



## JENKA System



3/2008







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# JENKA System

## 1. General Information

The Peikko JENKA anchor is a component of the Peikko transport anchor system and is in compliance with the safety regulations set forth by the (German) Construction Trade Association "Sicherheitsregeln für Transportanker und -systeme von Betonfertigteilen" (BGR 106).

Compliance with this installation and operation manual is necessary for the use of Peikko JENKA anchors. The anchors are only designed to operate with original Peikko Lifting Devices. All existing installation and usage manuals must also be considered.

The Peikko JENKA System is designed for the transport of precast concrete construction components. Components should not see repeated operation. Construction components (specifically the transport anchor) may undergo some erosion during the transport of a component from the place of production to the place of installation, however this is not considered as repeated operation. Repeated operation is for example, the use of precast concrete components as a removable dam, or as counterweight of a crane; this is only permissible if warranted by the type approvals "Erzeugnisse, Verbindungsmittel und Bauteile aus nichtrostenden Stählen" ("Products, Connections, and Construction Components of Stainless Steel") (DiBT Berlin, Zulassung Nr Z30.3-6).

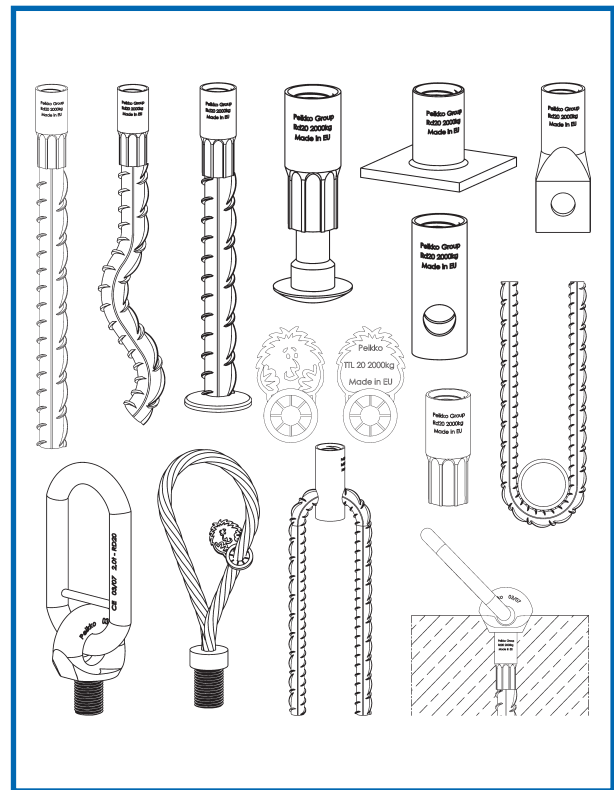


Figure 1:

Table 1: Dimensions Peikko JENKA SRA-Anchor

Article Nr.	Type	Dimensions				Load Capacity	Fs *	Fq *
		ØD	h	e	Øds			
	RD	[mm]	[mm]	[mm]	[mm]	[kg]	[kN]	[kN]
SRA12x195	12	15,0	195	22	8	500	5	2,5
SRA14x235	14	18,0	235	25	10	800	8	4,0
SRA16x275	16	21,0	275	27	12	1200	12	6,0
SRA18x305	18	24,0	305	34	14	1600	16	8,0
SRA20x360	20	27,0	360	35	14	2000	20	10,0
SRA24x400	24	31,0	400	43	16	2500	25	12,5
SRA30x505	30	40,0	505	56	20	4000	40	20,0
SRA36x690	36	47,0	690	68	25	6300	63	31,5
SRA42x840	42	54,0	840	80	28	8000	80	40,0
SRA52x950	52	67,0	950	100	32	12500	125	62,5

\* Fs= Allowed load force from 0° - 45°

\* Fq= Allowed load force at 90°

(Note: A load force for a mass of 1 ton demands a force of approximately 10 kN)

Example for ordering Peikko JENKA SRA-Anchor

Zinc Plated:

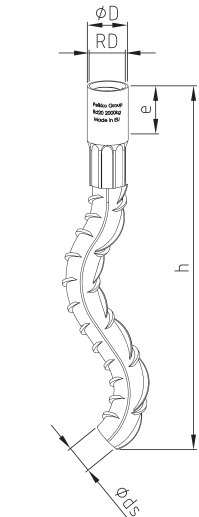
SRA30x505

Stainless Steel:

SRA30x505E



Table 2: Dimensions Peikko JENKA WAS-Anchor

	Dimensions						Load Capacity	Fs *
	Article Nr.	Type	ØD	h	e	Øds		
		RD	[mm]	[mm]	[mm]	[mm]	[kg]	[kN]
	WAS12x105	12	15,0	105	22	8	500	5
	WAS14x130	14	18,0	130	25	10	800	8
	WAS16x165	16	21,0	165	27	12	1200	12
	WAS18x175	18	24,0	175	34	14	1600	16
	WAS20x195	20	27,0	195	35	14	2000	20
	WAS24x240	24	31,0	240	43	16	2500	25
	WAS30x300	30	40,0	300	56	20	4000	40
	WAS36x380	36	47,0	380	68	25	6300	63
	WAS42x450	42	54,0	450	80	28	8000	80

\* Fs= Allowed load force from 0° - 45°

(Note: A load force for a mass of 1 ton demands a force of approximately 10 kN)

Example for ordering Peikko JENKA WAS-Anchor

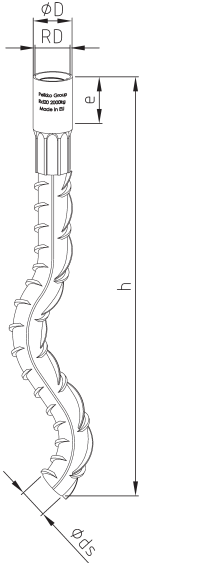
Zinc Plated:

WAS30x300

Stainless Steel:

WAS30x300E

Table 3: Dimensions Peikko JENKA WAL-Anchor

	Dimensions						Load Capacity	Fs *	Fq *
	Article Nr.	Type	ØD	h	e	Øds			
		RD	[mm]	[mm]	[mm]	[mm]	[kg]	[kN]	[kN]
	WAL12x135	12	15,0	135	22	8	500	5	2,5
	WAL14x170	14	18,0	170	25	10	800	8	4,0
	WAL16x215	16	21,0	215	27	12	1200	12	6,0
	WAL18x235	18	24,0	235	34	14	1600	16	8,0
	WAL20x270	20	27,0	270	35	14	2000	20	10,0
	WAL24x350	24	31,0	350	43	16	2500	25	12,5
	WAL30x450	30	40,0	450	56	20	4000	40	20,0
	WAL36x570	36	47,0	570	68	25	6300	63	31,5
	WAL42x620	42	54,0	620	80	28	8000	80	40,0
	WAL52x880	52	67,0	880	100	32	12500	125	62,5

\* Fs= Allowed load force from 0° - 45°

\* Fq= Allowed load force at 90°

(Note: A load force for a mass of 1 ton demands a force of approximately 10 kN)

Example for ordering Peikko JENKA WAL-Anchor

Zinc Plated:

WAL30x450

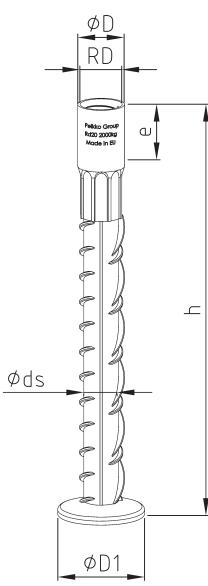
Stainless Steel:

WAL30x450E



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Table 4: Dimensions Peikko JENKA TF-Anchor

	Dimensions							Load Capacity	Fs *	Fq *
	Article Nr.	Type	ØD	h	e	Øds	ØD1			
		RD	[mm]	[mm]	[mm]	[mm]	[mm]	[kg]	[kN]	[kN]
	TF12x100	12	15,0	100	22	8	24	500	5	2,5
	TF12x150	12	15,0	150	22	8	24	500	5	2,5
	TF14x105	14	18,0	105	25	10	30	800	8	4,0
	TF14x155	14	18,0	155	25	10	30	800	8	4,0
	TF16x130	16	21,0	130	27	12	36	1200	12	6,0
	TF16x175	16	21,0	175	27	12	36	1200	12	6,0
	TF18x150	18	24,0	150	34	14	42	1600	16	8,0
	TF18x225	18	24,0	225	34	14	42	1600	16	8,0
	TF20x185	20	27,0	185	35	14	42	2000	20	10,0
	TF20x250	20	27,0	250	35	14	42	2000	20	10,0
	TF24x200	24	31,0	200	43	16	48	2500	25	12,5
	TF24x275	24	31,0	275	43	16	48	2500	25	12,5
	TF30x275	30	40,0	275	56	20	60	4000	40	20,0
	TF30x350	30	40,0	350	56	20	60	4000	40	20,0
	TF36x335	36	47,0	335	68	25	75	6300	63	31,5
	TF36x450	36	47,0	450	68	25	75	6300	63	31,5
	TF42x385	42	54,0	385	80	28	84	8000	80	40,0
	TF42x500	42	54,0	500	80	28	84	8000	80	40,0
	TF52x550	52	67,0	550	100	32	96	12500	125	62,5
	TF52x700	52	67,0	700	100	32	96	12500	125	62,5

\* Fs= Allowed load force from 0° - 45°

\* Fq= Allowed load force at 90°

(Note: A load force for a mass of 1 ton demands a force of approximately 10 kN)

Example for ordering Peikko JENKA TF-Anchor

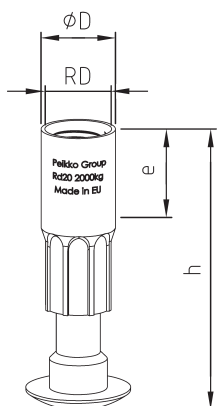
Zinc Plated:

TF30x350

Stainless Steel:

TF30x350E

Table 5: Dimensions Peikko JENKA BSA-Anchor

	Dimensions					Load Capacity	Fs *
	Article Nr.	Type	ØD	h	e		
		RD	[mm]	[mm]	[mm]	[kg]	[kN]
	BSA12x60	12	15,0	60	22	500	5
	BSA14x70	14	18,0	70	25	800	8
	BSA16x80	16	21,0	80	27	1200	12
	BSA18x90	18	24,0	90	34	1600	16
	BSA20x100	20	27,0	100	35	2000	20
	BSA24x115	24	31,0	115	43	2500	25
	BSA30x150	30	40,0	150	56	4000	40

\* Fs= Allowed load force from 0° - 45°

(Note: A load force for a mass of 1 ton demands a force of approximately 10 kN)

Example for ordering Peikko JENKA BSA-Anchor

Zinc Plated:

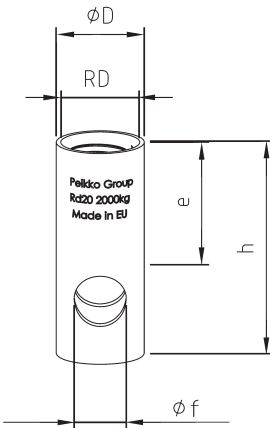
BSA30x150

Stainless Steel:

BSA30x150E



Table 6: Dimensions Peikko JENKA CSA-Anchor

	Dimensions						Load Capacity	Fs *	Fq *
	Article Nr.	Type	ØD	h	e	Øf			
		RD	[mm]	[mm]	[mm]	[mm]	[kg]	[kN]	[kN]
	CSA12x40	12	15,0	40	22	8,0	500	5	2,5
	CSA14x47	14	18,0	47	25	10,5	800	8	4,0
	CSA16x54	16	21,0	54	27	13,0	1200	12	6,0
	CSA18x65	18	24,0	65	34	13,0	1600	16	8,0
	CSA20x67	20	27,0	67	35	15,5	2000	20	10,0
	CSA24x77	24	31,0	77	43	18,0	2500	25	12,5
	CSA30x105	30	40,0	105	56	22,5	4000	40	20,0
	CSA36x125	36	47,0	125	68	27,5	6300	63	31,5
	CSA42x145	42	54,0	145	80	32,0	8000	80	40,0
	CSA52x195	52	67,0	195	100	40,0	12500	125	62,5

\* Fs= Allowed load force from 0° - 45°

\* Fq= Allowed load force at 90°

(Note: A load force for a mass of 1 ton demands a force of approximately 10 kN)

Example for ordering Peikko JENKA CSA-Anchor

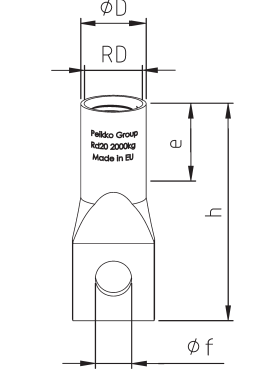
Zinc Plated:

CSA30x105

Stainless Steel:

CSA30x105E

Table 7: Dimensions Peikko JENKA ESA-Anchor

	Dimensions						Load Capacity	Fs *	Fq *
	Article Nr.	Type	ØD	h	e	Øf			
		RD	[mm]	[mm]	[mm]	[mm]	[kg]	[kN]	[kN]
	ESA12x60	12	15,0	60	22	8,0	500	5	2,5
	ESA14x70	14	18,0	70	25	10,5	800	8	4,0
	ESA16x77	16	21,0	77	27	13,0	1200	12	6,0
	ESA18x85	18	24,0	85	34	13,0	1600	16	8,0
	ESA20x92	20	27,0	92	35	15,5	2000	20	10,0
	ESA24x105	24	31,0	105	43	18,0	2500	25	12,5

\* Fs= Allowed load force from 0° - 45°

\* Fq= Allowed load force at 90°

(Note: A load force for a mass of 1 ton demands a force of approximately 10 kN)

Example for ordering Peikko JENKA ESA-Anchor

Zinc Plated:

ESA24x105

Stainless Steel:

ESA24x105E



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Table 8: Dimensions Peikko JENKA PSA-Anchor

Article Nr.	Type	Dimensions					Load Capacity	Fs *
		ØD	h	a	b	t		
	RD	[mm]	[mm]	[mm]	[mm]	[mm]	[kg]	[kN]
PSA12x30	12	15,0	30	35	25	4	500	5
PSA14x33	14	18,0	33	35	35	4	800	8
PSA16x35	16	21,0	35	50	35	4	1200	12
PSA18x44	18	24,0	44	60	45	5	1600	16
PSA20x47	20	27,0	47	60	60	5	2000	20
PSA24x54	24	31,0	54	80	60	5	2500	25
PSA30x72	30	40,0	72	100	80	6	4000	40
PSA36x84	36	47,0	84	130	100	6	6300	63
PSA42x98	42	54,0	98	130	130	8	8000	80
PSA52x117	52	67,0	117	150	130	10	12500	125

\* Fs= Allowed load force from 0° - 45°

(Note: A load force for a mass of 1 ton demands a force of approximately 10 kN)

Example for ordering Peikko JENKA PSA-Anchor

Zinc Plated: PSA30x72  
Stainless Steel: PSA30x72E

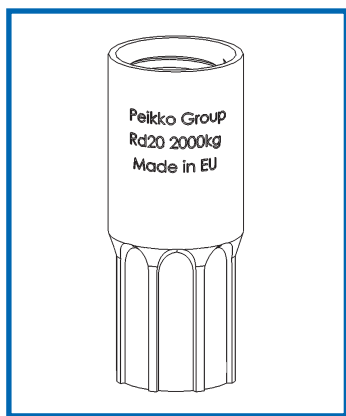


Figure 2: Marking

Anchors of the Peikko JENKA System are identified by markings in the socket. Manufacturer, load capacity and thread type are printed to the surface. The correct allocation of JENKA Anchor and JENKA Lifting Device is given with this marking. Mistakes are avoided due to these markings.

## 2. Anchors

### 2.1 Materials

Sockets of the Peikko JENKA System are constructed from precision steel tubes of exceptional quality. The sockets are used in combination with BST500S, the pressed variant of Peikko JENKA anchors. For other types, special screws and flat steel is used.

The anchors are generally protected from corrosion through electro zinc plating, excluding the rebars. Anchors made of stainless steel are also available. The pressed stainless anchors are protected with a sealing agent on the inside of the threaded socket.

## 2.2 Application

### Installation and application

A Peikko JENKA anchor nailplate and identification ring is used when installing the anchor into the formwork. The nailplate is usually installed with either nails or with a hot glue gun. For steel forms JENKA NPM magnetic installation plate is used. The nailplate forms the recess so that the Peikko lifting device can be connected. It is necessary to use original NPP Peikko JENKA nailplates when Peikko JENKA Lifter is used. The rotation symmetric Peikko JENKA anchor (Type SRA, TF, BSA) does not require further attention in anchor installation. For all other Peikko JENKA anchors, the waved ends and reinforcement stirrups respectively, must always be parallel to the lengthwise direction of the component.

The load transmission to the concrete is accomplished by the mechanical bond stress of the reinforced concrete, this is conditioned by the forming and implementation of the JENKA anchor. With this system construction components, particularly thin components, can safely undergo application of heavy forces. For massive components we recommend the use of JENKA WAL Anchors or the Peikko JENKA TF Anchor. The forces are applied to the waved part of the anchor and the forged foot encased in the concrete.

At the time of first lifting, the concrete must have a compressive strength of at least 15 N/mm<sup>2</sup>. Dynamic and adhesive forces which affect to lifting load must be checked by the user. Incorrectly used or damaged Peikko JENKA anchors may not be installed in precast components. Welding or other modifications to the Peikko JENKA anchor (especially bending) are prohibited.



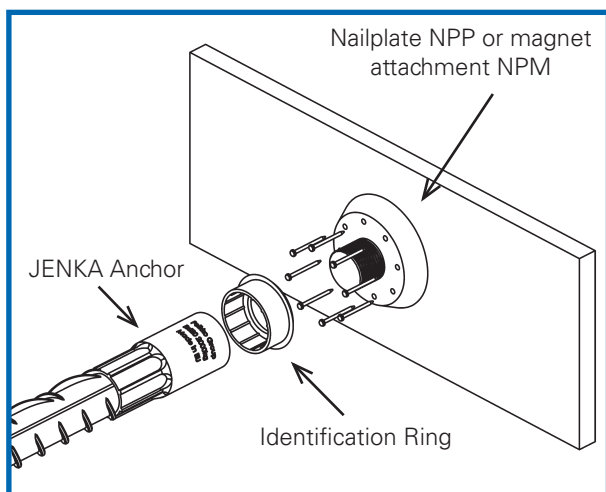


Figure 3: Assembly

## 2.3 Component Dimensions and Edge Distances

Load capacities in tables 1 - 8 are based upon specific dimensions and edge distances as in figure 4. The minimum compressive strength of the concrete at the moment of load application must be 15 N/mm<sup>2</sup>. The necessary edge distances  $d_e$  and axial distances for respective anchor types is given in tables 9 – 12. The details for  $d_{red}$  only apply when using the anchor types SRA.

Prior to choosing an anchor take into consideration the information in our General Information for the Installation and Usage of the Peikko transport anchor system, or contact our technical department. Choose your country at [www.peikko.com](http://www.peikko.com) for planning and individual solutions.

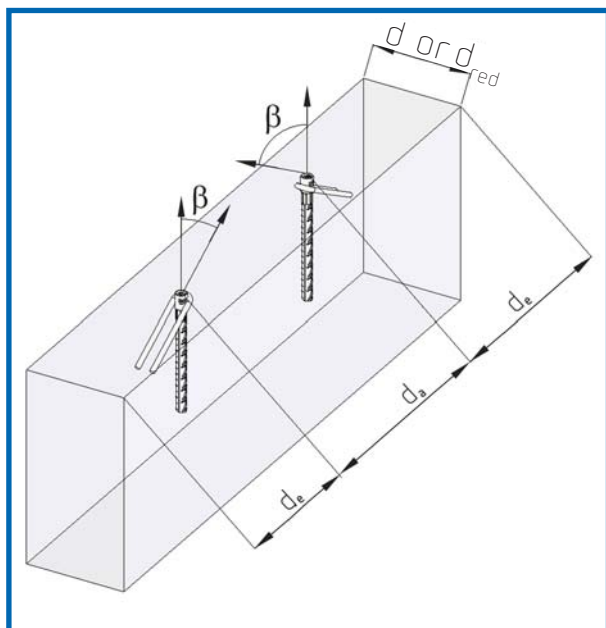


Figure 4: Distances

Table 9: Edge ( $d_e$ ), Axial Distances ( $d_a$ ), Component width ( $d$ ) valid for SRA, WAL, TF, CSA and ESA. Walls and beams.

Size	$d_a$ [mm]	$d_e$ [mm]	$d$ [mm]	$d_{red}^*$ [mm]
RD12	300	150	60	60
RD14	400	200	60	60
RD16	400	200	80	65
RD18	500	250	100	80
RD20	550	275	100	90
RD24	600	300	120	100
RD30	650	325	140	120
RD36	800	400	200	150
RD42	1000	500	240	160
RD52	1200	600	275	180

\* only for SRA in angular pull angle  $\beta$  of 12.5° to a max of 30°

Table 10: Distances ( $d_e$ ), Axial Distances ( $d_a$ ), Component width ( $d$ ) valid for WAS in slabs.

Size	$d_a$ [mm]	$d_e$ [mm]	$d$ [mm]
RD12	200	95	140
RD14	200	115	160
RD16	260	135	195
RD18	300	155	205
RD20	350	170	215
RD24	440	220	270
RD30	550	275	390
RD36	600	300	410
RD42	800	400	480



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Table 11: Distances ( $d_e$ ), Axial Distances ( $d_a$ ), Component width ( $d$ ) valid for WAS in slabs.

Size	$d_a$ [mm]	$d_e$ [mm]	$d$ [mm]
RD12	360	180	80
RD14	420	210	90
RD16	180	240	100
RD18	540	270	110
RD20	600	300	120
RD24	690	345	135
RD30	900	450	170

Table 12: Distances ( $d_e$ ), Axial Distances ( $d_a$ ), Component width ( $d$ ) valid for WAS in slabs.

Size	$d_a$ [mm]	$d_e$ [mm]	$d$ [mm]
RD12	350	180	70
RD14	350	180	80
RD16	500	250	85
RD18	600	300	95
RD20	600	300	100
RD24	800	400	115
RD30	1000	500	140
RD36	1300	650	160
RD42	1300	650	175
RD52	1500	750	215

## 2.4 Reinforcement

### 2.4.1 Minimum Reinforcement

Concrete elements must have a minimum reinforcement according to tables 13 and 14. These can be substituted with steel bars of the same diameter. Should it be necessary to remove individual bars for the installation of the anchor, the bars must later be replaced by bars of the same diameter and reinforcement length. The reinforcement in the concrete can be taken into account (Reinforcing steel mesh, stirrups, iron bars, etc). Minimum reinforcement is not necessary with Peikko JENKA BSA anchors. Transport load of the component shall be calculated according to General Installation Instructions.

Table 13: Minimum reinforcement for walls and beams valid for SRA, WAL, WAS, TF, CSA, and ESA

Size	Minimum mesh reinforcement [mm <sup>2</sup> /m]	BS 8666:2005	Reinforcement stirrups for CSA and ESA			
			$\emptyset d_s$ [mm]	L [cm]	$d_{Br}$ [mm]	Total length [cm]
RD12	131	A142	6	24	24	49
RD14	131	A142	8	28	32	57
RD16	131	A142	10	33	40	67
RD18	188	A193	10	42	40	85
RD20	188	A193	12	44	48	89
RD24	188	A193	14	48	56	97
RD30	188	A193	16	65	64	132
RD36	188	A193	20	82	140	167
RD42	188	A193	25	86	175	175
RD52	188	A193	28	120	196	244

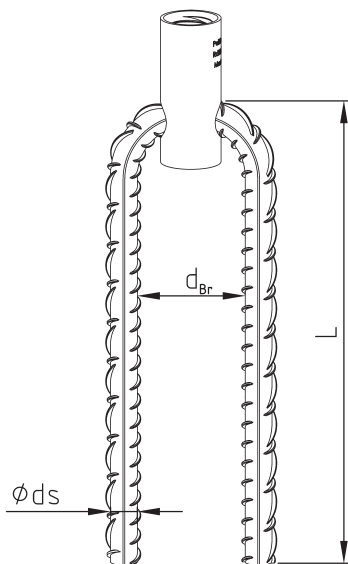




Table 14: Minimum reinforcement of slabs valid for PSA

Size	Minimum mesh reinforcement [mm <sup>2</sup> /m]	BS 8666:2005	number	Basic reinforcement			
				Øds	L	a	b
			[Pc.]	[mm]	[mm]	[mm]	[mm]
RD12	131	A142	2	6	250	60	60
RD14	131	A142	2	6	360	60	70
RD16	131	A142	2	8	420	90	70
RD18	188	A193	2	8	530	90	80
RD20	188	A193	2	8	640	90	80
RD24	188	A193	2	10	640	90	100
RD30	221	A252	2	12	830	90	110
RD36	221	A252	2	14	1140	140	120
RD42	513		2	16	1250	140	120
RD52	513		2	20	1530	140	150

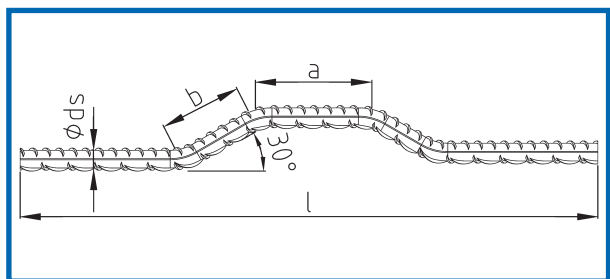


Figure 5: Reinforcement Stirrups

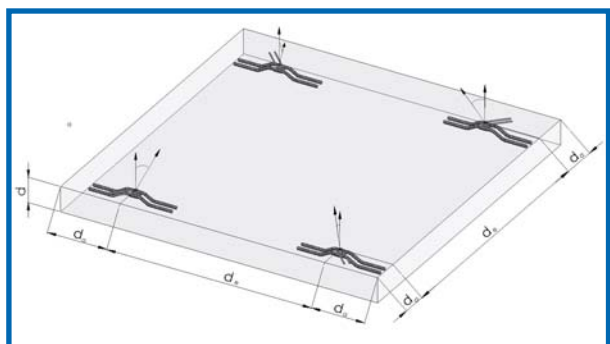


Figure 6: Installation position

## 2.4.2 Reinforcement for Angular Pull

In the case of loads in angular pull, a reinforcement stirrup must be applied with pressure contact at the angular point counteracting the direction of pull (table 15 and figure 7). In case of a max. angular pull of 30° it is possible to adjust the reinforcement stirrup in length and diameter.

Table 15: Angular pull reinforcement valid for all Peikko JENKA anchors

Size	For Component width d $12,5^\circ \leq \beta \leq 45^\circ$			For Component width d or dred $12,5^\circ \leq \beta \leq 30^\circ$		
	Øds	L	d <sub>Br</sub>	Øds	L	d <sub>Br</sub>
	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]
RD12	6	150	24	6	150	24
RD14	6	200	24	6	200	24
RD16	8	200	32	6	250	24
RD18	8	250	32	8	200	32
RD20	8	300	32	8	250	32
RD24	10	300	40	8	300	32
RD30	12	400	48	10	350	40
RD36	14	550	56	12	450	48
RD42	16	600	64	14	600	56
RD52	20	750	140	16	700	64

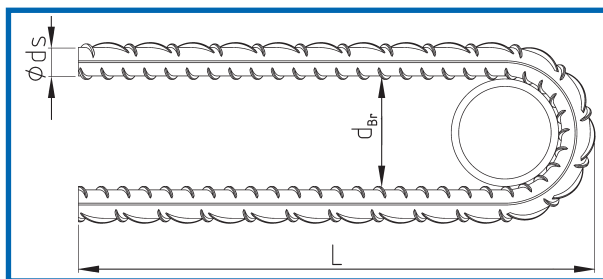


Figure 7: Reinforcement for angular pull

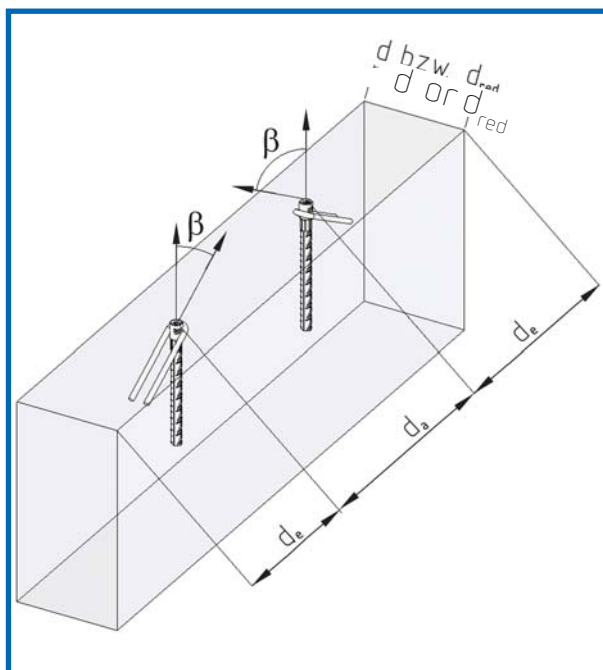


Figure 8: Arrangement of the reinforcement for angular pull



# JENKA System

## 2.4.3 Reinforcement for Lateral Pull

A load in lateral pull with  $\gamma \geq 15^\circ$  requires an additional reinforcement to be incorporated following table 16 in the face counteracting the direction of pull (figure 11). Loads in lateral pull (with the use of chain overhead conveyors) requires no further measures, as the stirrup provides for this load as well. During lowering and raising of the component, the direction of the reinforcement should always be checked (figure 11). Lateral lifting is allowed only for components with minimum thickness "d" according to table 9.

**Attention:** for Peikko JENKA anchor types BSA, PSA, and WAS, lateral pull is not permissible.

Table 16: Reinforcement for Lateral Pull (necessary if  $\gamma \geq 15^\circ$ )

Size	$\varnothing d_{s1}$ [mm]	L [mm]	h [mm]	H [mm]	$d_{Br}$ [mm]	B [mm]	$\varnothing d_{s2}$ [mm]
RD12	6	270	23	35	24	280	8
RD14	6	350	28	42	24	350	12
RD16	8	420	33	49	32	400	12
RD18	8	460	39	55	32	450	12
RD20	10	490	44	64	40	490	14
RD24	12	520	51	75	48	550	14
RD30	12	570	68	92	48	580	16
RD36	14	690	90	118	56	700	16
RD42	16	830	111	143	64	850	20
RD52	20	930	134	174	140	1000	20

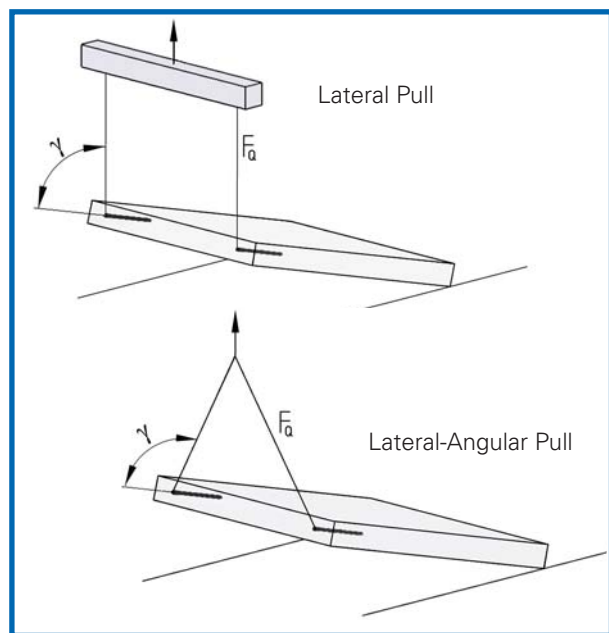


Figure 9: Angle of Lateral Pull  $\gamma$

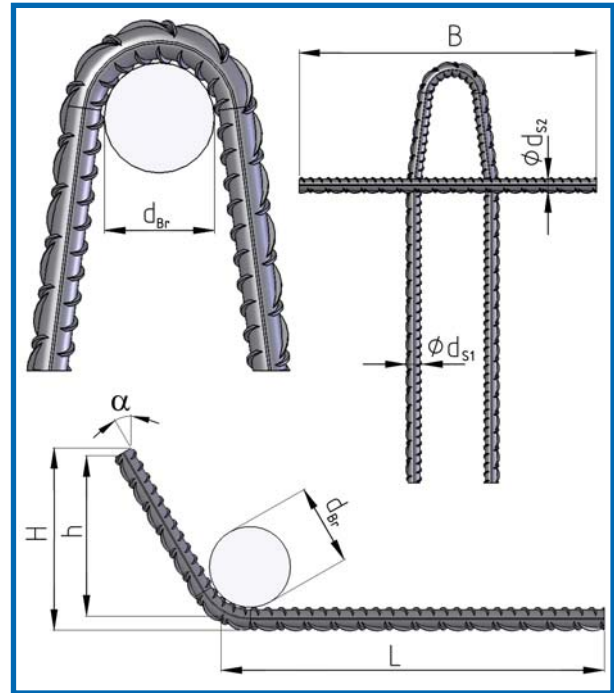


Figure 10: Reinforcement for Lateral Pull

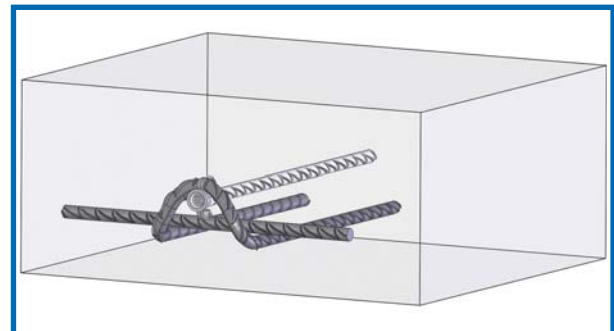


Figure 11: Installation of Lateral Pull reinforcement. Reinforcement must be in contact with the socket surface.

## 2.5 Corrosion

Lifetime of installed Peikko JENKA Anchors is limited due to corrosion. Even through the use of electric zinc plated anchors, corrosion damage can occur and cause rust damage to the component surface. Corrosion damage can be avoided if after final placement the anchor is covered with mortar and sufficient concrete covering. If the JENKA anchor is to be consistently used in outdoor environments, Industrial environments, or in the vicinity of sea, we recommend the use of Peikko JENKA anchors made of stainless steel. Electric zinc plated Peikko JENKA anchors should only be stored for a longer time in dry environmental. To protect the anchors against rust we recommend to use JENKA CPP plastic plugs.



## 3. Lifting Device JENKA TLL

### 3.1 Materials and Dimensions

The Peikko JENKA TLL wire rope lifting loop (table 17) is a component of the Peikko transport anchor system and is in compliance with the safety regulations set forth by the (German) Construction Trade Association "Sicherheitsregeln für Transportanker und -systeme von Betonfertigteilen" (BGR 106).

For the use of Peikko JENKA TLL wire rope lifting loop, this brochure, the installation and usage manual for JENKA transport anchors, and the General Instruction and Usage Manual for Transport Anchors must all be

followed. While following the instructions of this guide, user shall also follow the regulations UVV BGV D6 Krane and BGR 500, "Betreiben von Lastaufnahmeeinrichtungen im Hebezeugbetrieb". The Peikko JENKA TLL wire rope lifting loop is only designed to operate with Peikko JENKA anchors, other use is not permitted (BGR 106 section 5.2). Prior to use the intended allocation and use of the system component must be reviewed. Through a clear label, the manufacturer, the type, and the load capacity can be easily identified.

Peikko JENKA TLL wire rope lifting loops are made from electric zinc plated wire strands and a crimped steel shell. Upon the crimped shell an outside thread is established (metric thread according to DIN 13 or special roundthread). The installation of the JENKA TLL is designed for the transport of precast concrete components. The Peikko JENKA TLL wire rope lifting loop is suitable for load classes 0,5t to 12,5t.

Table 17: Dimensions of Peikko JENKA TLL

Article Nr.	Dimensions			Load Capacity	Fs *
	Type	h	e		
	RD or M	[mm]	[mm]	[kg]	[kN]
TLL12	12	155	22	500	5
TLL14	14	155	25	800	8
TLL16	16	165	27	1200	12
TLL18	18	190	34	1600	16
TLL20	20	215	35	2000	20
TLL24	24	255	43	2500	25
TLL30	30	300	55	4000	40
TLL36	36	360	67	6300	63
TLL42	42	425	75	8000	80
TLL52	52	530	95	12500	125

\* Fs= Allowed load force from 0° - 45°

(Note: A load force for a mass of 1 ton demands a force of approximately 10 kN)

Example for ordering Peikko JENKA TLL

Round Thread: TLL30  
Metric Thread: TLL30M

### 3.2 Usage

#### Labeling

All Peikko JENKA TLL wire rope lifting loops are fitted with a load capacity tag (figure 12). The tag includes the manufacturer, the load capacity, and the type, much like the CE labelling. Additionally the load capacity tags are colour coded, this makes identification of which JENKA anchor and JENKA TLL wire rope lifting loop to use in combination both quick and easy.

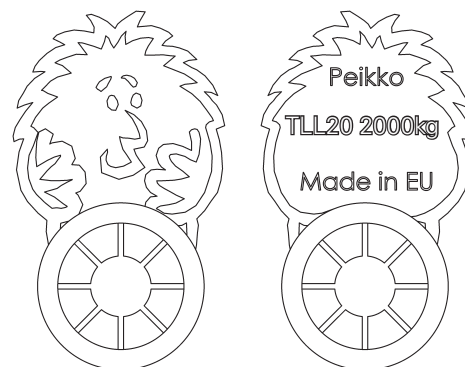


Figure 12: Labelling of Peikko JENKA TLL



# JENKA System

## Usage

Prior to use of the Peikko JENKA TLL wire rope lifting loop the intended use of the system component must be reviewed for safety, the Peikko identification tags makes this easier. The Peikko JENKA TLL wire rope lifting loop can only be used with JENKA anchors. The JENKA TLL can be used multiple times. Improperly used, corroded, or otherwise damaged Peikko JENKA components should not be installed or see further use. Alterations or welding of JENKA components is not allowed.

The Peikko JENKA TLL is to be fully screwed into the JENKA anchor so that the threaded end is inside the socket of the anchor. The JENKA anchors are designed so that the JENKA TLL threads can always be completely screwed into the anchor. Incompletely screwed lifting loops can not bear load.

The following points must be reviewed during installation:

- Unclean threads must be cleaned
- Visual inspection of the JENKA TLL must be established
- Concrete maturity must be verified according to accident prevention regulations (BGR 500, BGR 151, BGI 556).
- Thread must be completely screwed into the anchor.
- Hook size, form, and curvature radius  $R$  of the hook must be checked (minimum of 2 times the cable diameter, see figure 13)
- Only axial or angular pull of up to  $45^\circ$  is permitted.
- Peikko JENKA components should not come in contact with acids or alkali.
- Method of safe & unsafe operation are shown in figures 14 & 15

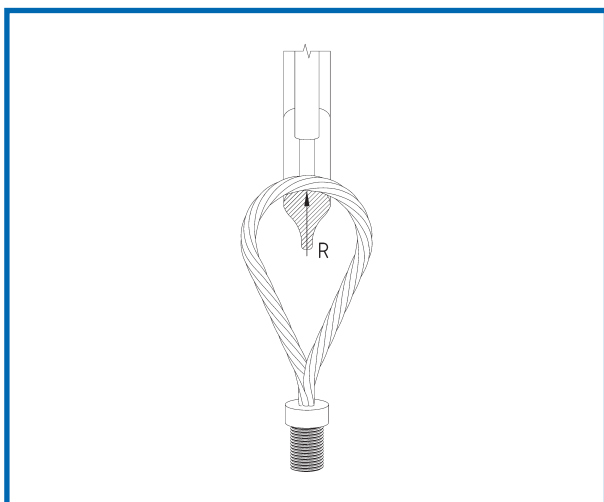


Figure 13: JENKA TLL with a Hook

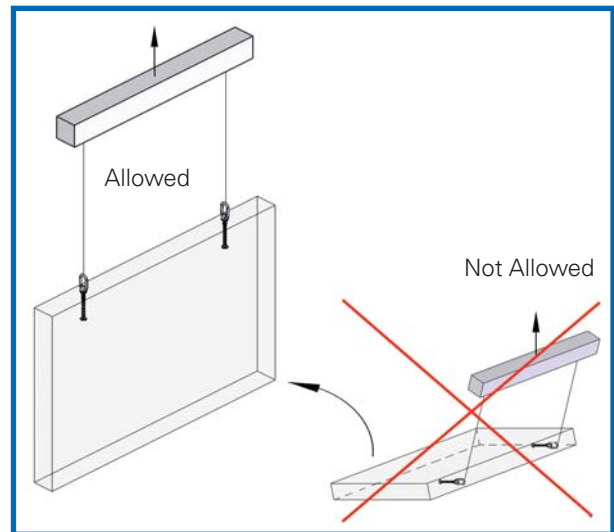


Figure 14: Case of Operation Straight Pull

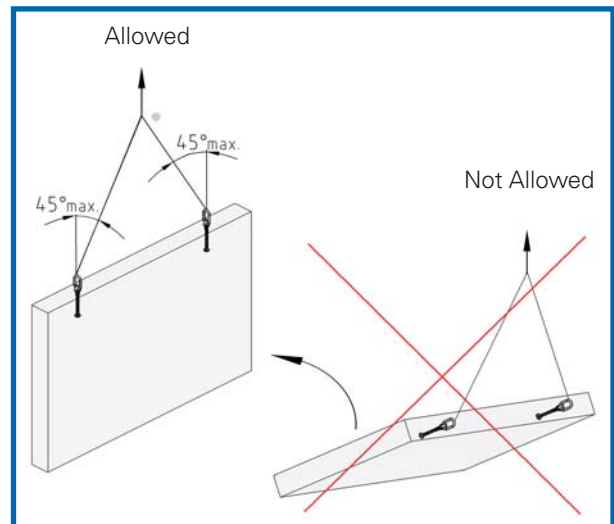


Figure 15: Case of Operation Angular Pull

## 3.3 Safety Considerations

All load suspension components must undergo a routine yearly inspection (BGR 500, chapter 2.8). The inspection is the responsibility of the user and must be done by qualified persons.

In general the up to date accident prevention regulations apply. By using the correct size and form of hook, the durability of a Peikko JENKA TLL can be extended. To maintain the security of the JENKA TLL, any modifications (ex. recutting of the threads) is not permissible. In case of particular occurrences (ex. Loss Occurrence) the JENKA TLL wire rope lifting loop must undergo an additional inspection (BGR 500, Chapter 2.8 section 3.15.3). An exact product durability is not established and depends upon the products use and the regulations of standards BGR 500 and DIN 13155 or other country specific regulations.



### 3.4 Checking the Peikko JENKA TLL

The amount of inspection and the required concrete maturity for loading and load capacity components conforms to the regulations in BGR section 3.15.4. The following is a list of inspection criteria to be reviewed.

- Damage to the threads
- Kinks
- Breaking of strands
- Loosening of the exterior length in free length
- Corrosion marks
- Damage or heavy wear upon the loop or the connection head.
- Any wire breaks.

The complete extent of the inspection can be found in BGR 500 chapter 2.8, 3.15.1.

### 3.5 Corrosion Protection

The durability of reinforced concrete components with installed Peikko JENKA TLL load suspension components is assured, damage through corrosion is limited. Lifting loops can leave corrosion scars upon the surface of a concrete component.

## 4. Lifting Device JENKA JL

### 4.1 Materials and Dimensions

The Peikko JENKA Lifter (table 17) is a component of the Peikko JENKA transport anchor system and is in compliance with the safety regulations set forth by the (German) Construction Trade Association "Sicherheitsregeln für Transportanker und -systeme von Betonfertigteilen" (BGR 106).

For the use of the Peikko JENKA Lifter, this brochure, the installation and usage manual for JENKA transport anchors, and the General Installation and Usage Manual of the Peikko transport anchors must all be followed. Adherence to this guide does not absolve the user from following the regulations UVV BGV D6 Krane and BGR 500, "Betreiben von Lastaufnahmeeinrichtungen im Hebezeugbetrieb". The Peikko JENKA Lifter is only designed to operate with Peikko JENKA anchors and Peikko nail-plates NPP, other use is not permitted (BGR 106 section 5.2). Prior to use the intended allocation and use of the system component must be reviewed. Through a clear label, the manufacturer, the type, and the load capacity can be easily identified.

Peikko JENKA Lifters are made from tempered steel with a welded forged threaded screw adapter. Installation is designed for precast construction components. Peikko JENKA Lifter can be ordered with metric threads according to DIN 13 or with a special roundthread. The JENKA Lifter is available for load classes 0.5t to 12.5t.

Table 18: Dimensions Peikko JENKA Lifter

Article Nr.	Type R or M	Dimensions				Load Capacity [kg]	Fs * [kN]	Fq * [kN]
		B [mm]	H [mm]	e [mm]	Ød [mm]			
JL12	12	50	150	19	13	500	5	2,5
JL14	14	50	150	21	13	800	8	4,0
JL16	16	50	150	24	13	1200	12	6,0
JL18	18	50	162	27	16	1600	16	8,0
JL20	20	50	162	29	16	2000	20	10,0
JL24	24	50	162	35	16	2500	25	12,5
JL30	30	50	177	43	22	4000	40	20,0
JL36	36	50	177	52	22	6300	63	31,5
JL42	42	65	218	60	26	8000	80	40,0
JL52	52	65	218	73	26	12500	125	62,5

\* Fs= Allowed load force from 0° - 45°

\* Fq= Allowed load force at 90°

(Note: A load force for a mass of 1 ton demands a force of approximately 10 kN)

Example for ordering Peikko JENKA Lifter

Round Thread:

JL30

Metric Thread:

JL30M



# JENKA System

## 4.2 Usage

### Labelling

All Peikko JENKA Lifters are imprinted with a permanent marking on its ring (figure 16). This includes the manufacturer, the load capacity, and the type, much like the CE labelling. Finding compatible Peikko anchors and Lifters is possible through these markings.

### Usage

The installation of the Peikko JENKA Lifter must take into consideration the General Information for Installation of Peikko transport anchors, this brochure, and the usage manual for Peikko JENKA anchors. Prior to use the intended allocation and use of the system component must be reviewed. The load suspension devices of the Peikko JENKA System (JENKA TLL and JENKA Lifter) are only designed to operate with the Peikko JENKA anchor. The JENKA load suspension devices can undergo multiple loads from the place of casting to the place of installation. Improperly used, corroded, or otherwise damaged Peikko JENKA components should not be installed or see further use. Alterations or welding of JENKA components is not allowed.

The following points must be reviewed during installation.

- Unclean threads must be cleaned
- Visual inspection of the JENKA JL must be established.
- Concrete maturity must be verified according to accident prevention regulations (BGR 500, BGI 556).
- Thread is completely screwed into the anchor.
- Appropriate lifting components (hook size and hook form) is used.
- Peikko JENKA components should not come in contact with acids or lye.
- The Peikko JENKA Lifter should only undergo loads from the directions shown in figures 17 - 18, loads as shown in figures 19 - 21 are impermissible.

The Peikko JENKA Lifter is used with the JENKA nail-plate NPP. After fully screwed into place, the load suspension device is ready to apply force to the concrete (figure 22). For the alignment in the direction of pull, the Lifter can be unscrewed a maximum of half a rotation.

Improper direction of pull (Pulling over corners, or in angular pull greater than 45°) can lead to damage of the ring or the threaded head. The concrete maturity is greatly effected.

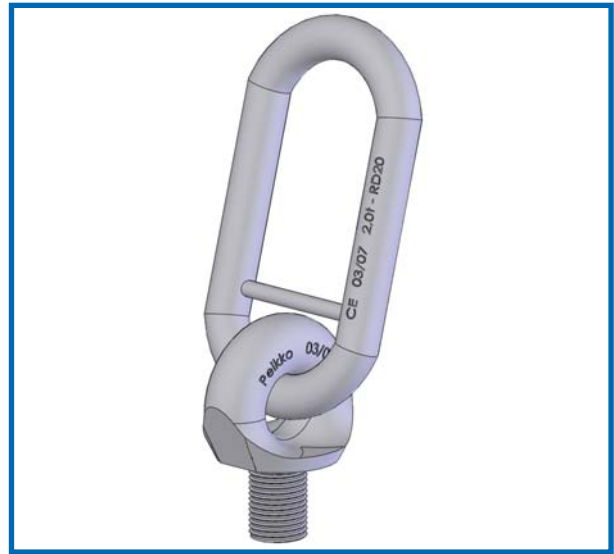


Figure 16: JENKA Lifter Identification

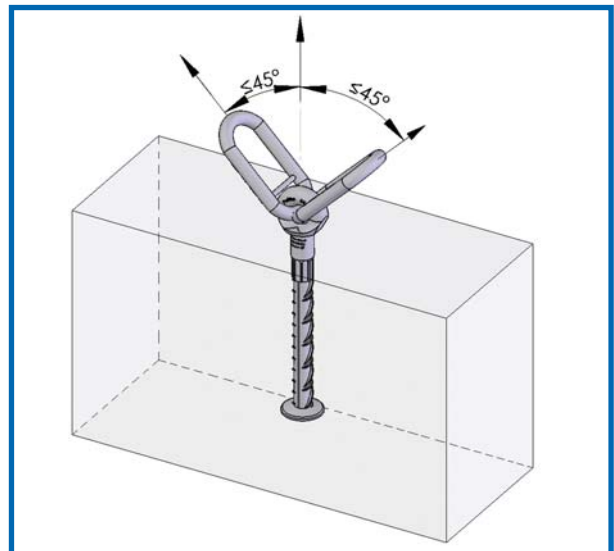


Figure 17: JENKA Lifter Installation for Axial and Angular Pull

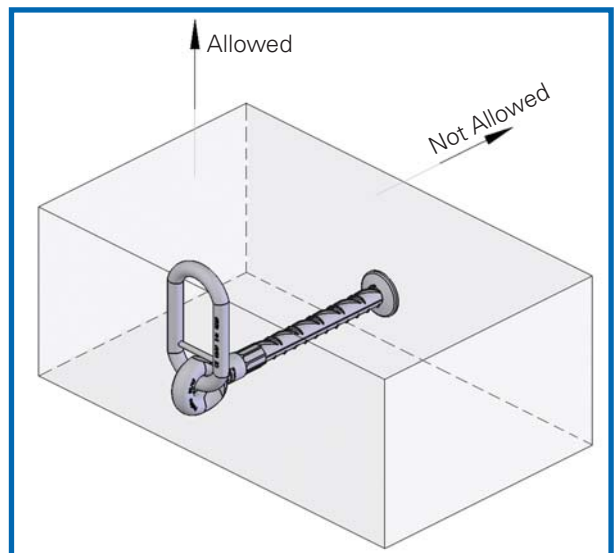


Figure 18: JENKA Lifter Installation for Lateral Pull



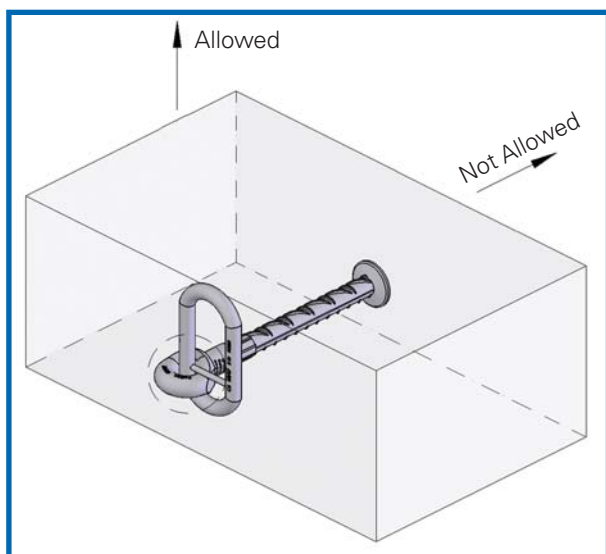


Figure 19: JENKA Lifter Installation for Lateral Pull

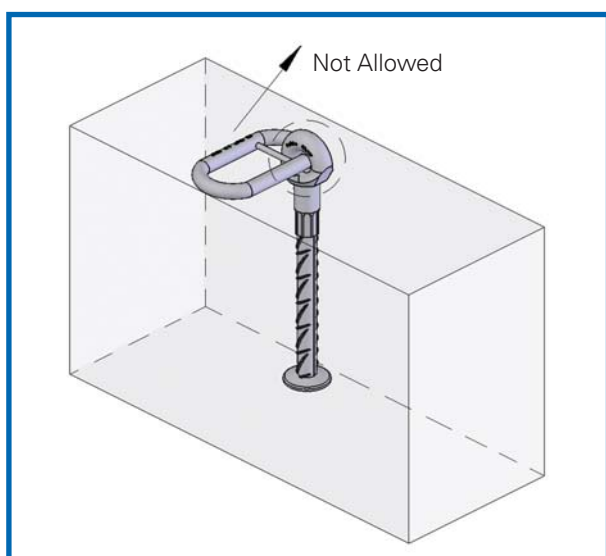


Figure 20: Incorrect loading

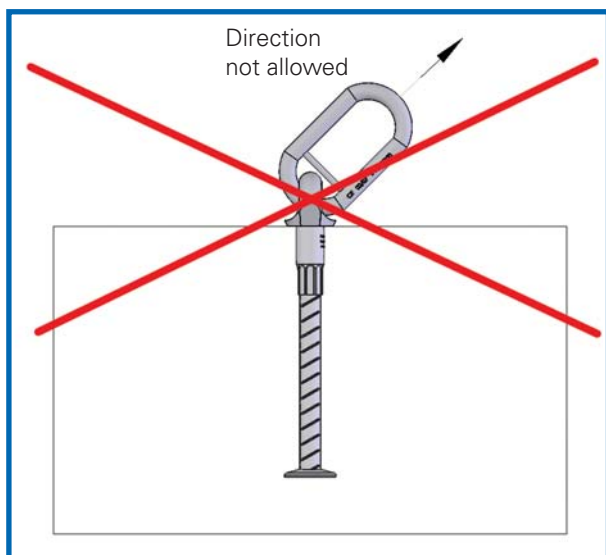


Figure 21: JENKA Lifter impermissible Angular Pull

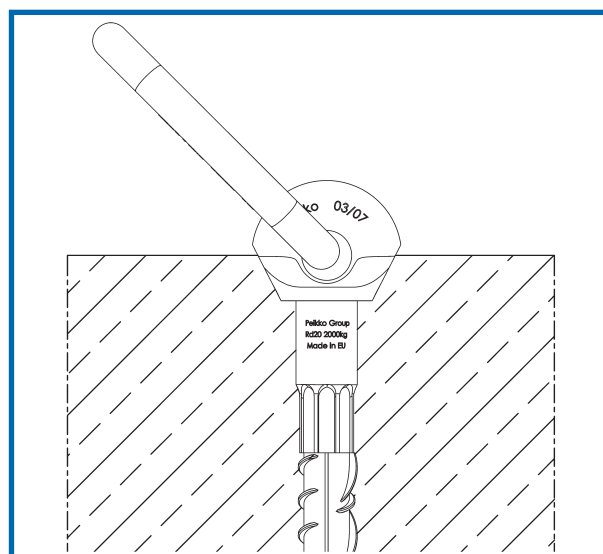


Figure 22: JENKA Lifter Installation

### 4.3 Safety Considerations

All load suspension components must undergo a routine yearly inspection (BGR 500, chapter 2.8). At least every three years a magnetic break inspection must be made. The inspection is the responsibility of the company and must be done by qualified persons.

In general the up to date accident prevention regulations apply. By using the correct size and form of hook, the durability of a Peikko JENKA Lifter can be extended. To maintain the security of the JENKA Lifter, any alterations (ex. recutting of the threads, straightening the ring head) is not permissible. In case of particular occurrences (ex. Loss Occurrence) the JENKA Lifter must undergo an additional inspection (BGR 500, Chapter 2.8 section 3.15.3). An exact product life is not defined, rather is dependant on the regulations set by the standards BGR500 and DIN EN 13155 or other country-specific regulations.

### 4.4 Checking the Peikko JENKA Lifter

The amount of inspection and the concrete maturity for loading and load capacity components conforms to the regulations in BGR section 3.15.4. The following is a list of inspection criteria to be reviewed.

The complete extent of the inspection can be found in BGR 500 chapter 2.8, 3.15.4.

- Damage to the threads
- Breakage along the ring head
- Tears or corrosion marks
- Deformation of the ring head (see figure 23)
- Reduction in ring width  $d_{min}$  at any location of more than 10% of width  $d$  (table 19)
- Damage or heavy wear at the drop point (figure 25)
- Lengthening of nominal dimensions  $T$  beyond 5%.



# JENKA System

Damaged or worn out load suspension devices can no longer be installed or used. Table 19 has inspection and wear values for the ring head of the Peikko JENKA Lifter.

Table 19: Inspection and Abrasive Wear Dimensions Chain Link

Type	T [mm]	$T_{\max} = 1,05 \times T$ [mm]	$\varnothing d$ [mm]	$\varnothing d_{\min} = 0,9 \times \varnothing d$ [mm]
RD/M12	115	121	13	11,7
RD/M14	115	121	13	11,7
RD/M16	115	121	13	11,7
RD/M18	115	121	16	14,4
RD/M20	115	121	16	14,4
RD/M24	115	121	16	14,4
RD/M30	115	121	22	19,8
RD/M36	115	121	22	19,8
RD/M42	139	146	26	23,4
RD/M52	139	146	26	23,4

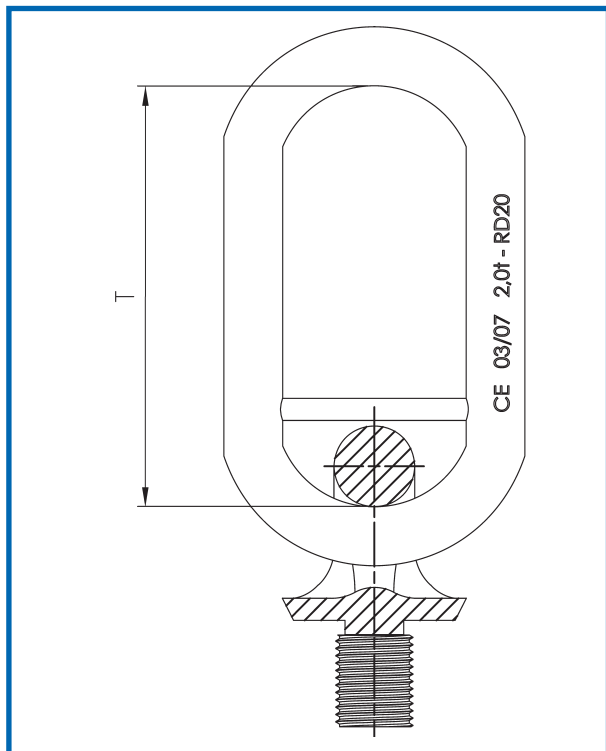


Figure 23: Deformation of Chain Link

## 4.5 Corrosion Protection

The lasting durability of reinforced concrete components with installed Peikko JENKA Lifter load suspension components is assured, damage through corrosion is limited. JENKA Lifters can leave corrosion marks upon the surface of a concrete component. The Peikko JENKA Lifter is galvanized for protection against early corrosion.

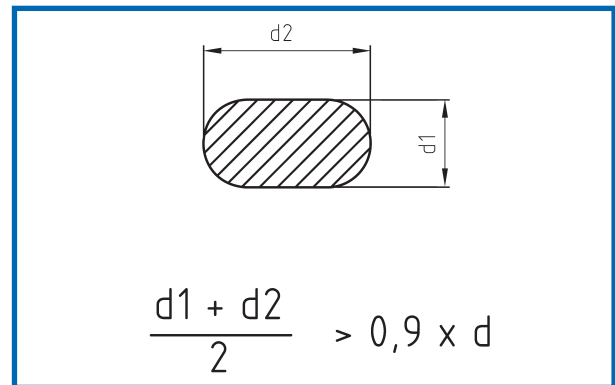


Figure 24: Average Link Thickness

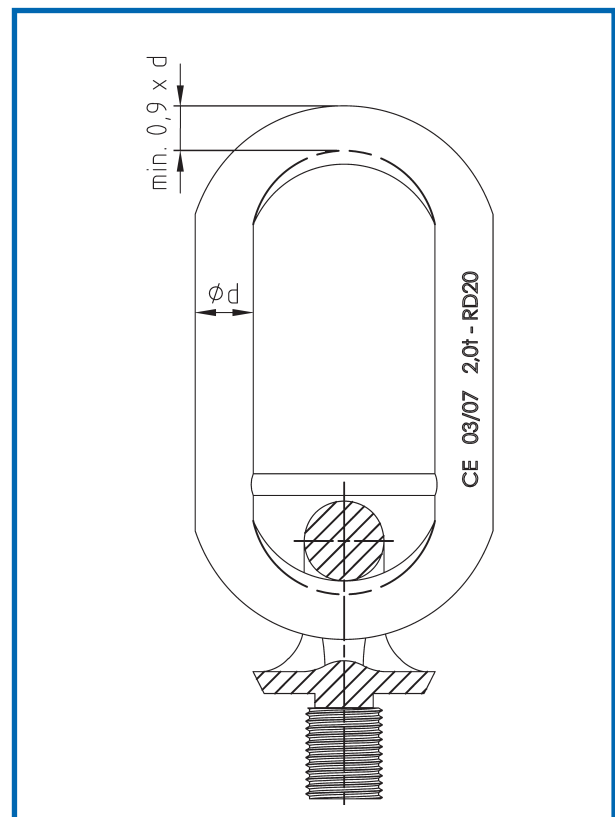


Figure 25: Wear on Chain Link









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