we at JDT have been passionately offering top quality products, innovation, performance, availability and customer-oriented service in all areas since 1819.

For two hundred years, JDT has been improving production processes and products with new ideas and groundbreaking inventions – always to the customer's benefit. Today, with

around 230 qualified employees, JDT is a leading global manufacturer of complete chain systems and accessories for mining and industry, as well as a system integrator of robots in the field of industrial automation. 200 years of expertise related to materials and production is the foundation for the quality behind JDT's products. Even in the future, we will employ all of our expertise, experience and skill in the service of our customers.

Products

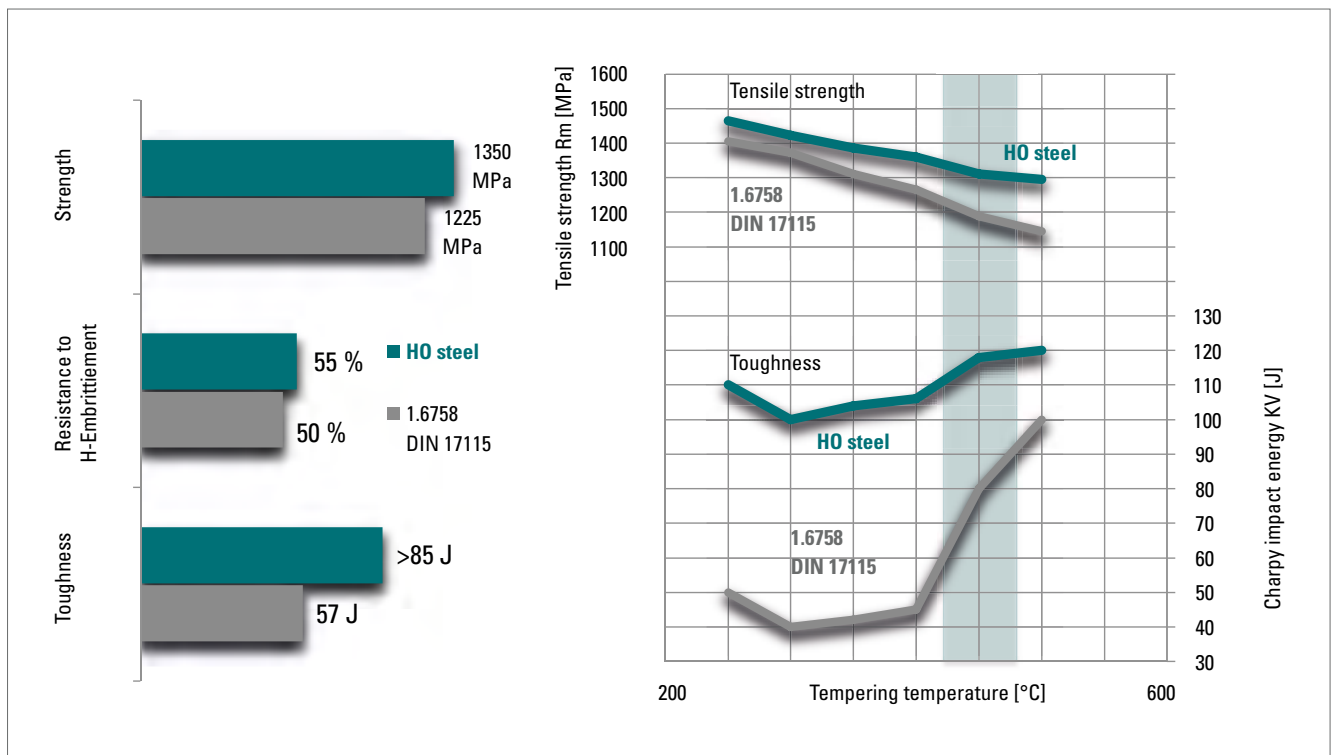
**F-Class® Chain****Combi Chain****Flat Link Chain****Flat Profile Chain****Broadband Chain****Round Link Chain****Flat Connector
Block Connector****Chain Strand**

HO steel for your chain

HO (Highly Optimised) material was developed by JDT particularly for the mining chain application. Due to precise alloying with tungsten, JDT has achieved significantly higher toughness even by high strength in comparison to standard material 1.6758 according to DIN 17115.

Resistance to stress corrosion cracking was also increased (see figure). Chains made of HO material reach a significant increase of performance, toughness and operational safety. The HO material is also used for the lifting chain programme ENORM and is a basis for the real Grade 10 according to DIN EN 818.

	standard 1.6758 DIN 17115	HO
Toughness	> 60 J	> 85 J
» Resistance to dynamic stress	100 %	140 %
» Resistance to corrosion and to stress corrosion cracking	100 %	110 %
Strength	1225 MPa	1350 MPa
» Strength	100 %	110 %
» Fatigue strength	100 %	115 %



Advantages of HO material vs. material 1.6758 according to DIN 17115.



F-Class® Chain The Progressive Generation of Conveyor Chains



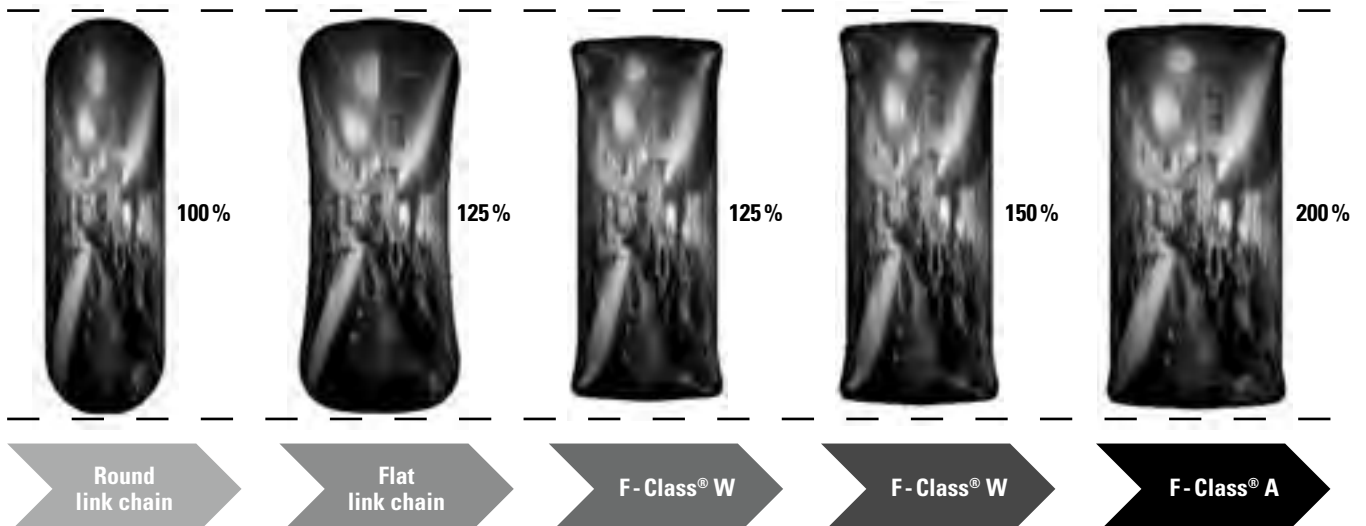
Short Studs



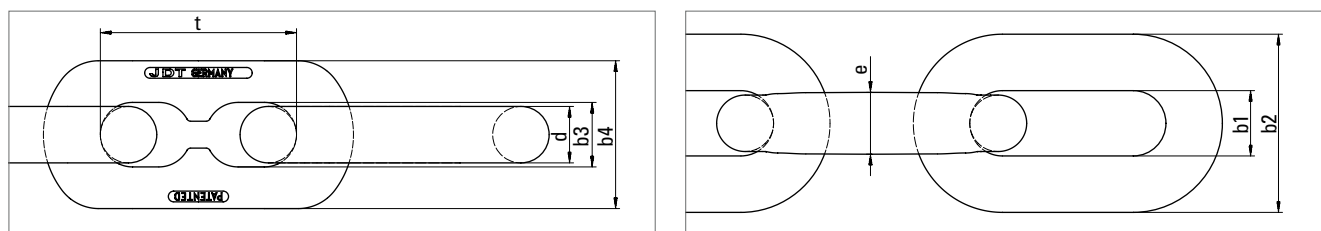
F-Class® Chain can be used in all AFC, BSL and roadway conveyors. There are the following advantages:

- » F-Class® Chains are characterized by their special shape of the vertical links. The new patented design with short studs prevents damage and failure due to kinking of links as a result of slack chain at the conveyor drive and reduces the risk of immersion of the vertical link into the flight bar.
- » By optimising the cross-sections, F-Class® Chains prevent operational stress peaks in the vertical links.
- » For a given nominal thickness the overall height of the chain can be reduced considerably. Our F-Class® Type "W" is a genuine alternative to Flat- and Combi-chains. Without any change, all other conveyor elements may be further used. Friction between the chain and pan line is drastically reduced. A sawing behavior of the chain, which can result in grooves in the pans, is avoided as well as friction martensite at the chain legs. Experience shows that power demand and current-consumption are lower.
- » For a given height, a greater nominal thickness of the chain is possible. Thus, the following objectives can be achieved: increased capacity, extension of the conveyor, increase of operational safety and increase of service life. Existing pan lines can be used further. The favourable charging behaviour of low profile conveyors is retained. For this, we offer you the type of series "C" and "A"

Breaking Force



F-Class® Chain The Progressive Generation of Conveyor Chains



Dimensions and Weights

nominal size d/b4 × t mm	diameter d mm	thickness e max. mm	pitch t mm	round link		flat link		weight kg/m
				b ₁ min.	b ₂ max.	b ₃ min.	b ₄ max.	
				mm	mm	mm	mm	
22/60 × 86 C	22 ± 0,7	24	86 ± 0,9	26	73	26	60	9,4
26/60 × 92 A	26 ± 0,8	30	92 ± 0,9	30	87	28	60	12,9
26/64 × 92 C	26 ± 0,8	29	92 ± 0,9	30	87	30	64	13,3
30/75 × 108 C	30 ± 0,9	32	108 ± 1,1	34	99	33	75	17,6
34/75 × 126 A	34 ± 1,0	37,5	126 ± 1,3	38	111	35	75	21,3
34/94 × 126 W	34 ± 1,0	36	126 ± 1,3	38	111	38	94	22,4
38/99 × 126 C	38 ± 1,1	42	126 ± 1,3	44	123	42	99	30,0
38/99 × 137 W	38 ± 1,1	42	137 ± 1,4	44	123	42	99	28,9
42/110 × 137 A	42 ± 1,1	46	137 ± 1,4	48	137	47	109	35,4
42/110 × 137 C	42 ± 1,1	46	137 ± 1,4	48	137	47	109	35,4
42/110 × 146 W	42 ± 1,1	46	146 ± 1,5	48	137	48	110	34,1
48/115 × 152 C	48 ± 1,4	56	152 ± 1,5	58	160	53	115	46,3
48/115 × 144/160 W	48 ± 1,4	56	144/160 ± 1,4/1,6	62	163	52	115	46,0
52/125 × 170 C	52 ± 1,6	63	170 ± 1,7	65	175	56	125	53,2
52/125 × 180 C	52 ± 1,6	63	180 ± 1,8	65	175	56	125	52,4
56/131 × 187 A	56 ± 1,7	65	187 ± 1,9	69	187	60	131	60,0
60/135 × 181/197 A	60 ± 2,0	66	181/197 ± 1,8/2,0	73	198	63	135	66,5

Mechanical Properties

nominal size d/b4 × t mm	test force -TF		breaking force BF		Charpy-V-test - KV		recommended replacement of: RL = round link chain FL = flat link chain
	standard	HO	standard	HO	standard	HO	
	kN	kN	kN	kN	J	J	
22/60 × 86 C	456	495	608	690	60	85	18 × 64 RL
26/60 × 92 A	570	637	750	850	60	85	18 × 64 RL
26/64 × 92 C	637	690	850	960	60	85	24 × 86 FL
30/75 × 108 C	848	920	1130	1270	60	85	26 × 92 FL
34/75 × 126 A	970	1090	1280	1450	60	85	26 × 92 FL
34/94 × 126 W	1090	1180	1450	1640	60	85	34 × 126 FL
38/99 × 126 C	1360	1480	1820	2040	60	85	34 × 126 FL
38/99 × 137 W	1360	1480	1820	2040	60	85	38 × 137 RL
42/110 × 137 A	1660	1740	2300	2520	60	85	34 × 126 RL
42/110 × 137 C	1660	1740	2300	2520	60	85	38 × 137 FL
42/110 × 146 W	1660	1740	2300	2520	60	85	42 × 146 FL
48/115 × 152 C	1900	2200	2900	3150	60	85	42 × 146 FL
48/115 × 144/160 W	1850	2100	2900	3150	60	85	48 × 144/160 FL
52/125 × 170 C	2170	2400	3500	3700	60	85	48 × 152 or 144/160 FL
52/125 × 180 C	2170	2400	3400	3700	60	85	48 × 152 or 144/160 FL
56/131 × 187 A	2600	2900	4000	4300	60	85	48 × 152 or 144/160 FL
60/135 × 181/197 A	2900	3200	4500	5000	60	85	

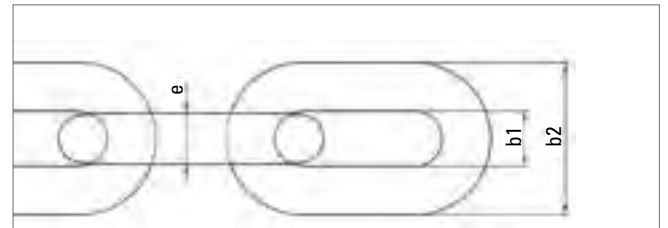
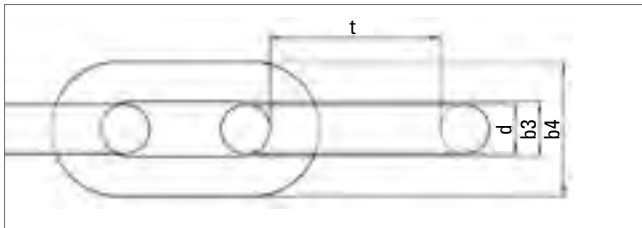
Combi Chain



Combi chain designed as a combination of forged vertical flattened links and welded horizontal round steel links.

Benefits through forging technology:

- » increased breaking force at low height and small pitch
- » improved design in highly stressed areas



Dimensions and Weights

nominal size	diameter	thickness	pitch	round link		flat link		weight
d × t	d	e max.	t	b ₁ min.	b ₂ max.	b ₃ min.	b ₄ max.	kg/m
mm	mm	mm	mm	mm	mm	mm	mm	
38 × 137	38 ± 1,1	42	137 ± 1,4	42	123	42	110	29,0
38 × 146	38 ± 1,1	42	146 ± 1,5	42	123	42	110	27,6
42 × 137	42 ± 1,1	48,5	137 ± 1,4	48	137	46	115	37,0
42 × 146	42 ± 1,1	48,5	146 ± 1,5	48	137	46	115	35,0
48 × 144/160	48 ± 1,4	56	144/160 ± 1,4/1,6	62	163	56	127	46,8
48 × 152	48 ± 1,4	53	152 ± 1,5	58	160	52	127	47,0

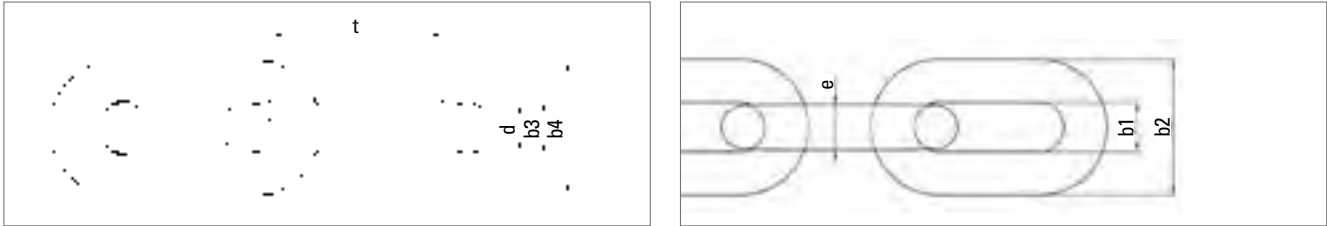
Mechanical Properties

nominal size	test force		elongation at test force max.	breaking force		elongation at fracture A		deflection f		Charpy-V-test EN 10045-1 KV	
	DIN	HO		DIN	HO	DIN	HO	DIN	HO	DIN	HO
d × t	kN	kN	%	kN	kN	%	%	mm	mm	J	J
mm											
38 × 137	1360	1480	1,6	1850	2060	14	16	38	38	60	85
38 × 146	1360	1480	1,6	1850	2060	14	16	38	38	60	85
42 × 137	1660	1740	1,6	2300	2520	14	16	42	42	60	85
42 × 146	1660	1740	1,6	2300	2520	14	16	42	42	60	85
48 × 144/160	1850	2100	1,6	2900	3290	14	16	48	48	60	85
48 × 152	1900	2200	1,6	2900	3290	14	16	48	48	60	85

Flat Link Chain DIN 22255



Round steel link chain with flattened vertical links



Dimensions and Weights

nominal size d × t mm	diameter d mm	thickness e max. mm	pitch t mm	round link		flat link		weight kg/m
				b ₁ min. mm	b ₂ max. mm	b ₃ min. mm	b ₄ max. mm	
26 × 92	26 ± 0,8	30	92 ± 0,9	30,1	87	30	75	13,7
30 × 108	30 ± 0,9	34	108 ± 1,1	34,1	99	34	87	18,0
34 × 126	34 ± 1,0	38	126 ± 1,3	38,1	111	38	99	22,7
38 × 126	38 ± 1,1	42	126 ± 1,3	42,1	123	42	111	29,3
38 × 137	38 ± 1,1	42	137 ± 1,4	42,1	123	42	111	28,8
38 × 146	38 ± 1,1	42	146 ± 1,5	42,1	123	42	111	27,6
42 × 137	42 ± 1,1	48,5	137 ± 1,4	48,6	139	46	115	37,0
42 × 146	42 ± 1,1	48,5	146 ± 1,5	48,6	139	46	115	35,0

Mechanical properties DIN 22255 compared with JDT-HO

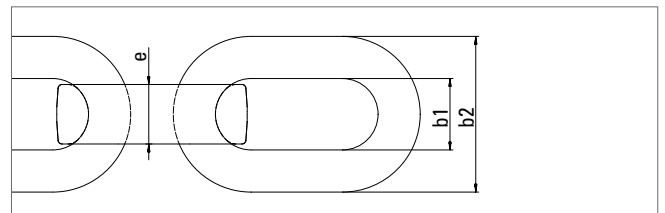
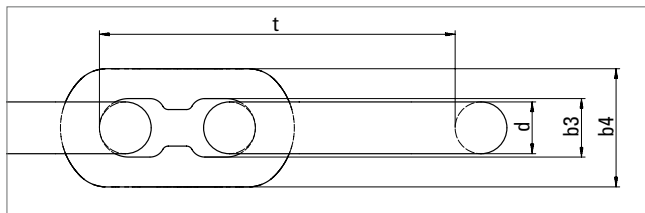
nominal size d × t mm	test force TF		elongation at test force max.	breaking force BF		elongation at fracture A		deflection f		Charpy-V-test EN 10045-1 KV	
	DIN	HO		DIN	HO	DIN	HO	DIN	HO	DIN	HO
	kN	kN	%	kN	kN	%	%	mm	mm	J	J
26 × 92	637	690	1,6	850	960	11	13	26	26	57	85
30 × 108	848	920	1,6	1130	1280	11	13	30	30	57	85
34 × 126	1090	1180	1,6	1450	1650	11	13	34	34	57	85
38 × 126	1360	1480	1,6	1820	2060	11	13	38	38	57	85
38 × 137	1360	1480	1,6	1820	2060	11	13	38	38	57	85
38 × 146	1360	1480	1,6	1820	2060	11	13	38	38	57	85
42 × 137	1660	1740	1,6	2220	2520	11	13	42	42	57	85
42 × 146	1660	1740	1,6	2220	2520	11	13	42	42	57	85

Flat Profile Chain



Flat Profile Chain for low profile linepans designed with JDT short studs provides extended wear resistance

without detriment to chain weight and conveying characteristics.



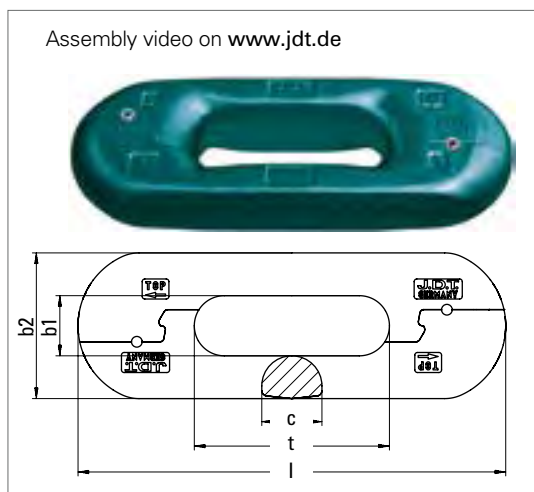
Dimensions and Weights

nominal size d × t	diameter d	thickness e max.	pitch t	round link		vertical link		weight kg/m
				b ₁ min	b ₂ max	b ₃ min	b ₄ max	
mm	mm	mm	mm	mm	mm	mm	mm	
38 × 126/148	38 ± 1,1	54	274 ± 1,5	62	143	42	88	29,0
42 × 128/164	42 ± 1,1	60	292 ± 1,6	70	159	46	99	35,6
50 × 146/174	49 ± 1,3	64	320 ± 1,7	76	178	53	116	48,8

Mechanical Properties

nominal size d × t	test force TF		elongation at test force max.	breaking force BF		elongation at fracture A		deflection f		Charpy-V-test EN 10045-1 KV	
	DIN	HO		DIN	HO	DIN	HO	DIN	HO	DIN	HO
mm	kN	kN	%	kN	kN	%	%	mm	mm	J	J
38 × 126/148	1360	1480	1,6	1820	2060	14	14	38	38	60	85
42 × 128/164	1660	1740	1,6	2300	2500	14	14	42	42	60	85
50 × 146/174	2000	2350	1,6	2900	3400	14	14	50	50	60	85

Flat Profile Connector



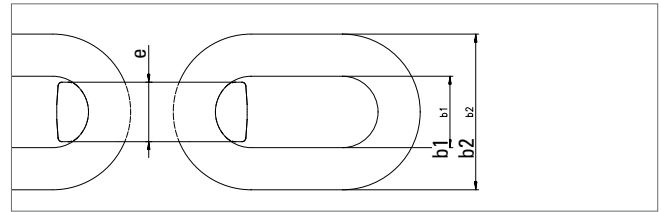
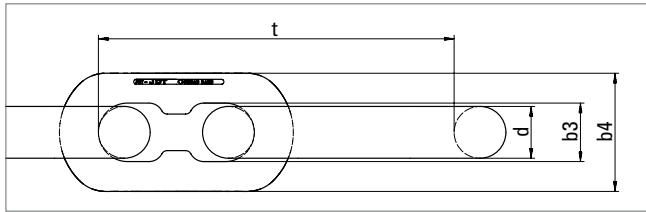
nominal size d × t	dimensions				breaking force BF kN	weight kg/St.
	b ₁	b ₂	c	l		
mm	mm	mm	mm	mm		
38 × 126	42	88	54	300	> 2060	7,1
42 × 128	45	99	60	306	> 3000	9,3
50 × 146	53	116	64	334	> 3700	12,6
56 × 168	59	130	75	378	> 4300	18,6

Broadband Long Life Chain



JOY's chain for low profile linepans designed with JDT short studs provides extended wear resistance without

detriment to chain weight and conveying characteristics.



Dimensions and Weights

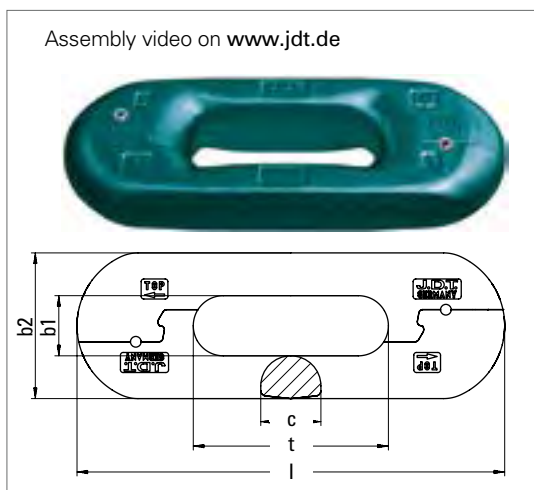
nominal size d x t	diameter d	thickness e max.	pitch t	round link		vertical link		weight kg/m
				b ₁ min	b ₂ max	b ₃ min	b ₄ max	
mm	mm	mm	mm	mm	mm	mm	mm	
38 x 126/148	38 ± 1,1	54	274 ± 1,5	62	143	42	88	29,0
42 x 128/164	42 ± 1,1	60	292 ± 1,6	70	159	46	99	35,6
50 x 146/174	49 ± 1,3	64	320 ± 1,7	76	178	53	116	48,8



Mechanical Properties

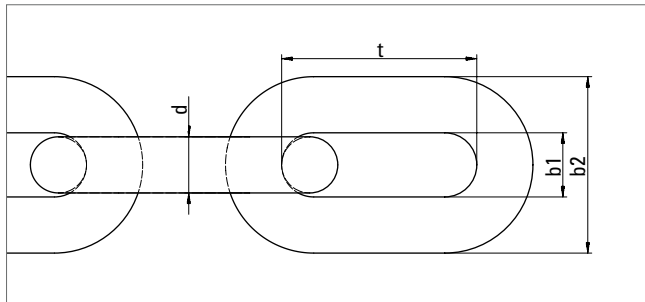
nominal size d x t	test force		elongation at test force max.	breaking force		elongation at fracture		deflection		Charpy-V-test EN 10045-1	
	DIN	HO		DIN	HO	DIN	HO	DIN	HO	DIN	HO
mm	kN	kN	%	kN	kN	%	%	mm	mm	J	J
38 x 126/148	1360	1480	1,6	1820	2060	14	14	38	38	60	85
42 x 128/164	1660	1740	1,6	2300	2500	14	14	42	42	60	85
50 x 146/174	2000	2350	1,6	2900	3400	14	14	50	50	60	85

Theipa Block Connector for Broadband



nominal size d x t	dimensions				breaking force BF	weight kg/St.
	b ₁	b ₂	c	l		
mm	mm	mm	mm	mm	kN	
38 x 126	42	88	54	300	> 2060	7,1
42 x 128	45	99	60	306	> 3000	9,3
50 x 146	53	116	64	334	> 3700	12,6
56 x 168	59	130	75	378	> 4300	18,6

Special Chains acc. to JDT Specification



G: Crown hardened chains, e.g. as plow chains
S: Special chains with high hardness and strength for defined operating conditions

Dimensions and Weights

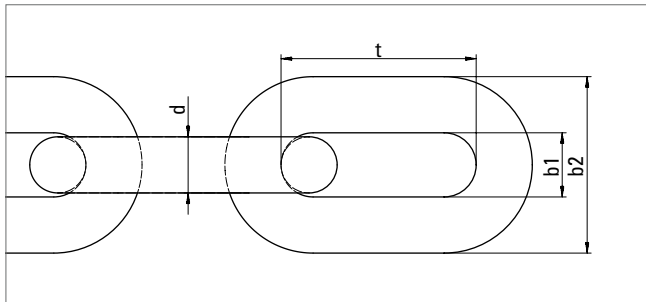
nominal size	diameter	pitch	width		weight
d × t	d	t	b ₁ min.	b ₂ max.	
mm	mm	mm	mm	mm	kg/m
26 × 92	26 ± 0,8	92 ± 0,9	30	85	14,0
30 × 108	30 ± 0,9	108 ± 1,1	34	97	17,8
34 × 126	34 ± 1,0	126 ± 1,3	38	109	23,0
38 × 137	38 ± 1,1	137 ± 1,4	42	121	28,8

Mechanical Properties

nominal size	test force		elongation at test force		breaking force		elongation at fracture		deflection		Charpy-V-test EN 10045-1	
	TF		max.		BF		A		f		KV	
d × t	kN	kN	%	%	kN	kN	%	%	mm	mm	J	J
mm	G	S	G	S	G	S	G	S	G	S	G	S
26 × 92	637	730	1,6		900	1050	16	14	33	26	55	60
30 × 108	848	970	1,6		1200	1400	16	14	38	30	55	60
34 × 126	1090	1250	1,6		1540	1800	16	14	43	34	55	60
38 × 137	1360	1560	1,6		1930	2250	16	14	48	38	55	60

Other dimensions, types, and modifications (e.g. case hardening) on request.

Round Link Chain DIN 22252



Dimensions and Weights

nominal size	diameter	pitch	width		weight
$d \times t$	d	t	b_1 min.	b_2 max.	kg/m
mm	mm	mm	mm	mm	
26 × 92	$26 \pm 0,8$	$92 \pm 0,9$	30	85	14,0
30 × 108	$30 \pm 0,9$	$108 \pm 1,1$	34	97	17,8
34 × 126	$34 \pm 1,0$	$126 \pm 1,3$	38	109	23,0
38 × 137	$38 \pm 1,1$	$137 \pm 1,4$	42	121	28,8
42 × 137	$42 \pm 1,1$	$137 \pm 1,4$	48	139	37,0

Mechanical properties DIN 22252 compared with JDT-HO

nominal size	test force		elongation at test force		breaking force		elongation at fracture		deflection		Charpy-V-test EN 10045-1		working force	
	TF		max.		BF		A		f		KV		WF	
$d \times t$	kN	kN	%	%	kN	kN	%	%	mm	mm	J	J	kN	kN
mm	DIN	HO	DIN	HO	DIN	HO	DIN	HO	DIN	HO	DIN	HO	DIN	HO
26 × 92	637	690	1,6		850	960	14	16	26	33	57	85	531	570
30 × 108	848	920	1,6		1130	1280	14	16	30	38	57	85	707	765
34 × 126	1090	1180	1,6		1450	1650	14	16	34	43	57	85	907	982
38 × 137	1360	1480	1,6		1820	2060	14	16	38	48	57	85	1130	1220
42 × 137	1660	1740	1,6		2220	2520	14	16	42	53	57	85	1380	1500

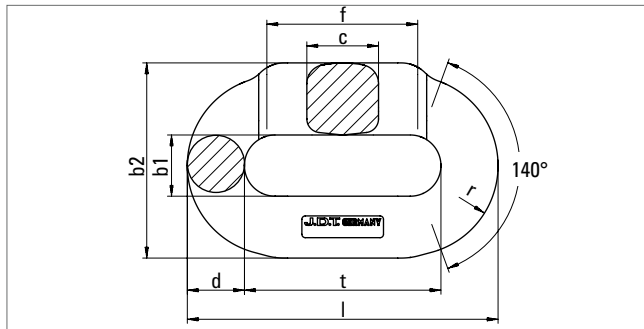


THEIPA Flat Connector



- » The Theipa Flat Connector is one of the best known and most commonly used chain connector in mining because of its universal applicability.
- » For horizontal operation in Round link-, Flat link-, Combi- and F-Class® chains.

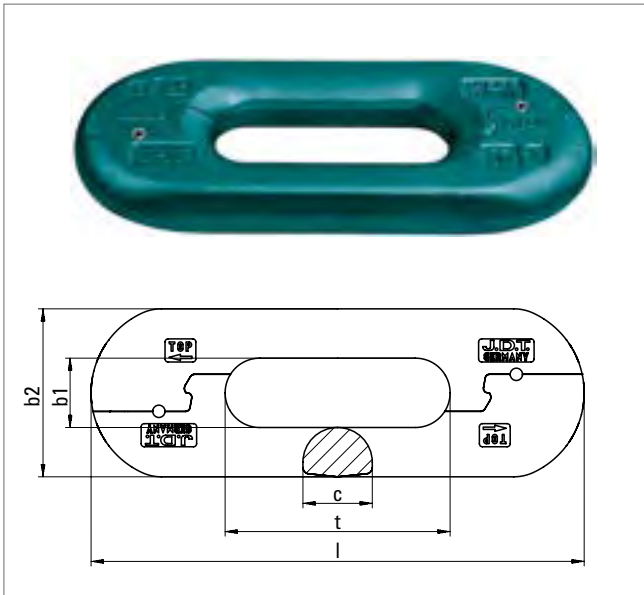
- » Vertical use is possible in round link chains.
- » Two-piece design for easy assembly and safe operation on the sprockets.
- » JDT HO steel for optimized strength and toughness.



nominal size	dimensions						breaking force	weight	
	d × t	b ₁	b ₂	c	f	l			r
mm	mm	mm	mm	mm	mm	mm	mm	kN	kg/St.
26 × 92	28	96	33	51	147	41,5	820	1,6	
30 × 108	32	105	37	58	170	47	1100	2,5	
34 × 126	37	115	41	66	196	54	1400	3,4	
38 × 137	41	134	46	76	217	61	1820	5,0	
38 × 146	41	134	46	76	223,5	61	1820	5,3	
42 × 137	45	143,5	53	82	223,5	66	2150	6,3	
42 × 146	45	143,5	53	82	232	66	2150	6,5	

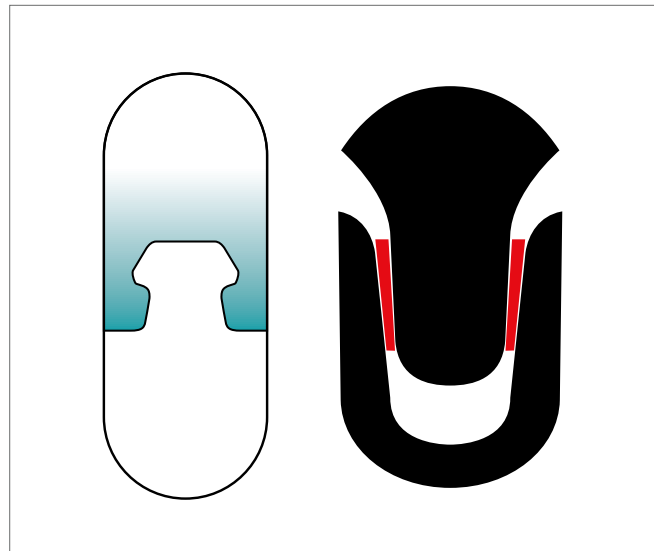


THEIPA Block Connector



- » The proven connector for high performance conveyors.
- » For vertical use in Flat-, Combi- and F-Class® chains.
- » Mechanical characteristics exceed requirements of DIN 22258-3 significantly.
- » Longer service life due to zinc nickel coating.
- » Easy assembly and disassembly due to improvements of the geometry of the joint.
- » JDT HO steel for optimized strength and toughness.

nominal size	dimensions				breaking force	weight
	d × t	b ₁	b ₂	c		
mm	mm	mm	mm	mm	kN	kg/St.
30 × 108	32	75	32	240	1300	3,4
34 × 126	37	94	36	268	1500	4,8
38 × 126	41	99	40	289	1900	6,4
38 × 137	41	99	40	289	1900	5,7
42 × 146	45	109	46	320	2500	8,0
48 × 144	52	115	56	334	3150	10,2
48 × 152	52	115	56	342	3150	10,5
52 × 170	56	125	58	382	3700	14,1
52 × 180	56	125	58	392	3700	14,7
56 × 187	62	131	65	437	4300	17,6
60 × 181	65	135	70	450	5000	21,8



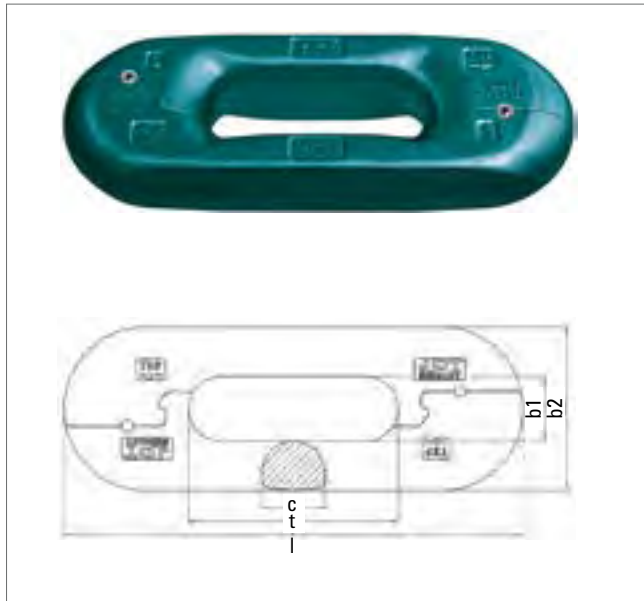
Assembly video on www.jdt.de



Additional roll pins and pin punch for disassembling can be delivered on request.



THEIPA Power Chain Block Connector



The block connector for conveyors equipped with the Power Chain - designed by Caterpillar to reduce wear-prone surface pressures.

nominal size d x t mm	dimensions				breaking force	weight
	b ₁ mm	b ₂ mm	c mm	l mm	BF kN	kg/St. kg/St.
34 x 110	37	85	47	240	1600	4,8
42 x 140	45	100	60	306	2800	9,3

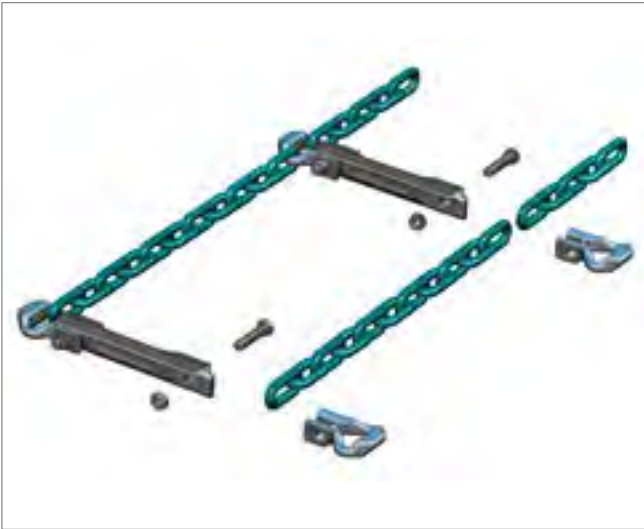
Assembly video on www.jdt.de



Additional roll pins and pin punch for disassembling can be supplied on request.



JDT Chain Strand



The chain strand with F-Class® Type C22 x 86 can be used in a conveyor PF1-500.

Replacing standard round link chain 18 x 64 it achieves several times the service life according to experience.



Chains for chain strand from 26 – 60 mm:

- » F-Class® Chain
- » Flat Profile Chain
- » Combi Chain



Flight bars for an conveyor system on request.



Important notes

For normal storage and operating conditions, we recommend a Tectyl coating of the chain. For corrosive applications we recommend the use of HO material. JDT will be happy to advise the user.

For outboard and twin inboard chain strands it is necessary to use matched pairs of chain. For this application JDT provides matched chains in required lengths.

For larger dynamic stresses we recommend the use of our HO chains or chains with the next larger nominal thickness.

The pretension of the chain should not exceed the amount which is necessary to prevent slack chain at the drive leads to kinking, thus causing problems entering the return run. Especially, if face conditions alter a lot, a frequent control of the pretension extends the service life of the chain.

Conveyor chains should be assembled with matching flight bars of an OEM or from JDT. Using unknown flight bars matching must be checked before operation. The distance of the flight bars should not exceed one metre and has to be reduced with an increasing amount of fine conveyed material. Ensure that chains are used with accurate matching sprockets according to DIN 22256.

Regular visual inspection of the chain is required for sorting out damaged chain elements. Damaged elements should be replaced as soon as possible. If the length of the chain exceeds 2%, a review of chain segments in the laboratory is recommended to allow a service life prediction. Like new chain, replaced chain also needs perfect matching of paired chain strands.

The greatest possible care has been taken in the preparation and production of this catalogue. We apologize for any errors which should nevertheless have found their way into it. Printing and other errors excepted. Dimensions are subject to the usual technical tolerances. Other technical indications, especially those relating to, working load limit are valid for specific operating conditions, and deviations from the figures stated may occur in individual cases. We therefore ask for your understanding that we

can only provide binding information if we have knowledge of the specific application. All illustrations, drawings, dimensions, weights etc. are subject to change and are therefore without engagement. They may be changed for technical reasons without notice. The colours depicted may deviate from the original due to technical reasons associated with photography and printing.

MORE THAN CHAIN



Lifting Equipment NORM 8 Grade 8



Lifting Equipment ENORM 10 Grade 10



Lifting Equipment MAXNORM 12 Grade 12



Attachment points



Lifting Equipment: Special constructions



Offshore



Mining



Robotics



Industrial contract manufacturing



As a company that is proud to offer products that are Made in Germany, we at JDT have been passionately offering top quality products, innovation, performance, availability and customer-oriented service in all areas since 1819. For two hundred years, JDT has been improving production processes and products with new ideas and groundbreaking inventions – always to the customer's benefit. Today, with around 230 qualified employees, JDT is a leading global manufacturer of complete chain systems and accessories for mining and industry, as well as a system integrator of robots in the field of industrial automation.

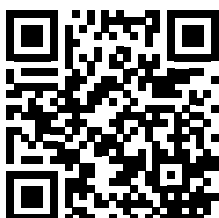
JDT – MORE THAN CHAIN

Mining Chain

In terms of quality and technology, JDT mining chains are one of the best in the world and, in this field of technology, they represent the future generation.

In the field of mining, JDT produces high quality mining chain from 22-60 mm. For example, thanks to its patented design and material, as well as the company's special production equipment, the F-Class® Chain has outstanding qualities in terms of wear and tear, running, durability, strength and resistance to corrosion.

This catalogue will provide you with information concerning the entire product range of JDT mining chains alongside the complete range of accessories.



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