

## Product group 3

### Strain relief systems

#### Product description



#### At a glance ...

By using icotek strain relief systems the user can quickly assemble, organize and provide strain relief for cables.

The systems can be used for organizing and securing cables in machines, switch cabinets, enclosures and dynamic cable carriers.

#### Benefits ...

- 1. Flexible**  
Because of the many different types of DIN rails and screw type assemblies, Icotek offers numerous mounting options.
- 2. Fast and easy assembly**  
Securing the cables is done quickly and inexpensively with standard cable ties.
- 3. Secure hold**  
The unique shape of the strain relief securely holds the cable tie and cable.
- 4. High packing density**  
The strain relief plates are available in several sizes. By multi-layer mounting the packing density can be greatly increased.
- 5. Flexibility**  
Due to the wide variety of sizes and designs, a matching product for each application can be found.

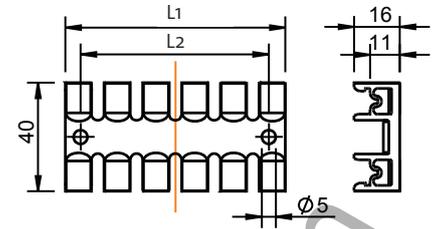
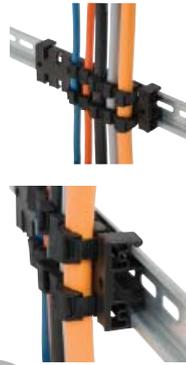


### Chapter content

<b>Strain relief plates</b> KZL - for DIN rails shape H and shape C	Page	60
<b>Strain relief plates</b> SF   ZL for DIN rails shape H	Page	61
<b>Strain relief plates</b> ZL - for screw assembly	Page	62
<b>Strain relief plates</b> ZL-AB with aluminium bushings	Page	63
<b>Strain relief plates</b> ZL 03 / ZL 04 / ZL 05	Page	64
<b>Distance bushing</b> DH - for multilayer mounting	Page	65
<b>Shield plates</b> ZL   SB-EMC	Page	66
<b>Accessories</b> KB - cable ties and pliers	Page	67

# KZL

## Strain relief plates



Type	Order No. for H-rails	Order No. for C-rails	Length L1	Length L2	PU
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### Product description

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

The undercut on the comb-shaped profile provides secure strain relief according to DIN-EN-50262. Strain relief of the cables is achieved by using cable ties.

Strain relief plates are available for 30 mm DIN rails shape C or 35 mm DIN rails shape H.

KZL 39	32260	32261	38.5 mm	28.3 mm	10
KZL 80	32262	32263	79.5 mm	68.0 mm	10
KZL 140	32264	32265	139.5 mm	128.1 mm	10

3

### Advantages

- Simple assembly
- Cost-effective
- High packing density
- Universal usage

### Specification

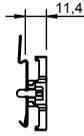
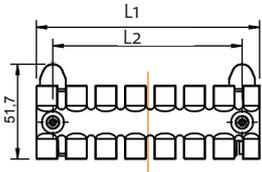
Material	Polyamide
Flame class	UL-94 Vo, self-extinguishing
Temperature	- 40°C to + 140°C (static)
Properties	halogen-free, silicone-free

### Accessories

KB Cable ties	Page 67
DIN rails	Page 79

# SF | ZL

## Strain relief plates



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	68.0 mm	6	10
SF   ZL 103	32355	102.5 mm	84.0 mm	7	10
SF   ZL 121	32356	121.0 mm	102.5 mm	8	10
SF   ZL 140	32357	139.5 mm	121.0 mm	9	10
SF   ZL 180	32358	180.0 mm	157.0 mm	12	10

### Product description

The strain relief plate SF | ZL range is used for assembly on 35 mm DIN rails shape H.

The SF/ZL range can be used for strain relief of cables and conduits.

The SF/ZL range is based upon the strain relief rail ZL, which is mounted on SNAP-feet for 35 mm DIN rails shape H.

### Advantages

- Simple assembly
- Cost-effective
- High packing density
- Universal usage

### Specification

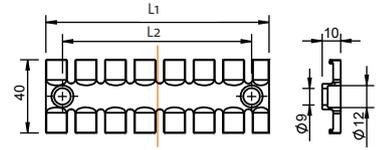
Material	ZL: Polyamide SF-foot: Spring steel
Flame class	UL-94 Vo, self-extinguishing
Temperature	- 40°C to + 140°C (static)
Properties	halogen-free, silicone-free

### Accessories

KB Cable ties	Page 67
DIN rails	Page 79

# ZL

## Strain relief plates



Type	Order No.	Length L1	Length L2	No. of teeth	PU
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### Product description

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

The undercut on the comb-shaped profile provides secure strain relief according to DIN EN 50262. Strain relief of the cables is achieved by using cable ties.

For multilayer installation please use distance bushings, see page 59.

### Advantages

- Simple assembly
- Cost-effective
- High packing density
- Universal usage

### Specification

Material Polyamide  
 Flame class UL-94 Vo, self-extinguishing  
 Temperature - 40°C to + 140°C (static)  
 Properties halogen-free, silicone-free

### Accessories

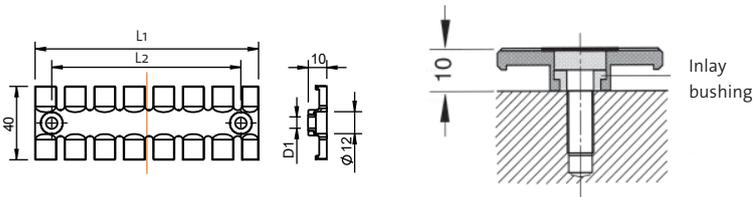
DH Distance bushings Page 65  
 KB Cable ties Page 67

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	68.0 mm	6	10
ZL 103	32230	102.5 mm	84.0 mm	7	10
ZL 121	32232	121.0 mm	102.5 mm	8	10
ZL 140	32234	139.5 mm	121.0 mm	9	10
ZL 180	32236	180.0 mm	157.0 mm	12	10

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# ZL - AB

## Strain relief plates



### Product description

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

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

### Advantages

- Simple assembly
- Cost-effective
- High packing density
- Universal usage

### Specification

Material	ZL: Polyamide Bushing: Aluminium
Flame class	UL-94 Vo, self-extinguishing
Temperature	- 40°C to + 140°C (static)
Properties	halogen-free, silicone-free

### Accessories

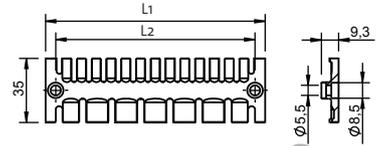
KB Cable ties

Page 67

Type	Order No.	Order No.	Order No.	Length		No. of teeth	PU
				L1	L2		
ZL 39 AB	32270	32280	32290	38.5 mm	19.5 mm	3	10
ZL 60 AB	32271	32281	32291	59.5 mm	43.5 mm	4	10
ZL 70 AB	32272	32282	32292	69.1 mm	43.5 mm	5	10
ZL 87 AB	32273	32283	32293	86.5 mm	68.0 mm	6	10
ZL 103 AB	32275	32284	32294	102.5 mm	84.0 mm	7	10
ZL 121 AB	32277	32285	32295	121.0 mm	102.5 mm	8	10
ZL 140 AB	32274	32286	32296	139.5 mm	121.0 mm	9	10
ZL 180 AB	32276	32287	32297	180.0 mm	157.0 mm	12	10

# ZL 03 | 04 | 05

## Strain relief plates



Type	Order No.	Length L1	Length L2	No. of teeth	PU
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### Product description

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

The undercut on the comb-shaped profile provides secure strain relief according to DIN EN 50262. Strain relief of the cables is achieved by using cable ties.

ZL 03	32112	63.4 mm	43.4 mm	4   7	10
ZL 04	32114	95.0 mm	75.0 mm	6   11	10
ZL 05	32116	119 mm	108 mm	7   13	10

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### Advantages

- Simple assembly
- Cost-effective
- High packing density
- Universal usage

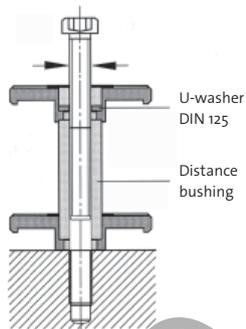
### Specification

Material	Polyamide
Flame class	UL-94 Vo, self-extinguishing
Temperature	- 40°C to + 140°C (static)
Properties	halogen-free, silicone-free

### Accessories

DH Distance bushings	Page 65
KB Cable ties	Page 67

# Distance bushings



Type	Order No.	Fits for	Length	Diameter		PU
				inner	outer	

DH 30	32251	ZL 03   04   05	30 mm	5.2 mm	7.0 mm	10
DH 32	32252	ZL	32 mm	6.2 mm	12.0 mm	10

## Product description

Strain relief plates can be mounted in multi layers to achieve an increase of the packing density. Inlay bushings Type DH are used.

## Advantages

- Increase of packing density

## Specification

Material **Aluminium**

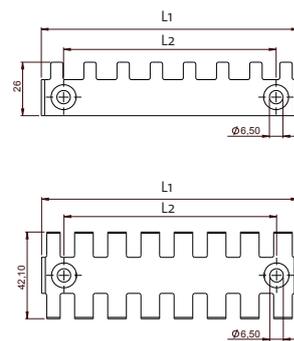
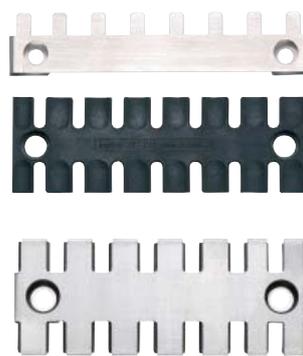
## Accessories

ZL Strain relief plates

Page 62 - 64

# ZL | SB - EMC

## Shield plate for strain relief plates



### Product description

The shielding plates provide earth shielding in addition to strain relief.

Affix the corresponding shield plate to ZL strain relief. The shield plate contacts the cable shield with ground. The result is a secure low resistance connection between cable shield and ground.

ZL strain relief plates sold separately.

3

### Specification

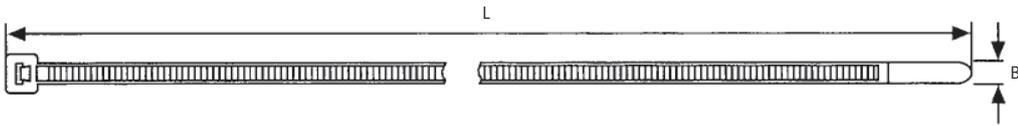
**Material**  
Shield plate      Stainless steel

### Accessories

ZL Strain relief plates      Page 62

Type	Model	Order No.	Fits for	Length L1	Length L2	PU
ZL 39   SB - EMC-1	single-row	36322	ZL 39	41.0 mm	19.5 mm	10
ZL 39   SB - EMC-2	double-row	37150	ZL 39	41.0 mm	19.5 mm	10
ZL 60   SB - EMC-1	single-row	36328	ZL 60	62.1 mm	43.5 mm	10
ZL 60   SB - EMC-2	double-row	37152	ZL 60	62.1 mm	43.5 mm	10
ZL 87   SB - EMC-1	single-row	36324	ZL 87	89.0 mm	68.0 mm	10
ZL 87   SB - EMC-2	double-row	37154	ZL 87	89.0 mm	68.0 mm	10
ZL 103   SB - EMC-1	single-row	36332	ZL 103	105.2 mm	84.0 mm	10
ZL 103   SB - EMC-2	double-row	37156	ZL 103	105.2 mm	84.0 mm	10
ZL 121   SB - EMC-1	single-row	36330	ZL 121	123.7 mm	102.5 mm	10
ZL 121   SB - EMC-2	double-row	37158	ZL 121	123.7 mm	102.5 mm	10
ZL 140   SB - EMC-1	single-row	36326	ZL 140	142.0 mm	121.0 mm	10
ZL 140   SB - EMC-2	double-row	37159	ZL 140	142.0 mm	121.0 mm	10

# KB Cable ties and pliers



## Product description

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

Power cable ties KB 28 (Order No. 61225) for special requirements. Bundling range max. 28 mm.

## Specification KB 28

Material	Polyamide 12, black
Flame class	UL-94 V2
Temperature	- 40°C to + 100°C
Properties	oil- and mould-resistant

## Specification KB natural

Material	Polyamide 6.6, natural
Flame class	UL-94 V2
Temperature	- 40°C to + 100°C
Properties	oil- and mould-resistant

## Specification KB black

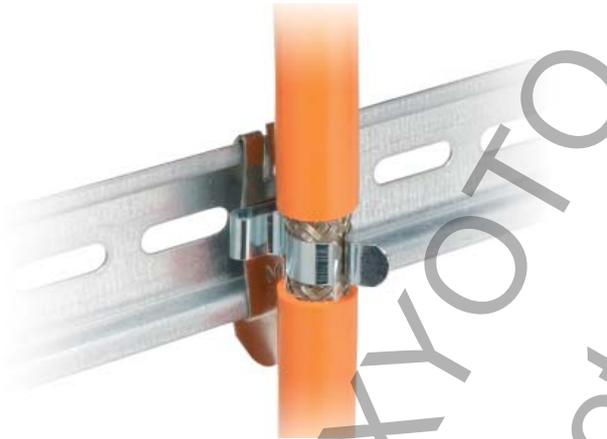
Material	Polyamide 6.6, black
Flame class	UL-94 V2
Temperature	- 40°C to + 100°C
Properties	UV-resistant, particularly matching for outdoor use

Type	Order No.	Color	Length L	Width B	Bundling range	Tensile strength	PU	
KB 28	61225	black	180 mm	9 mm	28 mm	350 N	100	
KB 15	61115	natural	75 mm	2.2 mm	15 mm	60 N	100	
KB 20	61120	natural	98 mm	2.5 mm	20 mm	60 N	100	
KB 22	61125	natural	135 mm	2.6 mm	22 mm	80 N	100	
KB 25	61130	natural	140 mm	3.6 mm	25 mm	130 N	100	
KB 30	61135	natural	160 mm	4.5 mm	30 mm	180 N	100	
KB 45	61140	natural	178 mm	4.8 mm	45 mm	220 N	100	
KB 50	61145	natural	200 mm	2.9 mm	50 mm	80 N	100	
KB 55	61150	natural	200 mm	4.8 mm	50 mm	220 N	100	
KB 75	61155	natural	290 mm	4.8 mm	75 mm	220 N	100	
KB 100	61160	natural	360 mm	4.8 mm	100 mm	220 N	100	
KB 20	61215	black	98 mm	2.5 mm	20 mm	60 N	100	
KB 25	61220	black	140 mm	3.6 mm	25 mm	130 N	100	
KB 30	61230	black	160 mm	4.5 mm	30 mm	180 N	100	
KB 45	61235	black	178 mm	4.8 mm	45 mm	220 N	100	
KB 55	61240	black	200 mm	4.8 mm	50 mm	220 N	100	
KB 75	61245	black	290 mm	4.8 mm	75 mm	220 N	100	
KB 100	61250	black	360 mm	4.8 mm	100 mm	220 N	100	
KBW 9	61300	Processing tool for cable ties						1

# Product group 4

EMC Innovations

## Product description



### At a glance ...

For process measurement and control equipment an increasingly higher level of protection against failure is required.

The shielding and the earthing of the shields is very important.

The area where the cable shield is connected to the enclosure earth/ ground is a critical point. It is very important that the connection has a low resistance.



### Benefits ...

**1. Flexible**

Because of the many different types of DIN rails and screw type assemblies, Icotek offers numerous mounting options.

**2. Fast and tool free assembly**

Strip the cable shield - press in - ready.

**3. Secure hold**

Properly sized and used in conjunction with cable ties, provides strain relief in accordance with VDE.

**4. Large contact area**

The SKL shield clamps offer a large contact area to the cable shield (see picture A). In comparison to conventional shield clamps we can achieve a up to 50% higher contact area when using the SKL line. The specified clamping range can be exceeded up to 10%.

**5. Greatly reduces high frequency interferences**

In large frequency fields, the SKL shield clamps provide low resistance. Effective range up to 1,000 MHz below 120 Ohms and 10 KHz to 100 MHz significant below 20 Ohms.

Details can be supplied on request.

