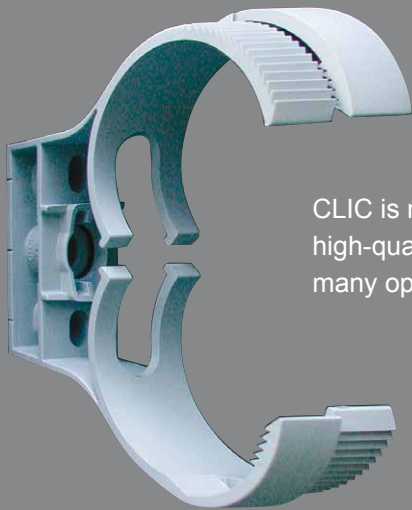


Pipe and cable fastening with plastic pipe clamps



Gripping possibilities

for the world of pipe and cable fastening



CLIC is more than just a plastic clamp: CLIC offers a high-quality system of solutions allowing you to grip many opportunities.

A product of Egli, Fischer & Co. Ltd., Zurich, www.clic-original.com
manufactured by BIRO, www.biro.ch

clic[®]

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Patents: The CLIC technology is protected by Swiss and international patents held by Egli, Fischer & Co. Ltd., Zurich (EF).

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www.clic-original.com

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CLIC – the original

Since 1975 the self-locking pipe clamp CLIC has proved itself millions of times. Cables and pipes fixed with «Swiss Quality» are fast and securely fixed throughout the world.

Today, system solutions (pipe clamps, screws, plugs and accessories) are required, for instance in telecommunications. Consulting during the phase of planning, becomes more and more important. A long experience in business and our internal development division have allowed many individual solutions in collaboration with our customers engineers. Our production is able to preassemble tailor-made CLIC systems even at short notice.

The proven solution for cable conduits

Easy handling and fast mounting predestinates CLIC for fixing cable conduits.

The smart solution for specific tasks

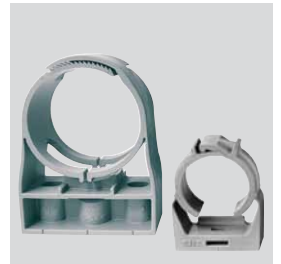
For installations with higher demands, public areas or infrastructural buildings, the qualities of CLIC and CLIC TOP are especially recommended because of the high mechanical capacity, the excellent impact resistance and temperature stability.

The best solution for highest demands

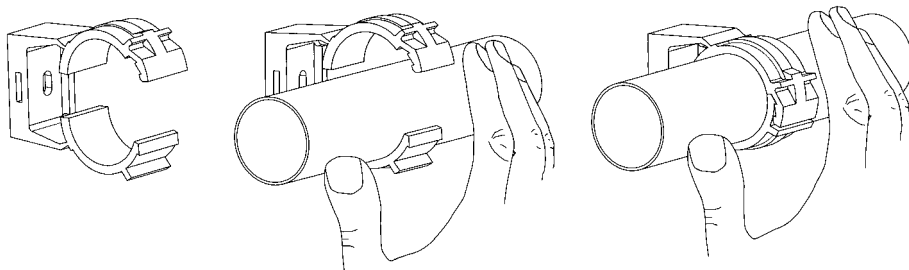
CLIC TOP ideally covers the increasing demands for fixing points in sensitive environments. In many tunnels coaxial cables for radio and mobile telephone systems are openly mounted. The performance may not be impaired by interference from metallic parts. The plastic pipe clamp CLIC TOP is therefore the best solution for the installation.

Application areas

- Electrical installations
- Sanitary installations
- Control technique
- Chemical industry, difficult environments
- Clean rooms
- Radiating cables
- Fire alarm systems
- Swimming pools
- Central vacuum cleaners



clic[®]top



Single-hand installation – a matter of course with CLIC: place the pipe, apply slight pressure and the clamp locks itself with a sharp *clic*.

Saves up to 40% installation time in comparison to commonly used clamps.

References

Approved under hardest conditions

Egli Fischer exports to more than 40 countries. The «Swiss Quality» product CLIC convinces wherever special requirements emerge.

Characteristics such as non-corroding material, safety – also in case of fire – and easy installation let the CLIC become the favorite in tunnel construction, as well as for outside areas with chemical and weather ascendancies. Further reference applications are installations in nuclear power plants (electrical pipes) and in waste incineration facilities (waste outfall, heating and heat recovery).

High-speed tunneling

With a route length of 57 km the Gotthard Base Tunnel in Switzerland is the world's longest rail tunnel. Multiple CLIC solutions for mounting cables and tubes provide a state of the art installation guaranteeing safety and durability in the different tunnels, shafts and passages representing a total length of 151.84 km. When completed, passenger high speed trains and freight trains of up to 4000 t will travel through the new tunnels.

Since 2002 tilting trains *ICE3* are speeding with up to 250 km/h through the 30 tunnels of the Cologne–Rhine/Main railway line. Upon the total length of 47 km, coaxial cables are mounted with about 45,000 CLIC TOP clamps. The system for high-quality fixing points includes also various types of screws in stainless steel (A4).

CLIC clamps were also used in other railway tunnels as well as in the underground in Hannover, Vienna, Hong Kong, Singapore, Istanbul, London, Los Angeles and other cosmopolitan cities.

Coaxial cables in road tunnels

One of the first CLIC applications has proved itself successfully in the *Schöneich* road tunnel (Switzerland), where radiating coaxial cables for radio and mobile phone communication were openly mounted at a wall distance of 40 mm. At the renovation of the tunnel in 2001, the cables had to be replaced by new ones with better electrical characteristics. The roughly 4000 CLIC clamps could still be opened easily – even after about 20 years of exposure to temperature distinctions, humidity and exhaust gases – and have been replaced by new CLICs.

Corrosion-resistant and fire-proof – ideal for shipping

On the *European Vision*, built by the Alstom Atlantique shipyard in Saint Nazaire (F), CLIC was used for all water and compressed air pipes. Warm, cold, cooling and drinking water flow in copper pipes that are fixed with CLIC. Resistance against seawater and the good characteristics relating to fire were – after Alstom's own testing – the deciding factors for CLIC TOP. Alstom has used CLIC TOP also for other passenger liners, including the *Queen Mary II*.



Bundled pipes and cables with one CLIC clamp at the underside of the *Ponte Val Calanca* bridge in Switzerland.



CLIC is often used for cable fixing in railway- and underground tunnels.



CLIC has proved itself in numerous road tunnels such as the *Gotthard* tunnel in Switzerland.



Since CLIC TOP is unimpaired by saltwater, it is preferentially used by shipbuilders.

Quality

The widest choice

For most CLIC products you have the option between the two material qualities CLIC and CLIC TOP. Numerous certifications give you the additional assurance of having made the right choice.



clíc

The proven solution

High-quality copolymer

UV stabilized

Good chemical resistance

Weatherproof

Working temperature
-25 up to +90 °C long-term

Hinges allow installation
down to -10 °C

clíc^{top}

For highest demands

Pure polyamide

UV resistant

Excellent chemical resistance

Chloride salt and termite
resistant

Working temperature
-40 up to +110 °C long-term

Hinges allow installation
down to -25 °C

High low-temperature impact
strength

High flexibility at low and high
temperatures



Certifications

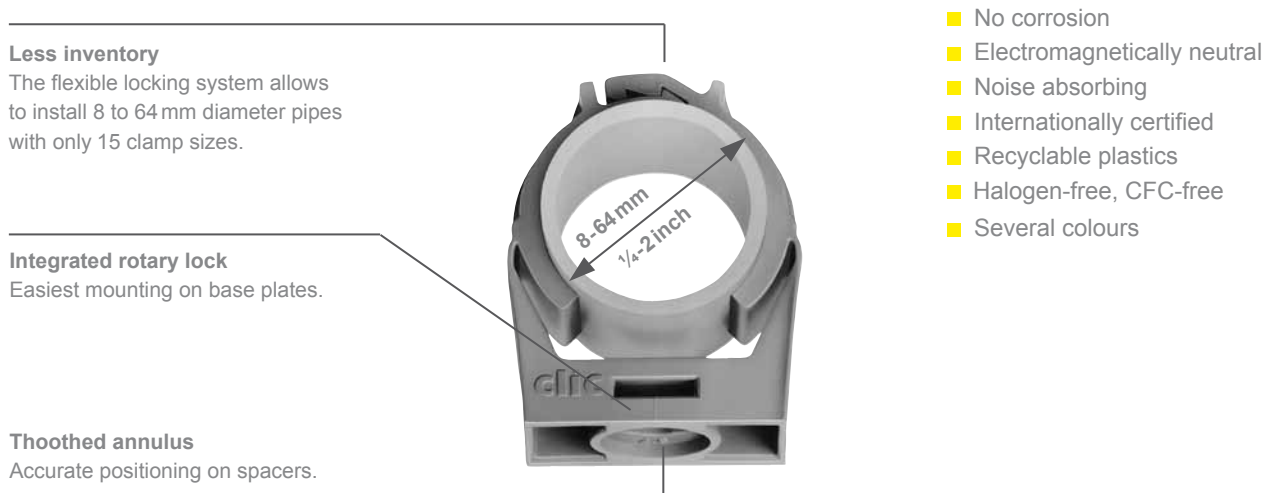
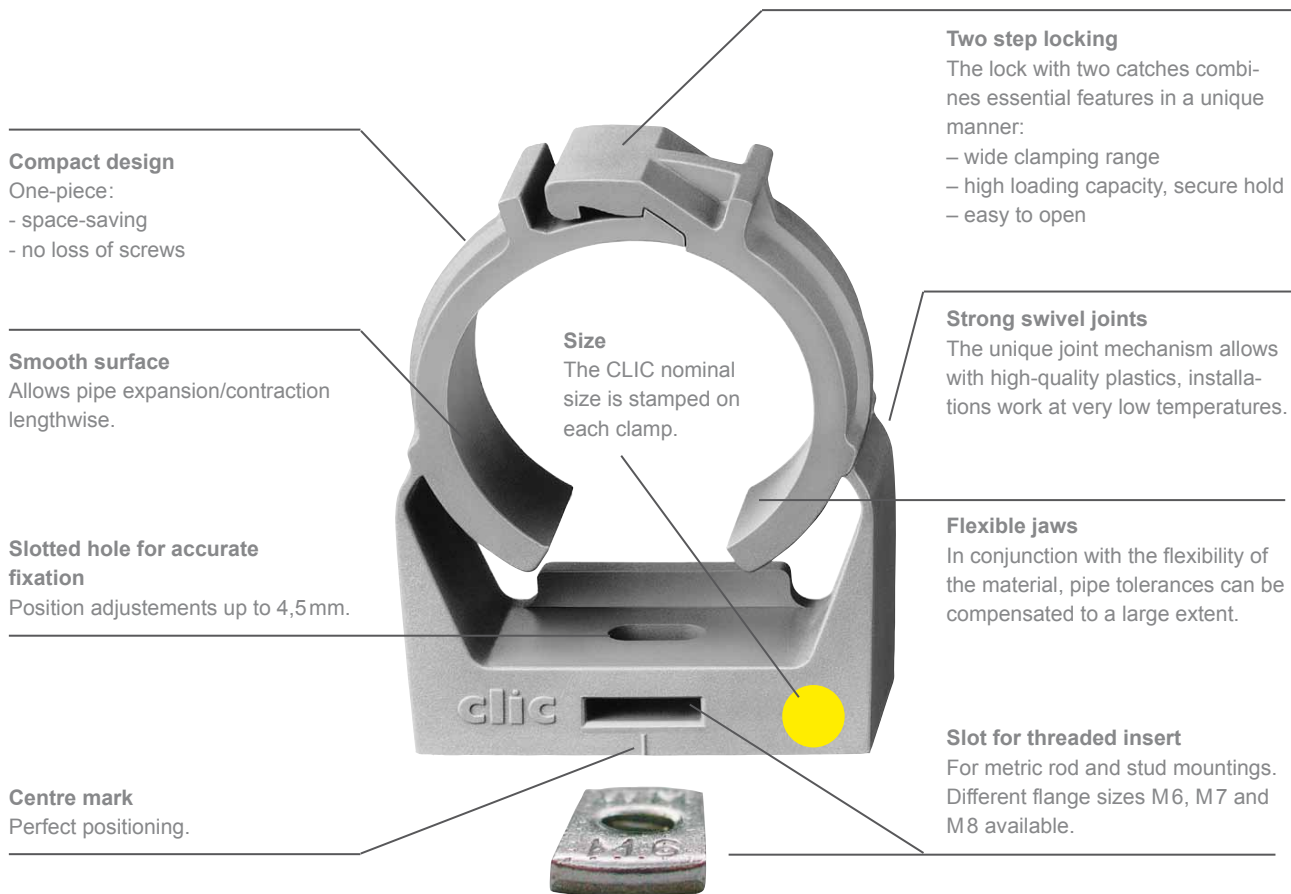
Nearly all sizes of both qualities, CLIC and CLIC TOP, are certified by KIWA® and UL®. For details please see table on page 11.



CLIC 8 to 64 mm – Technology

The advantages of the original

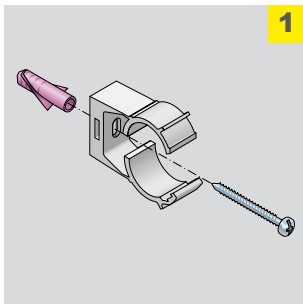
Secure, fast, economical, user-friendly – a true fact. The outstanding features of CLIC are self-explanatory. Benefit from the advantages and the safety of the original that has proved itself since 1975.



CLIC 8 to 64 mm – System

Mounting with system

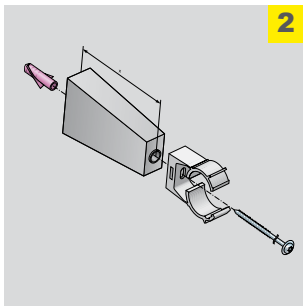
CLIC is more than just a pipe clamp: CLIC is a comprehensive mounting system with perfectly matching parts that can be used separately or combined into customized pre-assembled sets.



1

Installation with wood screw and DELTA nylon plug.

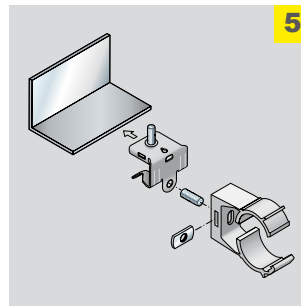
Surfaces:
Masonry, Concrete



2

Installation with CLIC spacer, round-head wood screw with pressed-on washer and DELTA nylon plug.

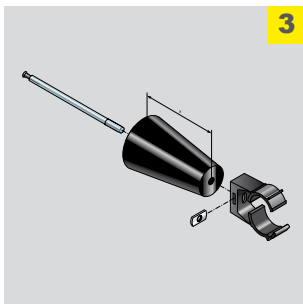
Surfaces:
Masonry, Concrete



5

Installation with CLIC hammer on spring steel clamp, CLIC flange and a threaded stud M6

Surface:
Steel beam



3

Installation with CLIC round spacer, TILCA fire-resisting anchor M6 and CLIC flange. Stainless steel 1.4529 on demand.

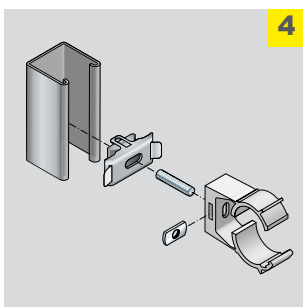
Surface:
Concrete



6

Installation of two CLIC onto base plate fixed with TILCA nail-in plug.

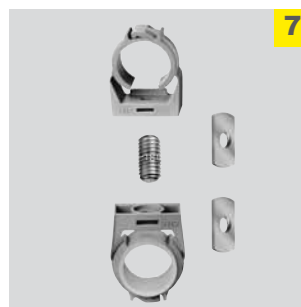
Surfaces:
Masonry, Concrete



4

Installation with CLIC SLICK strut nut M6, CLIC flange and a threaded stud M6.

Surface:
Strut 41 × 41 and
41 × 21 mm



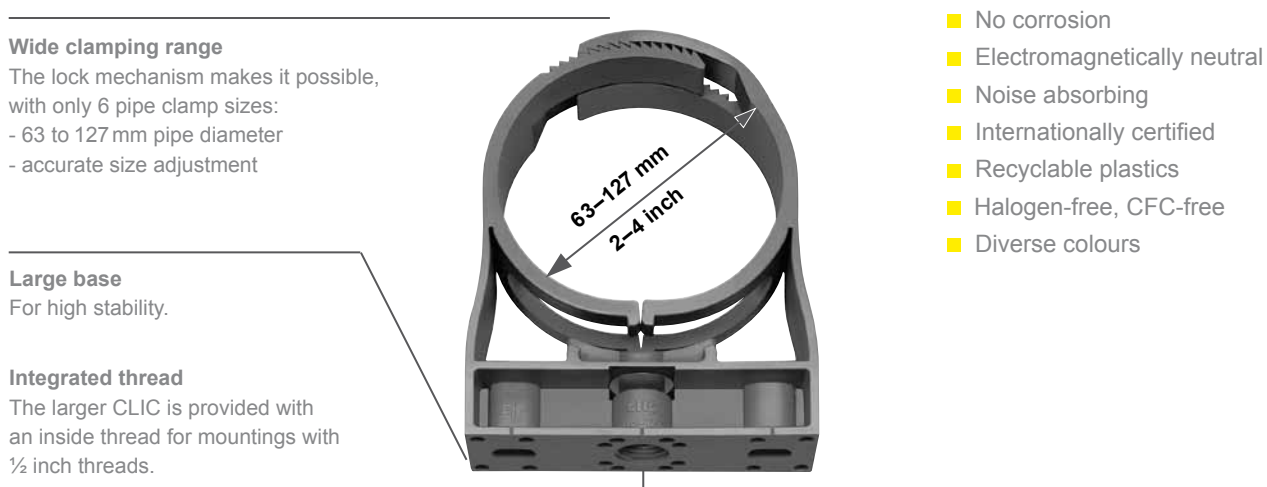
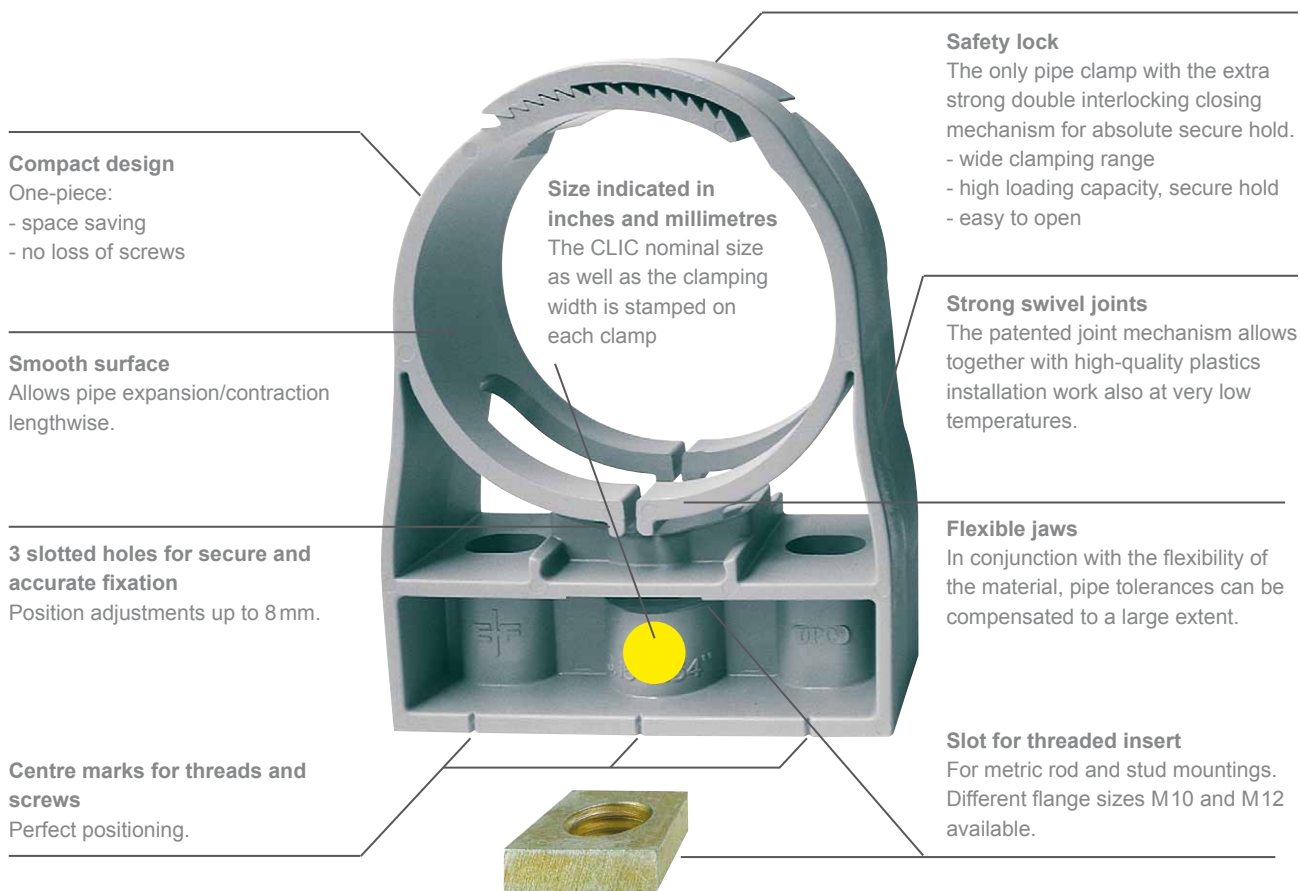
7

Installation CLIC to CLIC with threaded stud and two CLIC flanges.

CLIC 63 to 127 mm – Technology

Perfect for large pipes

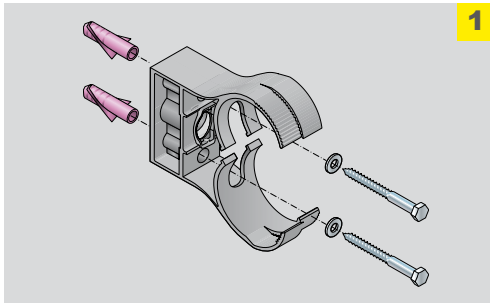
For large diameters CLIC also offers the perfect solution with high-quality plastic materials. Count on the advantages and quality of the original that proves itself world-wide successfully, even under very hard conditions, for more than 25 years.



CLIC 63 to 127 mm – System

Mounting with system

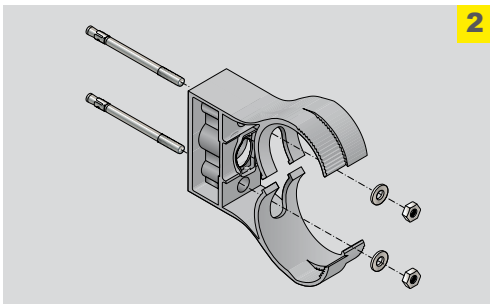
The vast range of CLIC accessories allow various mounting possibilities. Combine your own assembly or ask our experts. If requested we tailor customer or project specific pre-assembled sets. This guarantees the optimal loading capacity and efficient mounting.



1

Installations with two hex cap wood screws and two DELTA nylon plugs.

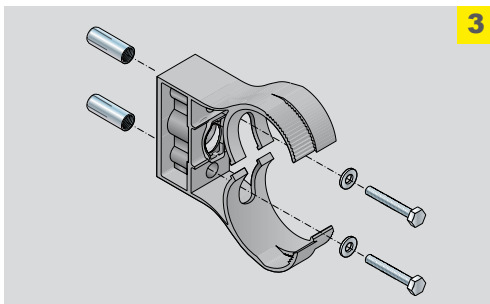
Surfaces:
Masonry, Concrete



2

Installation with two TILCA anchor bolts M8. Stainless steel 1.4529 on demand.

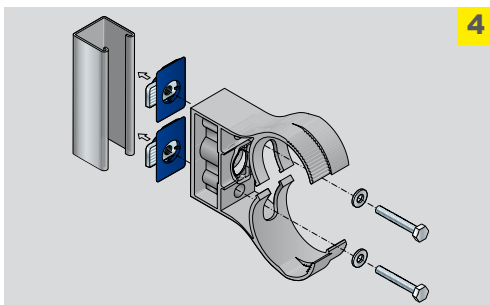
Surface:
Concrete



3

Installation with two TILCA flush anchors M8, two washers and two hex cap metal screws M6.

Surface:
Concrete



4

Installation with two CLIC thread supports, two washers and two hex cap metal screws M6.

Surface:
Strut 41×41 and
41×21 mm

Technical data sheet

clíc[®] 8 - 64 mm | 63 - 127 mm

Application areas

- Installation in the **internal area**
- Chemical industry
- Electrical installations (tubular cable protection)
- Sanitary installation (cold and hot water pipes)
- Swimming pools : technical cabinets / racks
- Switching cabinets / Electrical racks

Features

- Locking system without additional screws
- Clamping range 8 - 64 mm (0.31" to 2.52")
- Clamping range 63 - 127 mm (2.48" to 5")
- Mounting with threaded or wood screws
- Very little moisture absorption
- Approved by KIWA[®], UL[®], IAPMO, R&T/UPC[®]

Technical data **clíc**[®] 8 - 64 mm

Material quality	High quality copolymer
Density at +20° C	1.21 g/cm ³
Elongation at yield	5%
E-Modulus in tension	2100 MPa
Water absorption at 23° C	0.50%
Moisture absorption (23° C / 50% R.H.)	0.15%
Shore hardness D	82
Dielectric strength	33 kV/mm
Weather proof	-25° C up to +90° C no decomposition with correct use
Mounting temperature	down to -10° C
Maximum service temperature short term	+120° C
Maximum service temperature long term	+75° C to +90° C
Flammability	HB according to UL 94
Fire class	B2 according to DIN 4102
Halogen	halogen free as per IEC 754-2
Petrol, diesel, oil	resistant
Corrosion	resistant
UV	UV-stabilized as per ISO 4892-2
Standard colour	light grey (RAL 7035)
Special colour	on request

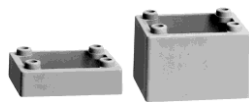
Technical data sheet

clic® 8 - 64 mm | 63 - 127 mm

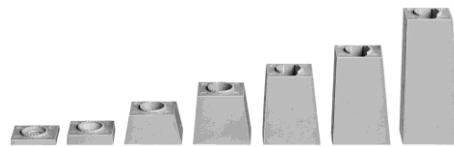
Technical data **cl**ic® 63 - 127 mm

Material quality	High quality copolymer
Density at +20° C	0.91 g/cm ³
Elongation at yield	9%
E-Modulus in tension	1500 MPa
Hardness, Rockwell	98 R-scale
Service temperature	-10° C up to +80° C
Melting temperature	+230° C
Flammability	HB according to UL 94
Halogen	halogen free as per IEC 754-2
Corrosion	resistant
UV	UV-stabilized as per ISO 4892-2
Standard colour	light grey (RAL 7035)
Special colour	on request

Accessories



CLIC spacers



CLIC spacer 2,5 - 85 mm



Base plate



CLIC base plate for mounting of 2 pcs



CLIC base plate for mounting of 3 pcs



flange M 6 / M 7 / M 8



CLIC flange

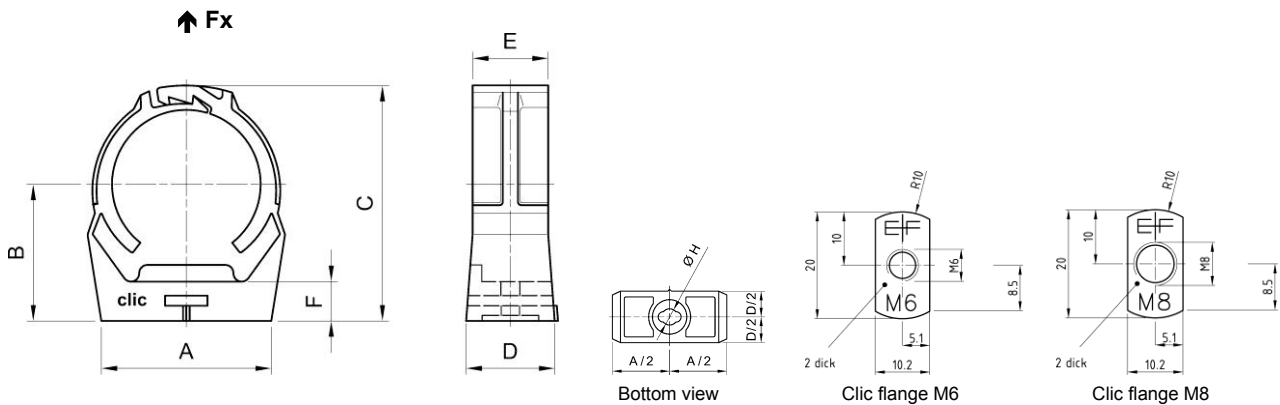


Double thread stud

CLIC Product Information

Type	Steel		Copper	Cast iron	PE	PVC	Cableducts metric measures M	Coaxial cable inch	Certification			Breaking load [N] Fx**
	mm	inch	mm	mm	mm	mm			Kiwa	UPC	UL	
8							8			✓	✓	450
10			10				10		✓	✓	✓	470
12	13,5	1/4"	12				12		✓	✓	✓	500
15			15			16	16	1/2"	✓	✓	✓	650
17	17,2	3/8"	18						✓	✓	✓	700
20	21,3	1/2"				20	20	5/8"	✓	✓	✓	750
22			22						✓	✓	✓	800
25	26,9	3/4"				25	25		✓	✓	✓	900
28			28					7/8"	✓	✓	✓	950
32	33,7	1"	35		32	32	32		✓	✓	✓	1100
36								1 1/4"	✓	✓	✓	1200
40	42,4	1 1/4"	42		40		40		✓	✓	✓	1350
47	48,3	1 1/2"		48	50	50	50	1 5/8"	✓	✓	✓	1400
51			54						✓	✓	✓	1500
59	60,3	2"	64			63				✓	✓	1600

** with screw DIN 96 at +20 °C, safety factor must be considered!



Type	Clamping range [mm]		A [mm]	B [mm]	C [mm]	D [mm]	E [mm]	F [mm]	H*		Breaking load [N] Fx**
	min.	max.							wood [mm]	metric	
8	7,8	9,5	17,1	17,5	26,4	17,1	14,5	7,5	3,5	M6	450
10	9,5	11,8	17,1	17,5	26,2	17,1	14,5	7,5	3,5	M6	470
12	11,8	14,3	20,2	19,5	28,3	17,2	14,5	7,5	3,5	M6	500
15	14,3	16,8	20,6	18,8	32,0	17,1	14,5	7,5	3,5	M6	650
17	16,8	19,5	22,5	23,7	35,4	19,5	16,0	7,8	4,5	M6	700
20	19,5	21,8	24,8	24,9	39,4	20,0	16,3	7,8	4,5	M6	750
22	21,8	24,8	27,8	26,0	42,0	20,0	16,5	7,8	4,5	M6	800
25	24,8	27,8	30,4	28,0	45,1	20,0	17,0	8,8	4,5	M6	900
28	27,8	31,2	33,4	31,7	48,9	20,2	17,0	8,8	4,5	M6	950
32	31,2	35,5	38,0	34,5	54,4	21,0	17,5	9,0	4,5	M6 / M8	1100
36	35,5	39,5	41,8	36,5	59,4	21,0	18,0	9,1	4,5	M6 / M8	1200
40	39,5	43,5	46,2	38,2	64,2	21,0	18,6	9,4	4,5	M6 / M8	1350
47	46,5	50,5	53,5	43,0	72,8	22,0	19,5	9,8	4,5	M6 / M8	1400
51	50,5	55,5	58,6	46,8	78,7	23,0	20,0	10,2	4,5	M6 / M8	1500
59	58,5	64,0	66,3	52,0	88,2	23,2	21,0	10,7	4,5	M6 / M8	1600

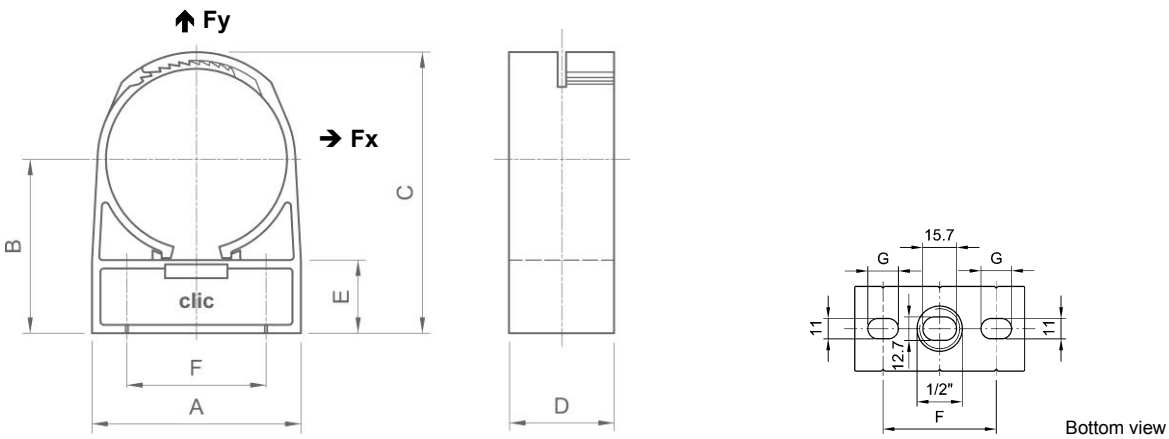
* H = screw diameter; wood screw (wood) / metal screw (metric)

** with screw DIN 96 at +20 °C, safety factor must be considered!

CLIC Product Information

Type	Steel		Copper	Cast iron	PE	PVC	Cable ducts metric measures	Coaxial cable inch	Certification		Breaking load [N]	
	mm	inch	mm	mm	mm	mm			UPC	UL	Fy*	Fx*
63					63		63		✓	✓	1440	800
71	76,1	2 1/2"	76	78	75	75			✓	✓	1760	1040
80	88,9	3"	89						✓	✓	2080	1280
90					90				✓	✓	2400	1520
101			108	110	110	110			✓	✓	2800	1760
113	114,3	4"	114		125	125			✓	✓	3200	2000

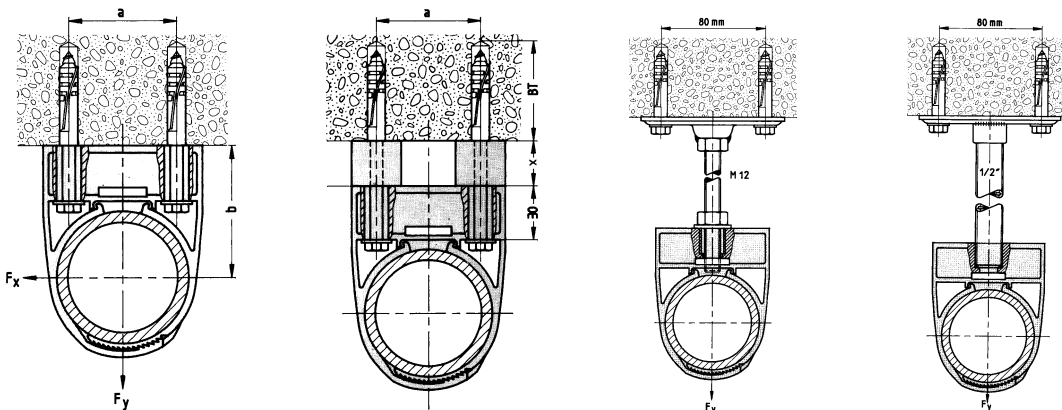
* with 2 screws DIN 571 at +20 °C, safety factor must be considered!



Type	Clamping range [mm]		A [mm]	B [mm]	C [mm]	D [mm]	E [mm]	F [mm]	G [mm]	Breaking load [N]	
	min.	max.								Fy*	Fx*
63	63	71	78	72	115	40	31	52	11	1440	800
71	71	80	87	77	124	40	31	58	15	1760	1040
80	80	90	98	83	136	40	31	66	16	2080	1280
90	90	101	110	89	148	40	31	76	16	2400	1520
101	101	113	124	96	163	40	31	86	17	2800	1760
113	113	127	139	105	180	40	31	102	17	3200	2000

* with 2 screws Ø 8 mm DIN 571 at +20 °C, safety factor must be considered!

Mounting examples



Chemical resistance

Material	Concentration	Resistance at +23 °C	Material	Concentration	Resistance at +23 °C
Acetic acid	5%	●●	Heating oil		●●●
Acetone		●	Heptane, Hexane		●●●
Acetylene		●●●	Hydraulic oil		●●
Ammonia	liquid	●●	Hydrochloric acid	10%	●●●
Benzine		●●●	Hydrogen fluoride		●●
Brake fluid		●●●	Inert gas		●●●
Butane		●●●	Iso-octane		●●●
Butanol		●●	Isopropanol		●●●
Butyl acetate		●●	Ketone aliphatic		●
Carbon monoxide		●●●	Lacquer		●●●
Carbon tetrachloride		●	Methanol		●●●
Carbonic acid		●●●	Methylene chloride		●
Caustic potash	10%	●	Mineral oil		●●●
Chlorobenzene		●	Naphthaline		●●
Chlorine gas		●	Nitric acid	10%	●●
Chloroform		●	Nitrohydrochloric acid		●
Citric acid	10%	●●●	Oleum		●
Decalin		●●	Ozone		●
Dibutylphthalate		●●	Paraffin		●●●
Diesel fuel		●●●	Perchloric acid		●
Dimethyl formamide		●	Petroleum ether		●●●
Dimethylether		●●	Phosphoric acid	10%	●●●
Diethylphthalate		●●	Potassium hypochlorite		●●●
Dioxan		●	Silicon oils		●●●
Engine oil		●●●	Sodium hydroxide	10%	●
Ethanol		●●●	Soldering water		●●
Ethyl acetate		●●	Sulphuric acid	10%	●●●
Ethyl ether		●●●	Styrol		●●
Ethylene oxide		●●●	Tetrahydrofurene		●
Fatty acid		●●	Toluene		●●
Fatty alcohol		●●●	Transmission oil		●●●
Formic acid	10%	●●●	Trichlorethane		●
Glycerine		●●●	Trichlorethylene		●
Glycol		●●●	Turpentine		●●
Glystantine		●●●	Turpentine oil replacement		●●
			Xylene		●●

- resistant, none or little change of weight
- limited resistance, contact short-term possible
- not resistant

The recommendations and data given are based on our experience to date. No liability can be assumed in connection with their usage and processing.

For technical advice please contact our sales engineers. We will be happy to provide further assistance.

Technical data sheet

clíc[®] top 8 - 64 mm | 63 - 127 mm

Application areas

- Installation in the **internal and external area**
- Plumbing trade
- Chemical industry
- Electrical installations (tubular cable protection)
- Coaxial cable fixing
- Sanitary installation (cold and hot water pipes)
- Swimming pools : technical cabinets / racks

Features

- Locking system without additional screws
- Clamping range 8 - 64 mm (0.31" to 2.52")
- Clamping range 63 - 127 mm (2.48" to 5")
- Very high dynamic load
- Very high stress corrosion crack stability
- Very low moisture absorption
- Chloride and weather resistant
- Mounting with metrical or wood screws
- Approved by KIWA[®], UL[®], IAPMO, R&T/UPC[®]

Technical data clic[®] top 8 - 64 mm

Material quality	Polyamide PA 12
Density at +20° C	1.01 g/cm ³
Elongation at yield	12%
E-Modulus in tension	1100 MPa
Water absorption at 23° C	1.50%
Moisture absorption (23° C / 50% R.H.)	0.50%
Shore hardness D	70
Disruptive strength	32 kV/mm
Weather proof	-40° C up to +110° C no decomposition with correct use down to -25° C
Mounting temperature	+150° C
Maximum service temperature short term	+90° C to +110° C
Maximum service temperature long term	+90° C to +110° C
Flammability	HB according to UL 94
Calorific / energy value	34 kJ / gram
Impact value (Charpy, +23° C)	7
Impact value (Charpy, -30° C)	6
Halogen	halogen free as per IEC 754-2
Petrol, diesel, oil	resistant
Corrosion	resistant
Chloride salt	resistant
UV	resistant as per ISO 4892-2
Standard colour	dark grey (RAL 7001), black (RAL 9011), white (RAL 9010), red (RAL 3020)
Special colour	on request

Technical data sheet

clíc® top 8 - 64 mm | 63 - 127 mm

Technical data clic® top 63 - 127 mm

Material quality	Polyamide PA 12
Density at +20° C	1.01 g/cm ³
Elongation at yield	12%
E-Modulus in tension	1100 MPa
Water absorption at 23° C	1.50%
Moisture absorption (23° C / 50% R.H.)	0.50%
Shore hardness D	70
Disruptive strength	32 kV/mm
Weather proof	-40° C up to +110° C no decomposition with correct use
Mounting temperature	down to -25° C
Maximum service temperature short term	+150° C
Maximum service temperature long term	+90° C to +110° C
Flammability	HB according to UL 94
Calorific / energy value	34 kJ / gram
Impact value (Charpy, +23° C)	7
Impact value (Charpy, -30° C)	6
Halogen	halogen free as per IEC 754-2
Petrol, diesel, oil	resistant
Corrosion	resistant
Chloride salt	resistant
UV	resistant as per ISO 4892-2
Standard colour	dark grey (RAL 7001)
Special colour	on request

Accessories



DELTA nylon plug



Hexagonal wood screw



TILCA Anchor bolt



Steel tube with o.d. threading



Steel bar with metric threading



TILCA fire resisting anchor



TILCA SPIKE anchor nail



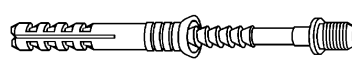
TILCA anchor bolt



wood screw



TILCA hammer set anchor



TILCA nail-in plug

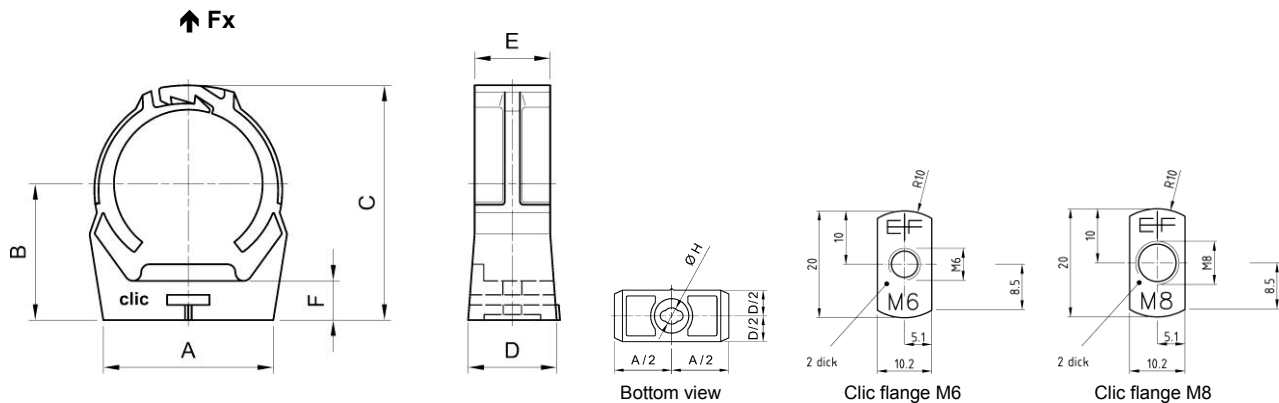


wood anchor

CLIC Top Product Information

Type	Steel		Copper	Cast iron	PE	PVC	Cable-ducts metric measures M	Coaxial cable inch	Certification			Breaking load [N] Fx**
	mm	inch	mm	mm	mm	mm			Kiwa	UPC	UL	
8							8			✓	✓	450
10			10				10		✓	✓	✓	470
12	13,5	1/4"	12				12		✓	✓	✓	500
15			15			16	16	1/2"	✓	✓	✓	650
17	17,2	3/8"	18						✓	✓	✓	700
20	21,3	1/2"				20	20	5/8"	✓	✓	✓	750
22			22						✓	✓	✓	800
25	26,9	3/4"				25	25		✓	✓	✓	900
28			28					7/8"	✓	✓	✓	950
32	33,7	1"	35		32	32	32		✓	✓	✓	1100
36								1 1/4"	✓	✓	✓	1200
40	42,4	1 1/4"	42		40		40		✓	✓	✓	1350
47	48,3	1 1/2"		48	50	50	50	1 5/8"	✓	✓	✓	1400
51			54						✓	✓	✓	1500
59	60,3	2"	64			63				✓	✓	1600

** with screw DIN 96 at +20 °C, safety factor must be considered!



Type	Clamping range [mm]		A [mm]	B [mm]	C [mm]	D [mm]	E [mm]	F [mm]	H*		Breaking load [N] Fx**
	min.	max.							wood [mm]	metric	
8	7,8	9,5	17,1	17,5	26,4	17,1	14,5	7,5	3,5	M6	450
10	9,5	11,8	17,1	17,5	26,2	17,1	14,5	7,5	3,5	M6	470
12	11,8	14,3	20,2	19,5	28,3	17,2	14,5	7,5	3,5	M6	500
15	14,3	16,8	20,6	18,8	32,0	17,1	14,5	7,5	3,5	M6	650
17	16,8	19,5	22,5	23,7	35,4	19,5	16,0	7,8	4,5	M6	700
20	19,5	21,8	24,8	24,9	39,4	20,0	16,3	7,8	4,5	M6	750
22	21,8	24,8	27,8	26,0	42,0	20,0	16,5	7,8	4,5	M6	800
25	24,8	27,8	30,4	28,0	45,1	20,0	17,0	8,8	4,5	M6	900
28	27,8	31,2	33,4	31,7	48,9	20,2	17,0	8,8	4,5	M6	950
32	31,2	35,5	38,0	34,5	54,4	21,0	17,5	9,0	4,5	M6 / M8	1100
36	35,5	39,5	41,8	36,5	59,4	21,0	18,0	9,1	4,5	M6 / M8	1200
40	39,5	43,5	46,2	38,2	64,2	21,0	18,6	9,4	4,5	M6 / M8	1350
47	46,5	50,5	53,5	43,0	72,8	22,0	19,5	9,8	4,5	M6 / M8	1400
51	50,5	55,5	58,6	46,8	78,7	23,0	20,0	10,2	4,5	M6 / M8	1500
59	58,5	64,0	66,3	52,0	88,2	23,2	21,0	10,7	4,5	M6 / M8	1600

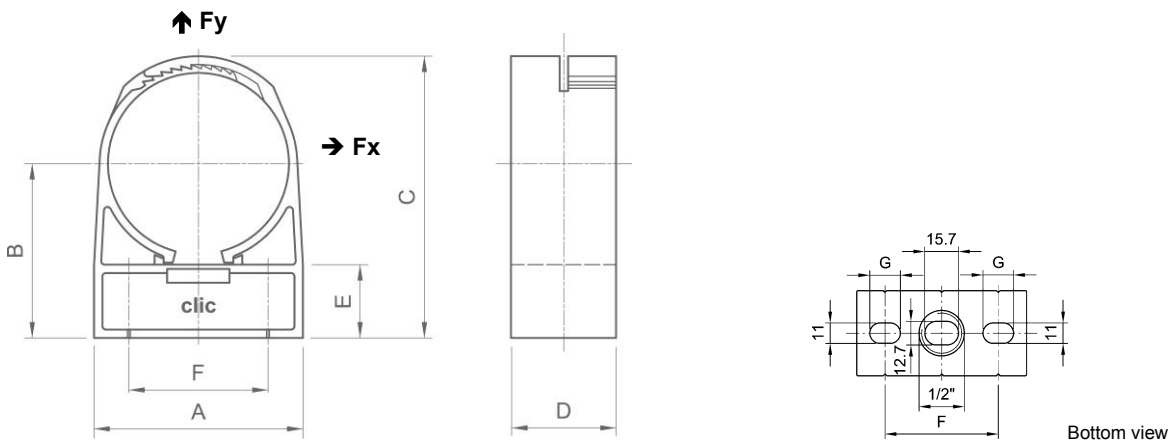
* H = screw diameter; wood screw (wood) / metal screw (metric)

** with screw DIN 96 at +20 °C, safety factor must be considered!

CLIC Top Product Information

Type	Steel		Copper	Cast iron	PE	PVC	Cable ducts metric measures	Coaxial cable inch	Certification		Breaking load [N]	
	mm	inch	mm	mm	mm	mm			UPC	UL	Fy*	Fx*
63					63		63		✓	✓	1800	1000
71	76,1	2 1/2"	76	78	75	75			✓	✓	2200	1300
80	88,9	3"	89						✓	✓	2600	1600
90					90				✓	✓	3000	1900
101			108	110	110	110			✓	✓	3500	2200
113	114,3	4"	114		125	125			✓	✓	4000	2500

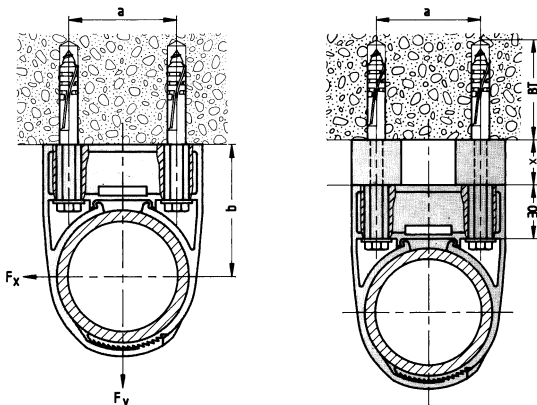
* with 2 screws DIN 571 at +20 °C, safety factor must be considered!



Type	Clamping range [mm]		A [mm]	B [mm]	C [mm]	D [mm]	E [mm]	F [mm]	G [mm]	Breaking load [N]	
	min.	max.								Fy*	Fx*
63	63	71	78	72	115	40	31	52	11	1800	1000
71	71	80	87	77	124	40	31	58	15	2200	1300
80	80	90	98	83	136	40	31	66	16	2600	1600
90	90	101	110	89	148	40	31	76	16	3000	1900
101	101	113	124	96	163	40	31	86	17	3500	2200
113	113	127	139	105	180	40	31	102	17	4000	2500

* with 2 screws \varnothing 8 mm DIN 571 at +20 °C, safety factor must be considered!

Mounting examples



Chemical resistance

Material	Concentration	Resistance at +23 °C		Material	Concentration	Resistance at +23 °C
Acetic acid		●●		Milk		●●●
Acetone		●●●		Mineral oil		●●●
Acetylene		●●●		Naphthaline		●●●
Aluminium salts	aqueous	●●●		Nitric acid		○
Ammonia	aqueous	●●●		Nitrobenzene		●●
Amylacetate		●●		Oils		●●●
Aniline		●●●		Oleic acid		●●●
Antifreeze		●●●		Oleum		○
Benzene		●●●		Oxalic acid		●●●
Benzine		●●●		Oxygen		●●●
Benzyl alcohol		●		Ozone		●
Bromine		●		Paraffin oil		●●●
Butane		●●●		Perchlorethylene		●●●
Butanol		●●●		Petroleum		●●●
Carbon tetrachloride		●●		Petroleum ether		●●●
Caustic potash	10%	●●●		Phenol		●
Caustic potash	50%	●●●		Potash		●●●
Chlorobenzene		●		Propane		●●●
Chlorine	<5% diluted	●●		Pyridine		●●●
Chloroform		●		Salicylic acid		●●●
Citric acid		●●		Sea water		●●●
Copper sulphate		●●●		Silicon oils		●●●
Cresol		○		Soap suds		●●●
Decalin		●●●		Soda	10%	●●●
Eatible fat		●●●		Soda	50%	●●●
Engine oil		●●●		Sodium chloride	saturated	●●●
Ethanol		●●●		Sodium hydroxide	10%	●●●
Ether		●●●		Sodium hydroxide	50%	●●●
Ethyl acetate		●●●		Sodium silicate		●●●
Ethylene oxide		●●●		Sodium sulphate	concentrated	●●●
Fats		●●●		Starch		●●●
Fluorine gas		●		Stearic acid		●●●
Formaldehyde		●●		Stearin		●●●
Formic acid	concentrated	●		Styrene		●●●
Frigen	liquid F12	●●●		Sulphur dioxide		●●
Frigen	liquid F22	●		Sulphuric acid	10%	●●
Fuel		●●●		Sulphuric acid	concentrated	●
Glycerine		●●●		Table salt		●●●
Glycol		●●●		Tallow		●●●
Heating oil		●●●		Tartaric acid		●●●
Heptane		●●●		Tetralin		●●●
Hydraulic oil		●●●		Toluene		●●●
Hydrochloric acid	1%	●●		Transformer oil		●●●
Hydrochloric acid	10%	●		Trichlorethane		●●
Hydrogen peroxide	20%	●●		Trichlorethylene		●●
Hydrosulphide		●●●		Turpentine		●●●
Iodine tincture		○		Urea		●●●
Iso-octane		●●●		Uric acid		●●●
Isopropanol		●●●		Urine		●●●
Kaliumpermanganat		○		Vaseline		●●●
Kerosene		●●●		Vinegar		●●●
Lactic acid		●●		Water		●●●
Magnesium chloride	10%	●●●		Wax		●●●
Mercury		●●●		Xylene		●●●
Methane		●●●		Zinc chloride	aqueous	●●●
Methanol		●●				
Methylene chloride		●				

●●● resistant - ●● limited resistance - ● not resistant - ○ soluble, greatly affected

Chemical resistance

In general, polyamide 12 is resistant to many organic solvents and alkalis. Grilamid is also unaffected by petroleum fractions, oils and fats.

Concentrated acids cause relatively rapid hydrolytic degradation of all polyamides but PA 12 is resistant to dilute mineral acid and most organic acids.

The hydrolysis and environmental stress-cracking resistance of Grilamid are the most significant advantages of Grilamid in comparison to other engineering plastics.

PA 12 has a distinctly higher hydrolysis resistance than PA6 and PA66. The matrix is less hydrophilic, absorbs less water, even at elevated temperatures and, therefore, is less affected by hydrolysis.

The recommendations and data given are based on our experience to date. No liability can be assumed in connection with their usage and processing.

For technical advice please contact our sales engineers. We will be happy to provide further assistance.

How to find the right CLIC

The most important criteria for selection, such as type and diameter of the pipe as well as existing certifications, are listed together in table form, allowing you to find quickly the right CLIC.

Sizes in function of pipe and cable types

CLIC ¹	Steel		Copper	Cast iron	PE	PVC	Cable ducts	Coaxial cable
	mm	inch	mm	mm	mm	mm	metric measures	inch
8	7,8-9,5						8	
10	9,5-11,8		10				10	
12	11,8-14,3	13,5	12				12	
15	14,3-16,8		15			16	16	1/2
17	16,8-19,5	17,2	18					
20	19,5-21,8	21,3				20	20	5/8
22	21,8-24,8		22					
25	24,8-27,8	26,9				25	25	
28	27,8-31,2		28					7/8
32	31,2-35,5	33,7	35		32	32	32	
36	35,5-39,5							1 1/4
40	39,5-43,5	42,4	42		40		40	
47	46,5-50,5	48,3		48	50	50	50	1 5/8
51	50,5-55,5		54					
59	58,5-64,0	60,3	64			63		
63	63-71				63		63	
71	71-80	76,1	76	78	75	75		
80	80-90	88,9	89					
90	90-101				90			
101	101-113		108	110	110	110		
113	113-127	114,3	114		125	125		

¹Clamp size/Clamping range mm

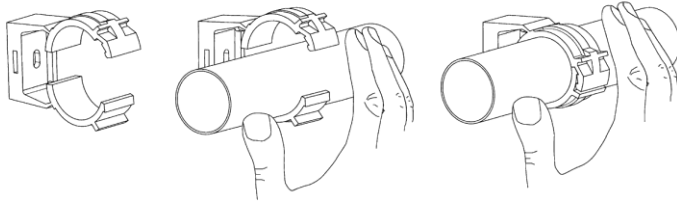
Certifications/recommended loading capacity

CLIC Clamp Size	KIWA®		UL®		Recomm. load ¹ N
	CLIC	CLIC TOP	CLIC	CLIC TOP	
8	■	■	■	■	170
10	■	■	■	■	185
12	■	■	■	■	200
15	■	■	■	■	220
17	■	■	■	■	235
20	■	■	■	■	250
22	■	■	■	■	270
25	■	■	■	■	300
28	■	■	■	■	320
32	■	■	■	■	370
36	■	■	■	■	400
40	■	■	■	■	440
47	■	■	■	■	470
51	■	■	■	■	500
59			■	■	540
63			■	■	600
71			■	■	740
80			■	■	880
90			■	■	1000
101			■	■	1200
113			■	■	1350

¹Safety factor ≈ 3 included for hanging mounting at 20 °C

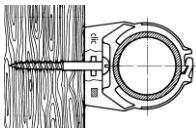
Mounting types

Easy to install

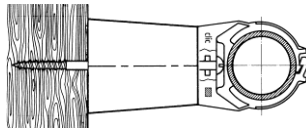


Simply mount CLIC, push pipe in by hand, grips and locks by applying slight pressure.
To open: unlock the CLIC latch with screwdriver.

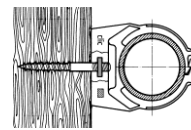
Wood subsoil



With wood screw

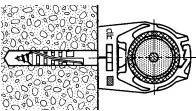


with wood screw and CLIC spacer

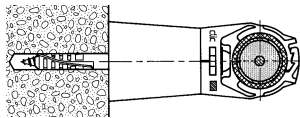


with wood anchor bolt with metric thread end and CLIC spacer

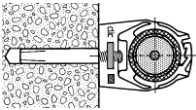
Concrete subsoil



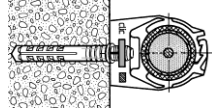
with wood screw and DELTA nylon plug



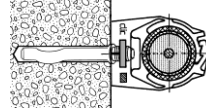
with wood screw, CLIC spacer and DELTA nylon plug



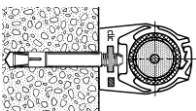
with threaded stud, CLIC flange and TILCA hammer set anchor



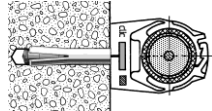
with TILCA impact anchor S and CLIC flange



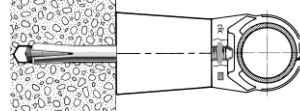
with TILCA SPIKE anchor nail DA and CLIC flange



with TILCA anchor bolt and CLIC flange

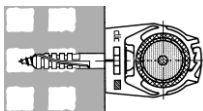


with TILCA fire resisting anchor and CLIC flange

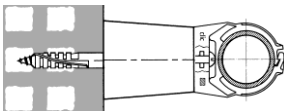


with TILCA fire resisting anchor, CLIC flange and spacer

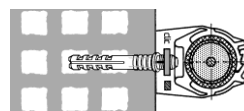
Brick subsoil



with wood screw and DELTA nylon plug

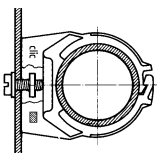


with wood screw, spacer and DELTA nylon plug



with TILCA impact anchor S and CLIC flange

Metal plate subsoil



with metal screw, washer and CLIC flange



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