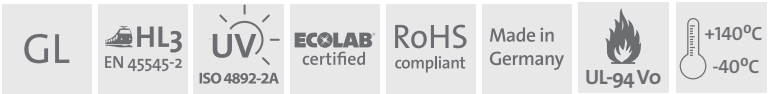


# 3 Strain relief & cable management



By using icotek strain relief systems the user can quickly assemble, organise and provide strain relief for cables according to EN 62444.

The strain relief plates are available in several sizes. The cable density can be greatly increased by using spacers for multilayer mounting.

The systems can be used for organising and securing cables in machines, switch cabinets, enclosures and dynamic drag chains. Due to the wide variety of mounting requirements, options range from DIN rail snap-mount, C-rail to screw mount.

Securing the cables is done quickly and inexpensively with standard cable ties. The shape of the strain relief securely holds cable tie and cable.

3

High cable density, multilayer mounting possible

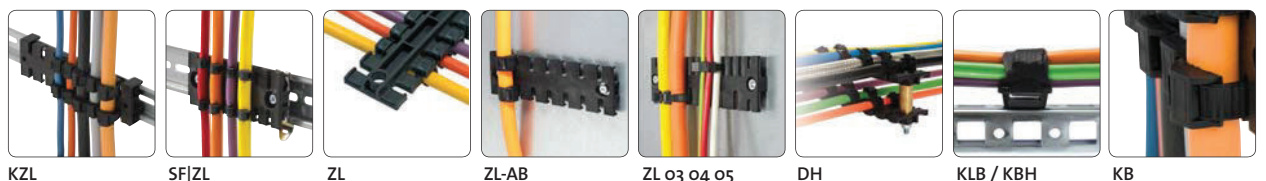
Fast and easy, partially tool-free mounting

Wide mounting type variety: DIN rail / C-rail snap mount, screw mount

Available in various sizes

Secure hold of the cable ties and cables, strain relief acc. to EN 62444










## Product range



# Product group 3

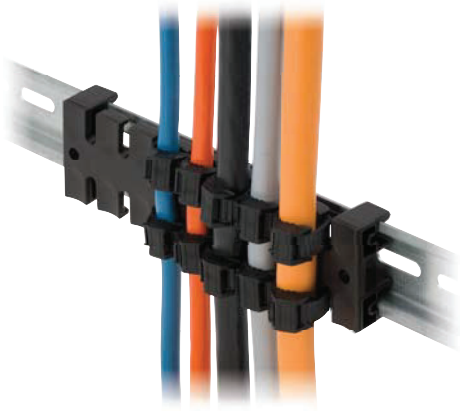
## Strain relief & cable management

### Chapter content

	<b>Strain relief plates</b> for 35 mm DIN rail / C-rail snap mount KZL	82		<b>Spacers</b> for multilayer mounting of strain relief plates DH	87
	<b>Strain relief plates</b> for 35 mm DIN rail snap mount SF ZL	83		<b>Cable ties</b> KB black / KB natural	88 - 89
	<b>Strain relief plates</b> for screw mount ZL	84		<b>Hook-and-loop cable ties</b> re-usable KLKB / KLB	90
	<b>Strain relief plates</b> for screw mount, with bushings ZL-AB / ZL-MS	85		<b>Holder for hook-and-loop cable ties</b> various mounting types KBH	91
	<b>Strain relief plates</b> for screw mount, for various cable diameters ZL 03   04   05	86			

# KZL

Strain relief plates for mounting rails



Type	Order No. for H-rails	Order No. for C-rails	Length L1	Length L2	No. of teeth	PU
------	-----------------------	-----------------------	-----------	-----------	--------------	----

KZL 11	32250		11.5 mm	-	1	10
KZL 39	32260	32261	38.5 mm	28.3 mm	3	10
KZL 80	32262	32263	79.5 mm	68 mm	6	10
KZL 140	32264	32265	139.5 mm	128.1 mm	9	10

## Product description

The strain relief plate KZL is used for static or dynamic applications for organising and securing cables on machines, control panels or drag chains.

The design of the strain relief unit provides secure strain relief according to EN 62444. Mount of the cables or pneumatic tubing is easily done using cable ties.

KZL Strain relief plates are available for 30 mm DIN rails (C-rails) or 35 mm DIN rails.

## Advantages & benefits

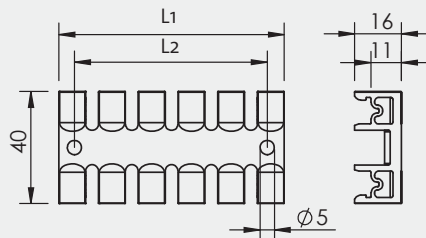
- Strain relief according to EN 62444
- Easy assembly
- Cost-effective
- High cable density
- Wide variety of mounting options

## Specifications

Material: Polyamide (PA)  
 Flame class: UL94-Vo, self-extinguishing  
 Temperature: - 40°C to + 140°C (static)  
 Properties: Halogen-free, silicone-free

## Accessories

KB Cable ties 88 - 89



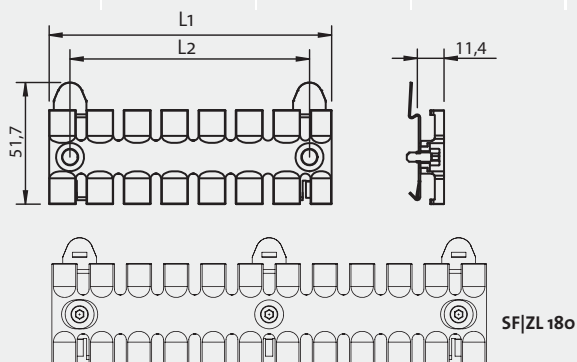
# SF|ZL

Strain relief plates for 35 mm DIN rail



Type	Order No.	Length L1	Length L2	No. of teeth	PU
------	-----------	-----------	-----------	--------------	----

SF ZL 39	32351	38.5 mm	19.5 mm	3	10
SF ZL 60	32352	59.5 mm	43.5 mm	4	10
SF ZL 70	32353	69.1 mm	43.5 mm	5	10
SF ZL 87	32354	86.5 mm	68 mm	6	10
SF ZL 103	32355	102.5 mm	84 mm	7	10
SF ZL 121	32356	121 mm	102.5 mm	8	10
SF ZL 140	32357	139.5 mm	121 mm	9	10
SF ZL 180	32358	180 mm	157 mm	12	10



## Product description

The strain relief plate SF|ZL is used for assembly on 35 mm DIN rails. It can be used for strain relief of cables and conduits.

The SF|ZL range is based upon the strain relief plate ZL, which is mounted on snap feet for 35 mm DIN rails.

3

## Advantages & benefits

- Strain relief according to EN 62444
- Easy assembly
- Cost-effective
- High cable density
- Wide variety of mounting options

## Specifications

Material ZL: Polyamide (PA)  
 SF-foot: Spring steel  
 Flame class UL94-Vo, self-extinguishing  
 Temperature - 40°C to + 140°C (static)  
 Properties Halogen-free, silicone-free

## Accessories

KB Cable ties 88 - 89

# ZL

## Strain relief plates for screw assembly



### Product description

The strain relief plate ZL is used for static or dynamic applications for organising and securing cables on machines, control panels or drag chains.

The design of the strain relief unit provides secure strain relief according to EN 62444. Mount of the cables or pneumatic tubing is easily done using cable ties.

For multilayer installation please use DH spacers, see Page 85.

### Advantages & benefits

- Strain relief according to EN 62444
- Easy assembly
- Cost-effective
- High cable density
- Wide variety of mounting options

### Specifications

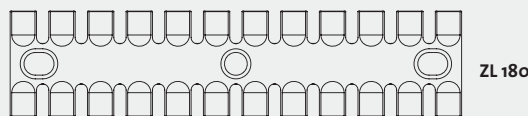
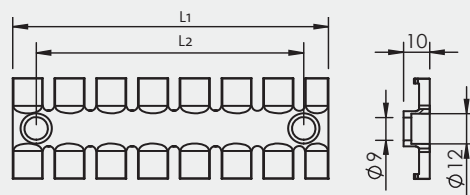
Material Polyamide (PA)  
 Flame class UL94-Vo, self-extinguishing  
 Temperature - 40°C to + 140°C (static)  
 Properties Halogen-free, silicone-free

### Accessories

DH Spacers 87  
 KB Cable ties 88 - 89

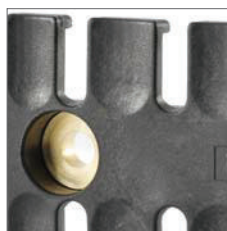
Type	Order No.	Length L1	Length L2	No. of teeth	PU
------	-----------	-----------	-----------	--------------	----

ZL 39	32222	38.5 mm	19.5 mm	3	10
ZL 60	32224	59.5 mm	43.5 mm	4	10
ZL 70	32226	69.1 mm	43.5 mm	5	10
ZL 87	32228	86.5 mm	68 mm	6	10
ZL 103	32230	102.5 mm	84 mm	7	10
ZL 121	32232	121 mm	102.5 mm	8	10
ZL 140	32234	139.5 mm	121 mm	9	10
ZL 180	32236	180 mm	157 mm	12	10

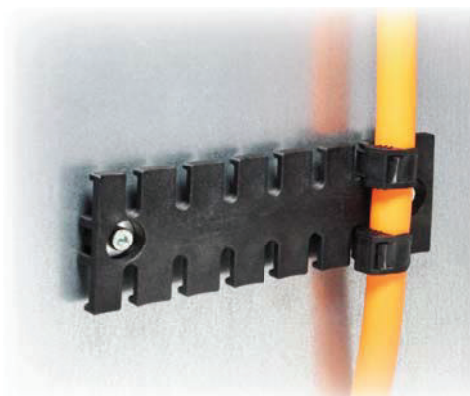
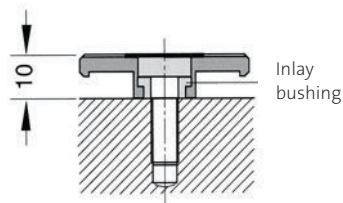


# ZL-AB

## Strain relief plates for screw assembly



Inlay bushings also available in brass.



Type	Order No. for M4 screws	Order No. for M5 screws	Order No. for M6 screws	Length L1	Length L2	No. of teeth	PU
ZL 39 AB	32270	32280 32360	32290	38.5 mm	19.5 mm	3	10
ZL 60 AB	32271	32281 32361	32291	59.5 mm	43.5 mm	4	10
ZL 70 AB	32272	32282 32362	32292	69.1 mm	43.5 mm	5	10
ZL 87 AB	32273	32283 32363	32293	86.5 mm	68 mm	6	10
ZL 103 AB	32275	32284 32364	32294	102.5 mm	84 mm	7	10
ZL 121 AB	32277	32285 32365	32295	121 mm	102.5 mm	8	10
ZL 140 AB	32274	32286 32366	32296	139.5 mm	121 mm	9	10
ZL 180 AB	32276	32287 32367	32297	180 mm	157 mm	12	10

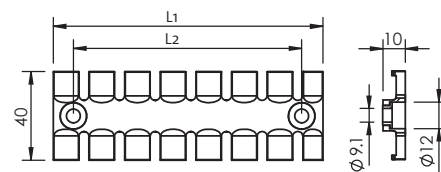
### Product description

The strain relief plate ZL-AB is used for static or dynamic applications for organising and securing cables on machines, control panels or drag chains.

By using aluminium / brass nuts for the screw holes, a better fit of the strain relief plate is achieved, even in high vibration environments.

### Advantages & benefits

- Strain relief according to EN 62444
- Easy assembly
- Cost-effective
- High cable density
- Wide variety of mounting options



### Specifications

Material	ZL: Polyamide (PA) Bushing: ■ Aluminium ■ Brass (BR)
Flame class	UL94-V0, self-extinguishing
Temperature	- 40°C to + 140°C (static)
Properties	Halogen-free, silicone-free

### Accessories

KB Cable ties 88 - 89

# ZL 03 | 04 | 05

## Strain relief plates for screw assembly



### Product description

Strain relief plates ZL feature different comb widths. Thus providing a multi-purpose product for various cable sizes.

The design of the strain relief unit provides secure strain relief according to EN 62444. Mount of the cables or pneumatic tubing is easily done using cable ties.

### Advantages & benefits

- Strain relief according to EN 62444
- Easy assembly
- Cost-effective
- High cable density
- Wide variety of mounting options

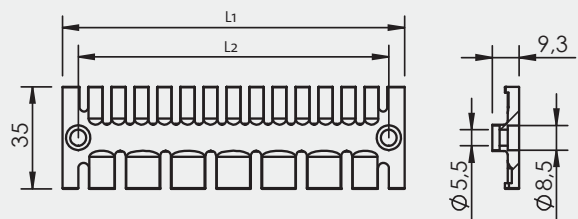
### Specifications

Material **Polyamide (PA)**  
 Flame class **UL94-Vo, self-extinguishing**  
 Temperature **- 40°C to + 140°C (static)**  
 Properties **Halogen-free, silicone-free**

### Accessories

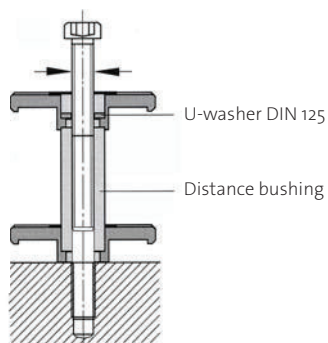
DH Spacers **87**  
 KB Cable ties **88 - 89**

Type	Order No.	Length L1	Length L2	No. of teeth	PU
ZL 03	32112	63.4 mm	42 mm	4 7	10
ZL 04	32114	95 mm	74.5 mm	6 11	10
ZL 05	32116	119 mm	108 mm	7 13	10





# DH Spacers



Type	Order No.	Fits with	Length	Diameter		PU
				inner	outer	
DH 30	32251	ZL 03   04   05	30 mm	5.2 mm	7 mm	10
DH 32	32252	ZL	32 mm	6.2 mm	12 mm	10

## Product description

Due to DH spacers strain relief plates can be mounted in multi-layers to achieve an increase of the cable density.

## Advantages & benefits

- Increase of cable density

## Specifications

Material **Aluminium**

## Compatible with

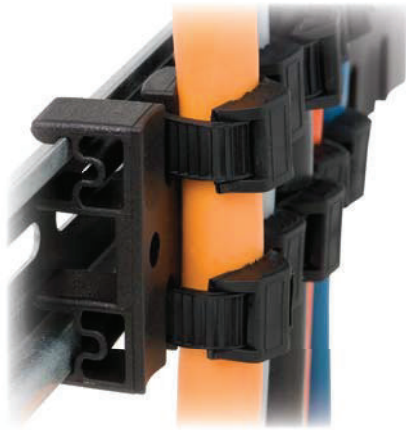
ZL Strain relief plates 84  
 ZL 03|04|05 Strain relief plates 86



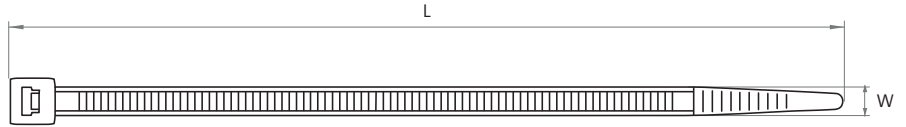


# KB black

## Cable ties



KBW 9



### Product description

Cable ties are proven utilities for economical bundling and fixing of cables, looms, tubes, conduits and many other components, e.g. for achieving strain relief.

Use highly flexible and robust power cable ties KB 28 for special requirements.

### Specifications KB 28

Material Polyamide 12 (PA), black  
 Flame class UL94-V2  
 Temperature - 40°C to + 100°C  
 Properties Oil- and mould-resistant, highly flexible

### Specifications KB black

Material Polyamide 6.6 (PA), black  
 Flame class UL94-V2  
 Temperature - 40°C to + 100°C  
 Properties UV-resistant, particularly suitable for outdoor use

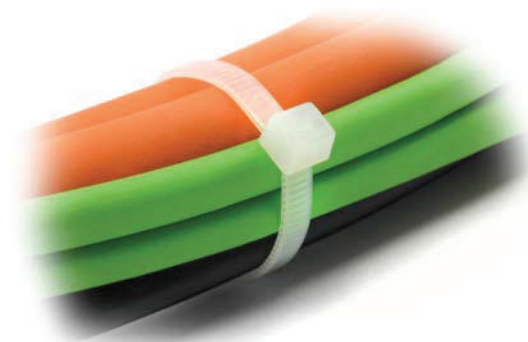
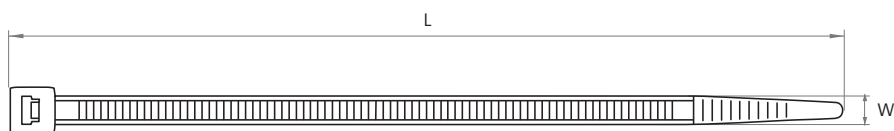
Type	Order No.	Length L	Width W	Bundling range	Tensile strength	PU	
KB 28	61225	178 mm	9 mm	28 mm	350 N	100	
KB 20 bk	61215	98 mm	2.5 mm	20 mm	60 N	100	
KB 25 bk	61220	140 mm	3.6 mm	25 mm	130 N	100	
KB 30 bk	61230	160 mm	4.5 mm	30 mm	180 N	100	
KB 45 bk	61235	178 mm	4.8 mm	45 mm	220 N	100	
KB 55 bk	61240	200 mm	4.8 mm	50 mm	220 N	100	
KB 75 bk	61245	290 mm	4.8 mm	75 mm	220 N	100	
KB 100 bk	61250	360 mm	4.8 mm	100 mm	220 N	100	
KBW 9	61300	Processing tool for cable ties					1

3

# KB natural Cable ties



KBW 9



Type	Order No.	Length L	Width W	Bundling range	Tensile strength	PU
------	-----------	-------------	------------	-------------------	---------------------	----

KB 15 nc	61115	75 mm	2.2 mm	15 mm	60 N	100	
KB 20 nc	61120	98 mm	2.5 mm	20 mm	60 N	100	
KB 22 nc	61125	135 mm	2.6 mm	22 mm	80 N	100	
KB 25 nc	61130	140 mm	3.6 mm	25 mm	130 N	100	
KB 30 nc	61135	160 mm	4.5 mm	30 mm	180 N	100	
KB 45 nc	61140	178 mm	4.8 mm	45 mm	220 N	100	
KB 50 nc	61145	200 mm	2.6 mm	50 mm	80 N	100	
KB 55 nc	61150	200 mm	4.8 mm	50 mm	220 N	100	
KB 75 nc	61155	290 mm	4.8 mm	75 mm	220 N	100	
KB 100 nc	61160	360 mm	4.8 mm	100 mm	220 N	100	
KBW 9	61300	Processing tool for cable ties					1

## Product description

Cable ties are proven utilities for economical bundling and fixing of cables, looms, tubes, conduits and many other components, e.g. for achieving strain relief.

## Specifications

Material	Polyamide 6.6 (PA), natural
Flame class	UL94-V2
Temperature	- 40°C to + 100°C
Properties	Oil- and mould-resistant

## KLKB / KLB

### Hook-and-loop cable ties



### Product description

Cable ties with hook-and-loop fasteners are a more and more common fixing mode for cables. They are used instead of standard cable ties, because they can be easily closed and opened several times. The soft material is gentle on cables, especially where vibrations are present.

Hook-and-loop cable ties are available individually (KLKB) in four different sizes or as a continuous roll (KLB) in four different sizes.



### Advantages

- Reusable
- Adaptable
- The cable tie material is gentle on cables, especially if there are vibrations

### Specifications

Material Polypropylene + Velours PA  
 Colour black  
 Flame class UL94-V2  
 Temperature -30°C to +80°C

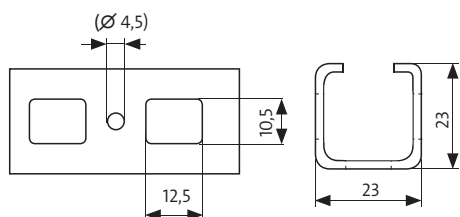
### Accessories

KBH Holder for hook-and-loop fastener 91

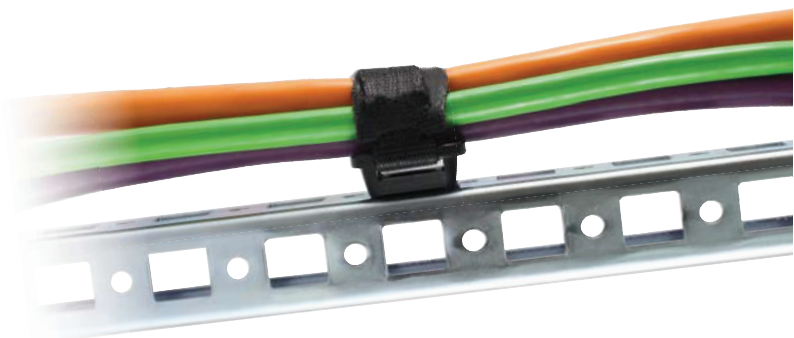
Type	Size [mm]			Order No.	PU
	L	W1	W2		
KLKB 200 × 7 bk	200	13	7	61021	100
KLKB 200 × 13 bk	200	20	13	61022	100
KLKB 230 × 13 bk	230	20	13	61023	100
KLKB 300 × 17 bk	300	25	17	61024	100
KLB 10 bk			10	61011	25 m
KLB 15 bk			15	61012	25 m
KLB 20 bk			20	61013	25 m
KLB 25 bk			25	61014	25 m

# KBH



## Holder for hook-and-loop fastener



23 × 23 mm mounting rail



Description	Type	Order No.	fits KLKB   KLB	Compatible with	PU
-------------	------	-----------	-----------------	-----------------	----

Holder for hook-and-loop fastener, screwable					
	KBH-S	■ 61019	KLKB 200 × 7 KLKB 200 × 13 KLB 10	23 × 23 mm mounting rail	100
	KBH-SB	■ 61002	KLKB 200 × 7	universal	100

Holder for hook-and-loop fastener, pluggable					
	KBH-R	■ 61018	KLKB 200 × 7 KLKB 200 × 13 KLB 10	23 × 23 mm mounting rail	100
	KBH-RBA nc	□ 61003	KLKB 200 × 7	drill-hole Ø 6 mm	100
	KBH-RBB	■ 61004	KLKB 200 × 7	drill-hole Ø 6.5 mm	100

\* Only KBH-S / KBH-R

### Product description

These holders can be used in combination with cable ties with hook-and-loop fastener KLKB and hook-and-loop tape KLB.

Large variety of holders provides unique and numerous mounting possibilities.

### Advantages

- Assembly within seconds
- Secure hold
- Flexible usage

### Specifications KBH-S / KBH-R

Material	Polyamide (PA)
Colour	■ black
Flame class	UL94-Vo, self-extinguishing
Temperature	- 40°C to + 110°C
Properties	Halogen-free, silicone-free

### Specifications KBH-SB / KBH-RBA

Material	Polyamide (PA)
Colour	■ black (KBH-SB) □ nc (KBH-RBA)
Flame class	UL94-V2
Temperature	- 40°C to + 85°C (short-term to 110°C)

### Specifications KBH-RBB

Material	Polyamide (PA)
Colour	■ black
Temperature	- 40°C to + 120°C

### Compatible with

KLKB / KLB Cable ties with hook-and-loop fastener 90