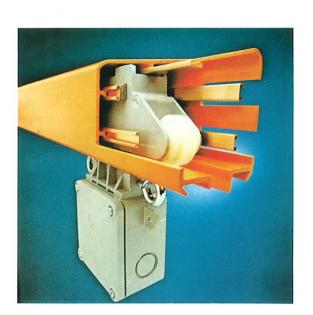
# Power Conductor



SGK Enclosed Plastic Bus-Way is another product in the range of Power conductor systems. Its corrosion resistant design and protection against accidental contact affords a maximum of safety and meets V.D.E. standards.

Its compact construction, ease of installation and adaptability, allow its use in all applications where power needs to be supplied to moveable equipment.

SGK and SGK-L Enclosed plastic bus-way

by Gluma

SGK Enclosed Plastic Bus-Way is an ideal power conductor for –

Cranes
Electric Hoists
Machines
Electric Tools
Conveyors

Our system easily accomodates your industrial requirements with: –

#### 4 system capacities

Affording choice for light, medium and heavy power conduction.

# Easily stocked spares minimum stockholding

Component parts are interchangeable between the 4 profile capacities.

#### ADD-ON extrus

E.G. Circuit breakers, socket outlets etc. are available to allow more diverse use of the Bus-Way system.

#### Horizontal and vertical bends

Available to order, enable us to produce systems to suit your particular application.

#### Multiple combinations

Allow many conductors in restricted space with the ability to combine conductors of different electrical capacities.

These are a few of the advantages of installing SGK Bus-Way Systems. Once installed the commercial and practical benefits are soon realised.

# Plastic Bus-Way, Model SGK

(I.P. 23 Protection)

The Bus-Way is a well tried and proven power supply system for cranes and hoists. Four sizes of conductor give full load current ratings of 60,80, 100 and 140 Amps. Standard length = 4.5 mtr, designed for both indoor and outdoor installations, and ambient temperature range between -30°C and +60°C.

The availability of Bell-Mouth approach units, Crossings, Horizontal and Vertical Bends, enables systems to be produced to suit almost any special application.

### Plastic Bus-Way, Model SGK-L

(I.P.23 Protection)

This combined system is especially suitable where light loads need to be suspended adjacent to the power outlet, the system will safely support a maximum load of 100 kg per mtr. and is supplied in standard 4.5 mtr. lengths. Installation of the SGK-L system assists in providing a tidy workplace reducing potential hazards and ensuring more efficient use of portable electric tools.

# Illustrations of Applications









His high mechanical strength and excellent electrical properties. Standard lenght = 4.5 mtrs, shorter lenghts are available. Where more than 5 Poles are required 2 or more profiles can be mounted side by side from a common support bracket. The earth (ground) conductor is colour coded at each end for installation purposes, and is identified throughout the length of the system by marker grooves in the profile case. Plastic Bus-Ways are Tropics-Proof.

## The conductor **b**

Are mechanically coupled with Type VGK Joint Plates. The Bus-Bar sections are joined to each other by means of bolt-on type Link Plates, enabling sections to be exchanged or replaced. Around breaks, shunts, switches, turntables, etc. Bell-Mouthed Approaches are used to compensate for possible offset.

### Power secti

Where manual track or gantry systems require only partial power supply it is possible to use fixed lengths of SGK with Bell-Mouthed Approaches at these powered sections. The Trolley Collector is secured to the Electric Hoist by a spring loaded tie which, at the Approaches, guides the Collector onto the Bus-Bars giving power to the Hoist, allowing lifting and lowering operations to commence.

## Power Feed-I

Can be made anywhere throughout the length of a system using a Type AGK Line Feed Box, or at either end using a Type EGAK End Feed Box. Open ends are closed using Type EGK End Boxes. The standard 4.5 metre lengths are each suspended by 3 Hanger Brackets spaced at no more than 1.5 metres from each other. All installations whether indoor or outdoor should be suspended by Sliding Hanger Brackets mounted at 1.5 metre centres with 1 only Fixed Point Hanger Bracket Type FKGK mounted in the centre of the system.

# The synthetic Electric values of plastic case the plastic Bus - Way

Maximum permitted Voltage - 600 V at 50 Hz Rated Current - 60,80,100 and 140 A Copper Bar Cross Section - 10, 16, 25 and 35 mm<sup>2</sup> Number of Poles - Up to 5 Leakage Paths - Greater than 38 mm Air Gap - Greater than 17 mm Specific Volume Resistivity as per DIN standard 53 482-1 x 1015 ohms per cm Surface resistance as per DIN standard 53 482-2 x 1013 ohms Leakage current Resistance as per DIN standard 53 480-Grade KA 2 Dielectric Strength as per DIN standard 53 481-22 kV per mm Relative dielectric Constant as per DIN standard 53 483-3.3 at 50 Hz

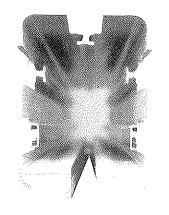
# lechanical

Tensile strength as per DIN standard 53 455-50 N/mm<sup>2</sup> Bend strength as per DIN standard 53 455-71 N/mm<sup>2</sup> Water absorption as per DIN standard 53 472-0,08% Combustibility Hardley Combustible – (ceases burning as soon as flame is taken away) Dimensional stability under heat as per VICAT DIN ~ 82,5° C standard 53 460 Young's modulus of elasticity as per DIN standard 53 457 - 2.923 N/mm<sup>2</sup> Permanent ambient from -30° C temperature +60° C to

# Chemical resistance of the

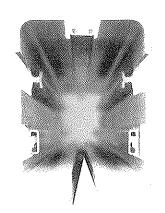
Petrol, Gasoline stable Mineral oil stable 50% Sodium Hydrate - stable Solution Hydrochloric Acid - stable 50% Sulphuric Acid Solution - stable

# **SGK 2**



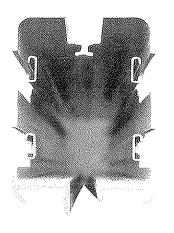
Туре	Num- ber of poles	Rated Gur- rent (A)	Maximum Per- mitted Vol- tage (V)	Voltage drop at Rated Current per 100 mts, Cos II ~ 0.8	Lea- kage path mm	Min air gap mm	Copper Section mm²	Weight without Accassones (kg/m)
SGK 2/ 60 A-10	2	60	600	21.4	240	39	10	1,55
SGK 27-80 A-16	2	80	600	17,8	240	39	16	1.65
SGK 2/100 A-25	5	100	600	14,3	240	39	25	1,75
SGK 2/140 A-35	2	140	600	14,3	240	39	35	1.95

# SGK 3



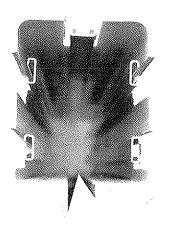
Туре	Num- ber of poles	Rated Cur- rent (A)	Maxi- mum Per- mitted Vol- tage (V)	Voltage drop at Rated Current per 100 mts. Cos II ≈ 0.8	Lea- kage path mm	Min eir gap mm	Copper Section mm <sup>y</sup>	Weight without Accassories (kg/m)
SGK 37-60 A-10	3	60	600	17,1	112	39	10	1.65
SGK 3/ 80 A-16	3	80	600	14,3	112	39	16	1,80
SGK 3/100 A-25	3	100	600	11.4	112	39	25	1.95
SGK 3/140 A-35	3	140	600	11.4	112	39	35	2,25

# SGK 4

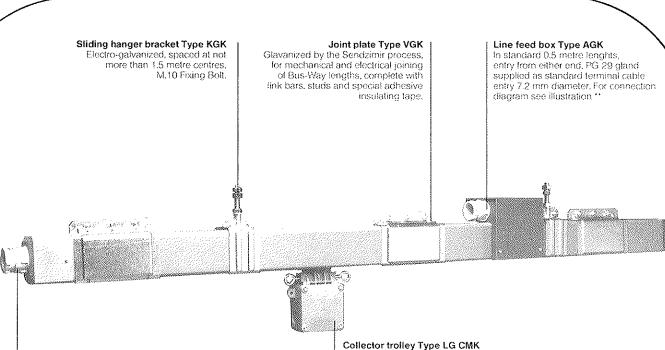


Туре	Num- bor of poles	Rated Cur- rent (A)	Maxi- mum Per- mitted Vol- tage (V)	Voltage drop at Rated Current per 100 mts. Cos II ~ 0.8	Lea- kage path mm	Min air gap mm	Copper Section mm <sup>2</sup>	Weight without Accessories (kg/m)
SGK 47 60 A-10	4	60	600	14,8	38	20	10	1,75
SGK 47-80 A-16	4	80	600	12,3	38	20	16	1.95
SGK 4/100 A-25	4	100	600	9,9	38	20	25	2,15
SGK 4/140 A-35	4	140	600	9,9	38	20	35	2,55

SGK 5



Туре	Nure- ber of poles	Rated Cur- rent (A)	Maximum Perimited Voltage (V)	Voltage drop at Rated Current per 100 mts. Cos 8 = 0.8	Lea- kage path mm	Mm gap mm	Coppet Section rnm?	Weight without Accessories (kg/m)
SGK 5/ 60 A-10	5	60	600	14.8	38	17	10	1.85
SGK 5/ 80 A-16	5	80	600	12,3	38	17	16	2,1
SGK 5/100 A-25	5	100	600	9.9	38	17	25	2.35
SGK 5/140 A-35	5	140	600	9,9	38	17	35	2,85



End feed box Type EGAK
Complete with joint plate for mechanical
coupling to Bus-Way, PG 29 gland supplied
as standard, terminal cable entry 7.2 mm
diameter. Dead section length ~ 150 mm.
For connection dagram see illustration \*

Collector trolley Type LG CMK

40 Amp capacity, made of glass fibre reinforced moulded plastic, possessing excellent electrical and mechanical properties. Power transfer is via spring loaded carbon brushes. Standard collector Trolley fits all plastic SGK Bus-Way systems and comes complete with integral terminal box.

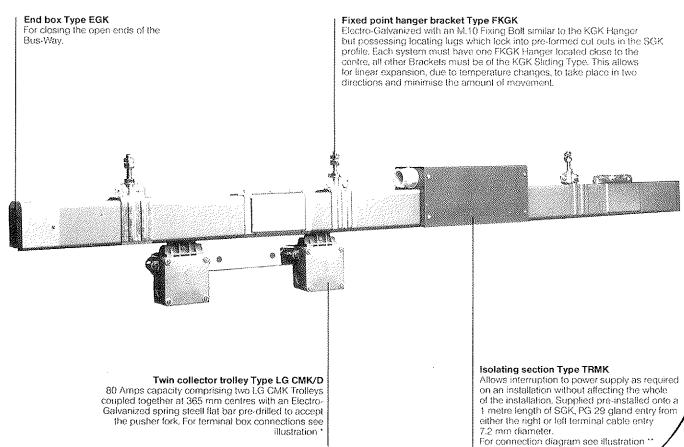
This collector Trolley is normally carried along by a pusher fork and will travel freely in curved systems where the radius of any bend is not less than 1 metre.

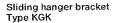
Specially designed collectors or ones with atternative outlet attachments are available to order.

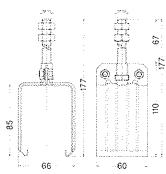
For terminal box connections see illustration.

Fixed point hanger bracket Type FKGK

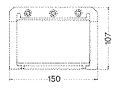
Electro-Galvanized with an M.10 Fixing Bolt similar to the KGK Hanger but possessing localing lugs which lock into pre-formed cut outs in the SGK profile. Each system must have one FKGK Hanger tocated close to the centre, all other Brackets must be of the KGK Stiding Type. This allows







#### Joint plate Type VGK



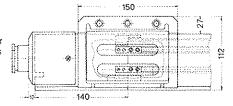


Type	Number of poles	Туре	Number of poles
VGK 2	2	VGK 2/St	2
VGK 3	3	VGK 3/SI	3
VGK 4	4	VGK 4/SI	4
VGK 5	5	VGK 5/SI	5

#### End feed box Type EGAK

With PG 29 Gland entry Number Toye of poles

EGAK 2 EGAK 3 EGAK 4 3 EGAK 5



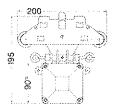
For connection diagram see detail \*\*

#### Collector trolley - 40 Amp capacity

Type LGCMK

Number of poles. Current Rating Type LGCMK2 40 A

2 LGCMK3 40 A LGCMK4 40 A 40 A LGCMK5 For terminal connection see illustration

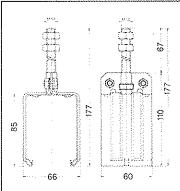


#### Line feed box Type AGK Cover = 106 mm Wide. Number Type of poles AGK 2 AGK 3 AGK 4 234 (8000) <u>|</u> (00000) AGK 5 5 For connection diagram see illustration " 125

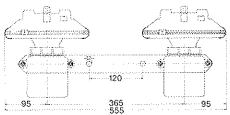
#### End Box Type EGK







Fixed point hanger bracket Type FKGK

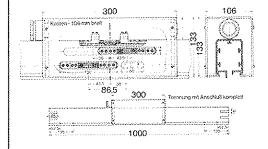


Twin collector trolley

-- 80 AMP Capacity

Type LGCMK/D

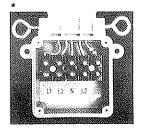
Туре Number Current rating of poles 2 LGCMK2/D 80A LGCMK3/D LGCMK4/D 80A 4 80A LGCMK5/D 80A

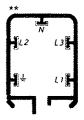


Isolating section without feed in Type trok Isolation section complete

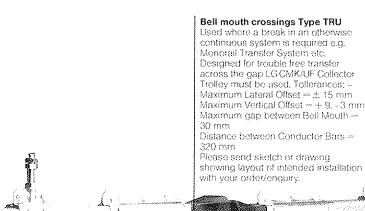


Collector trolley terminal connections





Standard connection diagram for **EGÄK** AGK TRMK

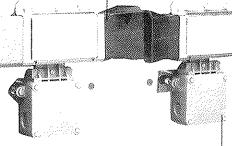


#### Fixed point hanger bracket Type FKGK

Must be installed either side of a crossing to maintain the gap distance. All other brackets used in the system must be KGK Sliding Type to cater for expansion.

#### Line feed box Type AGK-ST

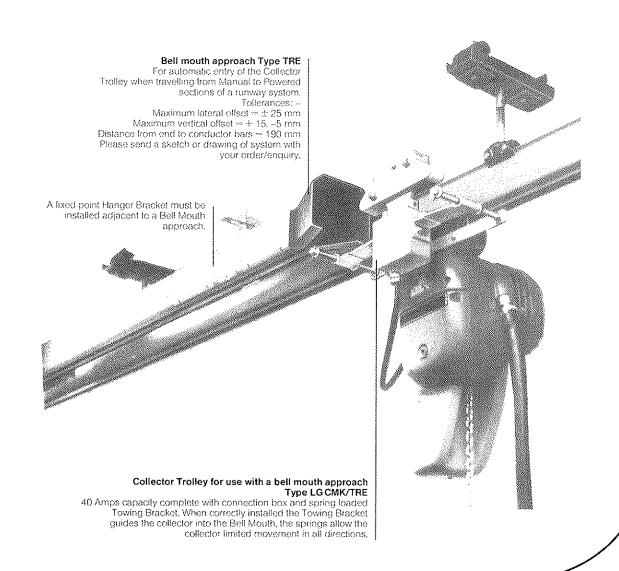
installed at a joint between tow lengths of SGK profile. Maximum current rating – 36 AMPS.



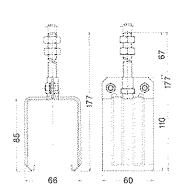
Collector trolley Type LGCMK/UF 40 Amp capacity coupled at 350 mm centres by an Electro-Galvanized spring steel bar pre-drilled to accept a pusher fork.

#### Line isolating section

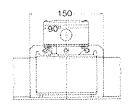
Type TROK Without Feed in supplied preinstalled into a 0.5 metre lenght of profile

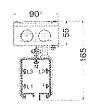


#### Sliding hager bracket Type KGK



#### Line feed Typ AGK/ST

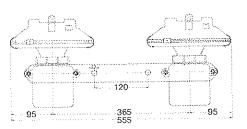




Туре	Number of poles	Current rating
AGK-ST 2 AGK-ST 3	2	36A 36A
AGK-ST 4	4	36A
AGK-ST 5	5	36A

For connection diagram see illustration \*\*

#### Collector trolley for use with Bell-Mouth crossings Type LGCMK/UF

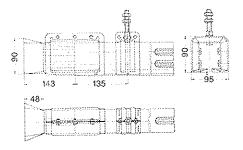


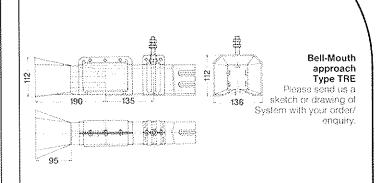
Type	Number	Current
, ,	of poles	rating.
LGCMK2/ÜF	2	40A
LGCMK3/ÜF	3	40 A
LGCMK4/ÜE	4	40A
LGCMK5/ÜF	5	40 A

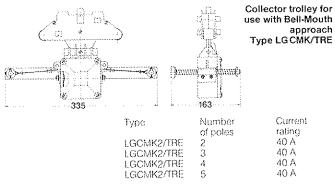
For connection diagram see illustration \*

#### Bell-Mouth crossing Type TRU

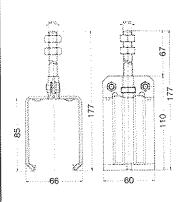
Please send us a sketch or drawing of system with your order/ enquiry.



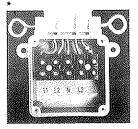




For terminal box connections see Illustriation \*



Fixed point hanger bracket Typ FKGK



Collector trolley terminal connections





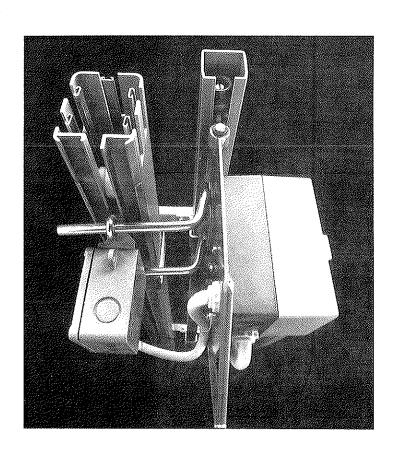
# Plastic Bus-Way and Load Track Type SGK-L

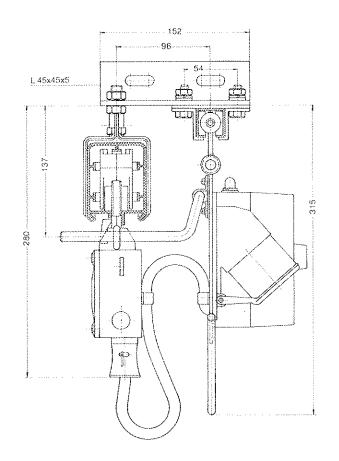
The combination SGK-L system consists of a plastic Bus-Way track for power supply, and a runway track for carrying the load. Both tracks are mounted at predetermined centres, onto a common Support Bracket, which is fixed on site at centres not exceeding 1.5 metres. Brackets in various lengths are available Ex-Stock to suit mounting from Girders, R.S.J's or tubular structures and with horizontal or vertical fixings. Other nonstandard Brackets are available to order.

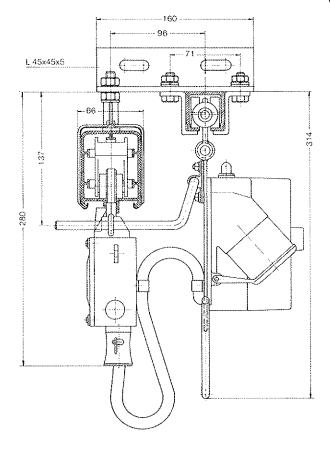
60, 80, 100 or 140 Amp capacity Plastic Bus-Way is used dependant upon the total system power requirement. A standard 40 Amp Collector Trolley is linked to the Load Trolley by a pusher fork. Also mounted on the Load Trolley is the chosen form of power outlet e.g. Circuit Breaker, Socket, Switch Fuse etc.

The load is suspended from the Load Track via the Load Trolley which also accommodates the chosen power outlet as aforementioned. A 8 mm dia Hanger is integrally mounted for the suspension of portable electric tools or carrying cradles.

Mechanical load carrying capacity of the combination SGK-L system depends on the spacing of the Support Brackets. At a maximum of 1.5 metre centres the load capacity is approximately 50 kg at 1 metre centre the load capacity is at its maximum of 100 kg.







#### **Combination SGK-L/16011** with load track 30 x 30 x 2

#### Technical specification of component parts: Plastic Bus-Way Type SGK

60 A with 10 mm2 Copper Rated Current: 80 A with 16 mm<sup>2</sup> Copper

100 A with 25 mm<sup>2</sup> Copper 140 A with 35 mm<sup>2</sup> Copper

Up to 600 V. Rated voltage:

Number of poles: 3.4 or 5

Length of track:

Dimensions:

Moment of resistence:

Moment of inertia:

Length of track:

4.5 metres, shorter lenghts

can be made available Hanger Spacing: Variable, max. spacing every

1.5 metres

Weight without accessoires; approx. 2.0 Kg per running metre.

For ambient temperatures of from minus 30 up to plus 60°C Copper Joints with Screws. Trolley Collector 40 Amp capacity

#### **Combination SGK-L/W** with load track 40 x 40 x 2.5

#### Technical specification of component parts: Plastic Bus-Way Type SGK

Rated Current: 60 A with 10 mm<sup>2</sup> Copper

80 A with 16 mm<sup>2</sup> Copper 100 A with 25 mm<sup>2</sup> Copper

140 A with 35 mm<sup>2</sup> Copper

Up to 600 V Rated voltage:

Number of poles: 3.4 or 5

Length of track: 4.5 metres shorter lenghts

can be made available

variable, max. spacing every Hanger Spacing:

1.5 metres.

Weight without accessories: approx. 2.0 Kg per running metre. For ambient temperatures of from minus 30 up to plus 60° C Copper Joints with Screws.

Trolley collector loaded to 40 Amps

#### Load track: Load track:

40 x 40 x 2.5 mm Dimensions:  $Wx = 3.1 \text{ cm}^3$ Moment of resistence  $1x = 6.7 \text{ cm}^4$ Moment of inertia:

4.5 m shorter lenghts available. Lenght of legs:

Hanger spacing and load: 1.5 m = 50 kg

1.0 m = 100 kg

Up to 50 kg Load capacity: Approx 2.5 kg per metre Weight:

 $30 \times 30 \times 2$  $Wx = 1.4 \text{ cm}^3$  $1x = 2.4 \text{ cm}^4$ 

4.5 m shorter lengths available.

Hanger spacing and load:  $1.5 \, \text{m} = 30 \, \text{kg}$  $1.0 \, \text{m} = 50 \, \text{kg}$ 

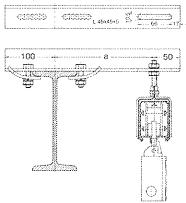
Up to 50 kg Load capacity: Weight: Approx. 2.0 kg per metre

11

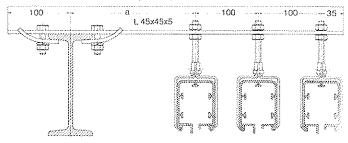
# Suspension alternatives

#### Plastic Bus-Way Typ SGK

1. Single Suspension Bracket Type AVEZ/K.



Both Brackets can be installed onto I section Beams up to 150 mm wide. The 'a' dimension for Stock Brackets is 200, 300 or 500 mm. Brackets for larger Beams and alternative 'a' dimensions are available to order. 2. Multiple Suspension Bracket.

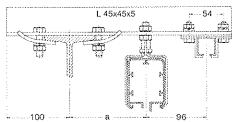


Order example

- 1. For a single suspension with 'a' dimension = 200 mm Order AVEZ/K 200/1.
- 2. For a triple suspension with 'a' dimension = 200 mm Order AVEZ/K 200/3.

#### Combination SGK-L/16011 with load track 30 x 30 x 2.

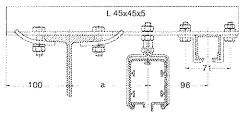
1. Suspension Bracket AVEZ/L1



Both suspension Brackets can be installed onto I section Beams up to 150 mm wide. The 'a' dimension for Stock Brackets is 200, 300 or 500 mm Brackets for larger Boams and alternative 'a' dimensions are available to order.

III. Combination SGK-L/W with load track 40 x 40 x 2.5

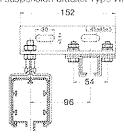
Suspension Bracket AVEZ/L2



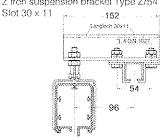
Order example For a suspension Bracket with 'a' dimension 200 mm Order AVEZ/L1-200

AVEZ/L2-200

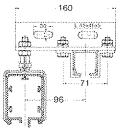
2. Angle iron suspension bracket Type W/54



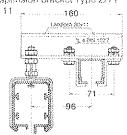
3. Z fron suspension bracket Type Z/54



2. Angle iron suspension bracket Type W/71



3. Z Iron suspension bracket Type Z/71 Stot 30 x 11 ,...



When ordering a combination SGK-L system please state which type of bracket you require.

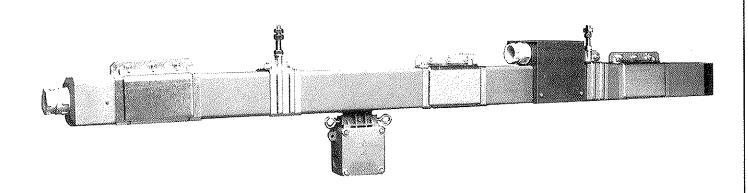
# Order example

For quotations and orders for straight systems the following information is required.

Overall lenght.
End feed or line feed.
Distance between support centres
(Hanger distance).
Number and type of Collector Trolley.

All components required to complete the system are supplied by us without the need for further details.

In systems with Bell-Mouth and/or bends, a drawing or sketch of the proposed system layout is required.



Order example No. 1 54 Metres Plastic Bus-Bar system SGK 4/80 A-16 With End Feed-In.

SGK 4/80 A-16 **With End Feed-In.**Consisting of:
12 x 4.5M SGK 4/80 A-16
11 x Joint plates VGK 4
1 - Fixed Point Hanger Bracket FKGK
35 x Sliding Hanger Brackets KGK
1 - End Box EGK
1 - End Feed-In EGAK 4
1 - Trolley Collector LGCMK 4 (40A)
1 - Pusher Fork

Order example No. 2 90.5 Metres Plastic Bus-Way System SGK 5/100 A-25 With Line Feed-In Consisting of:

20 x 4.5M SGK 5/100 A-25

1 - 0.5M SGK 5/100 A-25 With Line Feed-In. AGK 5/100 A-25 Pre-Installed.

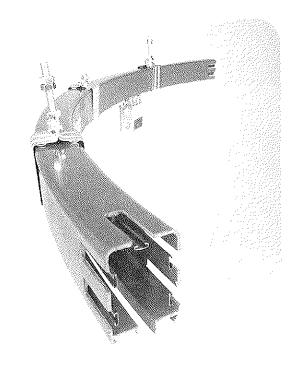
20 x Joint Plates VGK 5

1 - Fixed Point Hanger Bracket FKGK 60 x Stiding Hanger Brackets KGK

2 x End Boxes EGK

1 - Trolley Collector LGCMK 5 (40A)

1 - Pusher Fork.



# **Horizontal bends**

Are made specially to order.

The following points are important.

(a) Maximum radius measured to the track (profile) centre line for 4 and 5 pole systems.

60A and 80A

= 900 mm= 1200 mm

100 A and 140 A

(b) Maximum overall length of curved = 2000 mm section Systems are always installed with the long tag on the

track opening adjacent to the supporting steelwork. This tag also used as a reference when defining inside and outside bends.

Inside bends are defined as bends which lie between the radius point and the supporting steelwork or, with the long tag adjacent to the edge furthest from the radius point.

Outside bends are defined as bends which lie with the supporting steelwork between the track and the radius point or, with the long tag adjacent to the edge nearest to the radius point.

Please give the following details with your order / enquiry.

- 1. Number of degrees.
- 2. Inside or outside.
- 3. Radius to the Bus-Way system centre.

Wherever possible a drawing showing the proposed system layout should be sent with your order/enquiry.



Also made specially to your order.

The following points are important.

- (a) Minimum radius with reference to the track centre line = 1500 mm.
- (b) Maximum length of curved section = 2000 mm.

We differentiate between inside and outside bends as follows:

Inside bend: - is where the back of the track points towards the radius point.

Outside bend: - is where the back of the track points away from the radius point.

Please give the following details with your order/equiry.

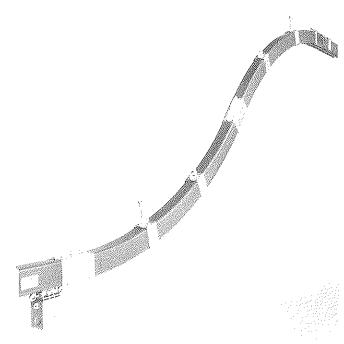
- Number of degrees.
- 2. Inside or outside.
- 3. Radius with reference to the back of the track.

In the same way we can also manufacture vertical 'S' bends.

Please give the following information with your order/ enquiry.

- 1. Overall height of rise.
- 2. Overall length of 'S' bends.
- 3. Radius of both outside and inside bends with reference to the back of the track.

Wherever possible a drawing showing the proposed system should be sent with your order/enquiry.

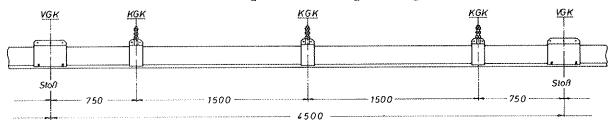


# Instruction in the Installation of Plastic Bus-Ways

The Plastic Bus-Way is rigidly linked to the roof structure, in the system's centre if feasible, by means of a track reference point hanger bracket. The other hanger brackets used are of the sliding type. In this way the system, in case of changes in ambient temperature, can freely move towards both extremes. Standard suspension spacing is 1,5 metres.

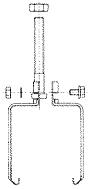
Installation of the bus-way can begin at any place of the track system. It will, however, prove advantageous to begin at one of its ends. Make sure that the yellow and green inlaid grooves on the bus-way track are all found on the same side.

Suspension Spacing



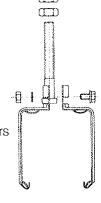
KGK Sliding type hanger bracket, to be fitted at a distance of 750 mm from track joint. VGK Joint plate, for mechanical and electric coupling of bus-way tracks.

#### Sliding type Hanger Track Reference Hanger Bracket KGK Bracket FKGK CID



Preassemble sliding type hanger brackets according to specifications and slip them on standard bus-way lengths to a point about 0.75 meters from each end. Standard spacing of these hangers is 1.50 metres.

The track reference point hanger bracket cannot be preassembled. Each system has to be rigidly linked to the roof structure with help of one track reference point hanger bracket at about the centre of the system. When this bracket is being fitted to the respective bus-way track, the ears at its lower ends are to be hooked into the recesses in the bus-ways (at about 0.75 metres from each track's ends). The remainder are assembled in accordance with respective specifications.



#### Mechanical and Electric Coupling of Bus-Way Lengths



Prior to joining bus-way tracks, make sure yellow and green inlaid grooves on the track are all on the same side.