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82 <p>TYPE 82-7 82-5 82-8 82-6 82-9</p> <p>DOUBLE SIDED CLIP</p>	83 <p>TYPE 83-5 83-7 83-6 83-8</p> <p>PIN FITTING</p>	84 <p>TYPE 84-7 84-5 84-8 84-6 84-9</p> <p>MALLEABLE PLUG</p>	86 <p>TYPE 86-7 86-8 +/- 11°</p> <p>ANGLE TEE</p>	87 <p>TYPE 87-7 87-8 +/- 11°</p> <p>ANGLE ELBOW</p>
88 <p>TYPE 88-7 88-8 +/- 11°</p> <p>THREE SOCKET ANGLE TEE</p>	89 <p>TYPE 89-7 89-8 89-87 +/- 11°</p> <p>TWO SOCKET ANGLE CROSS</p>	90 <p>TYPE 90-8 +/- 7°</p> <p>PGR THREE SOCKET TEE</p>	91 <p>TYPE 91-8 +/- 7°</p> <p>PGR TWO SOCKET CROSS</p>	92 <p>TYPE 92-8 +/- 7°</p> <p>PGR ELBOW</p>
93 <p>TYPE 93-8 +/- 7°</p> <p>PGR TEE</p>	95 <p>TYPE 95-8</p> <p>PGR INTERNAL SPIGOT</p>	97 ATD <p>FITS SIZES 5-9</p> <p>ANTI-THEFT DEVICE</p>	98 <p>TYPE 98 98-56 98-789</p> <p>RATCHET</p>	99 <p>TYPE 99-3 99-4 99-56 99-789</p> <p>HEX KEY</p>
100 <p>TYPE 100-56 100-789</p> <p>PLASTIC SET SCREW CAPS</p>	105 <p>TYPE 105-6 105-8 105-7 105-9</p> <p>PROFILED OR FLAT SHEETING CLIP</p>	114 <p>TYPE 114-6 114-8 114-7</p> <p>SWIVEL TEE</p>	115 <p>TYPE 115-6 115-8 115-7</p> <p>HORIZONTAL RAILING BASE</p>	S115 <p>TYPE S115</p> <p>PACKER PLATE FOR TYPE 115</p>
118 <p>TYPE 118-8</p> <p>COVER FLANGE</p>	121 <p>TYPE 121-7</p> <p>CORNER CROSSOVER</p>	145 <p>TYPE 145-7</p> <p>CROSSOVER COUPLING</p>	262 <p>TYPE 262-8</p> <p>ROUND BASE FLANGE</p>	265 <p>TYPE 265-7 265-8</p> <p>OFFSET RAILING BASE</p>
316 <p>TYPE 316-7 316-8</p> <p>PARAPET FLANGE</p>	350 <p>TYPE 350-8</p> <p>EAVES FITTING</p>	351 <p>TYPE 351-8</p> <p>RIDGE FITTING</p>		

Safety Components Guide



Specifying Kee Klamp® Components

Each fitting has a simple numerical code reference, which defines the type of fitting and the pipe size, or sizes, it is designed to receive. The first number, preceding the dash (-) identifies the type of Kee Klamp® fitting. A single digit, following the dash, defines tube size. Two single digits after the dash indicate that the fitting is designed to receive two sizes of tube.

Examples:

10-8 Both sockets 'A' and 'B' designed to accept tube size 8

45-76 Socket 'A' designed to accept tube size 7
Socket 'B' designed to accept tube size 6

10 Kee Klamp® Fitting Type 10

45 Kee Klamp® Fitting Type 45

Kee Klamp Fittings Size	Tube Diameter mm o/d	Nominal Bore mm	In
3	17.5	10	3/8"
4	21.3	15	1/2"
5	26.9	20	3/4"
6	33.7	25	1"
7	42.4	32	1 1/4"
8	48.3	40	1 1/2"
9	60.3	50	

- DESIGNED TO SUIT BS EN 10255 (ISO 65) STEEL TUBES FROM SIZES 17.5MM TO 60.3mm
- GALVANISED TO BS EN ISO 1461 OR AVAILABLE WITH POLYESTER COATING IN ANY RAL COLOUR
- FLEXIBLE SOLUTIONS FOR ALL TYPES OF SAFETY BARRIERS AND STRUCTURES
- WIDEST PRODUCT RANGE AVAILABLE



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Kee Klamp® Safety Components Guide

A10  TYPE A10-7 A10-8 SPLIT TEE	A12  TYPE A12-8 45° SPLIT TEE	A21  TYPE A21-8 SPLIT CORNER CROSS	A26  TYPE A26-8 SPLIT CROSS
A35  TYPE A35-8 SPLIT TEE CROSSOVER	A40  TYPE A40-8 SPLIT 4 SOCKET CROSS	A45  TYPE A45-7 A45-8 SPLIT CROSSOVER	10  TYPE 10-3 10-4 10-5 10-6 10-65 10-67 10-7 10-75 10-76 10-78 10-8 10-87 10-9 10-98 SINGLE SOCKET TEE
12  TYPE 12-5 12-6 12-7 12-8 45° SINGLE SOCKET TEE	14  TYPE 14-4 14-5 14-6 14-7 14-8 14-9 STRAIGHT COUPLING	15  TYPE 15-4 15-5 15-6 15-7 15-8 15-9 90° ELBOW	16  TYPE 16-7 16-5 16-6 16-8 16-9 CLAMP-ON TEE
17  TYPE 17-5 17-6 17-7 17-8 17-9 CLAMP-ON CROSS OVER	18  TYPE 18-6 18-7 18-8 INTERNAL COUPLING	19  TYPE * 19-5 19-6 19-7 19-8 19-8T 19-9 ADJUSTABLE SIDE OUTLET TEE	20  TYPE 20-4 20-5 20-6 20-7 20-8 20-9 SIDE OUTLET ELBOW
21  TYPE 21-4 21-5 21-6 21-7 21-8 21-9 90° SIDE OUTLET TEE	25  TYPE 25-4 25-5 25-6 25-7 25-8 25-9 THREE SOCKET TEE	26  TYPE 26-7 26-4 26-5 26-6 26-8 26-8T 26-9 TWO SOCKET CROSS	27  TYPE 27-6 0°-45° THREE SOCKET CUSTOM TEE
28  TYPE 28-6 0°-45° TWO SOCKET CUSTOM CROSS	328  TYPE 328-7 328-8 TWO SOCKET 11°-30° CROSS	29  TYPE 29-6 29-7 29-8 30°-60° SINGLE SOCKET TEE	30  TYPE 30-6 30-7 30-8 30°-45° ADJUSTABLE CROSS
31  TYPE 31-8 PALLET FLANGE	35  TYPE 35-4 35-5 35-6 35-7 35-8 35-9 THREE SOCKET CROSS	40  TYPE 40-4 40-5 40-6 40-7 40-8 40-9 FOUR SOCKET CROSS	45  TYPE 45-3 45-4 45-5 45-6 45-65 45-7 45-8 45-86 45-87 45-9 45-98 CROSSOVER
F50  TYPE F50-4 F50-5 F50-6 F50-7 F50-8 F50-9 FEMALE SINGLE SOCKET MEMBER	M50  TYPE M50-4 M50-5 M50-6 M50-7 M50-8 M50-9 MALE SINGLE SOCKET MEMBER	MH50  TYPE MH50-6 MALE SINGLE HORIZONTAL SOCKET	P50  TYPE P50-8 OFFSET FLANGE
C50  TYPE C50-44 C50-55 C50-66 C50-77 C50-88 C50-99 SINGLE SWIVEL SOCKET	C51  TYPE C51-555 C51-666 C51-777 C51-888 C51-999 DOUBLE SWIVEL SOCKET		

* Normally used in pairs but sold and priced separately.

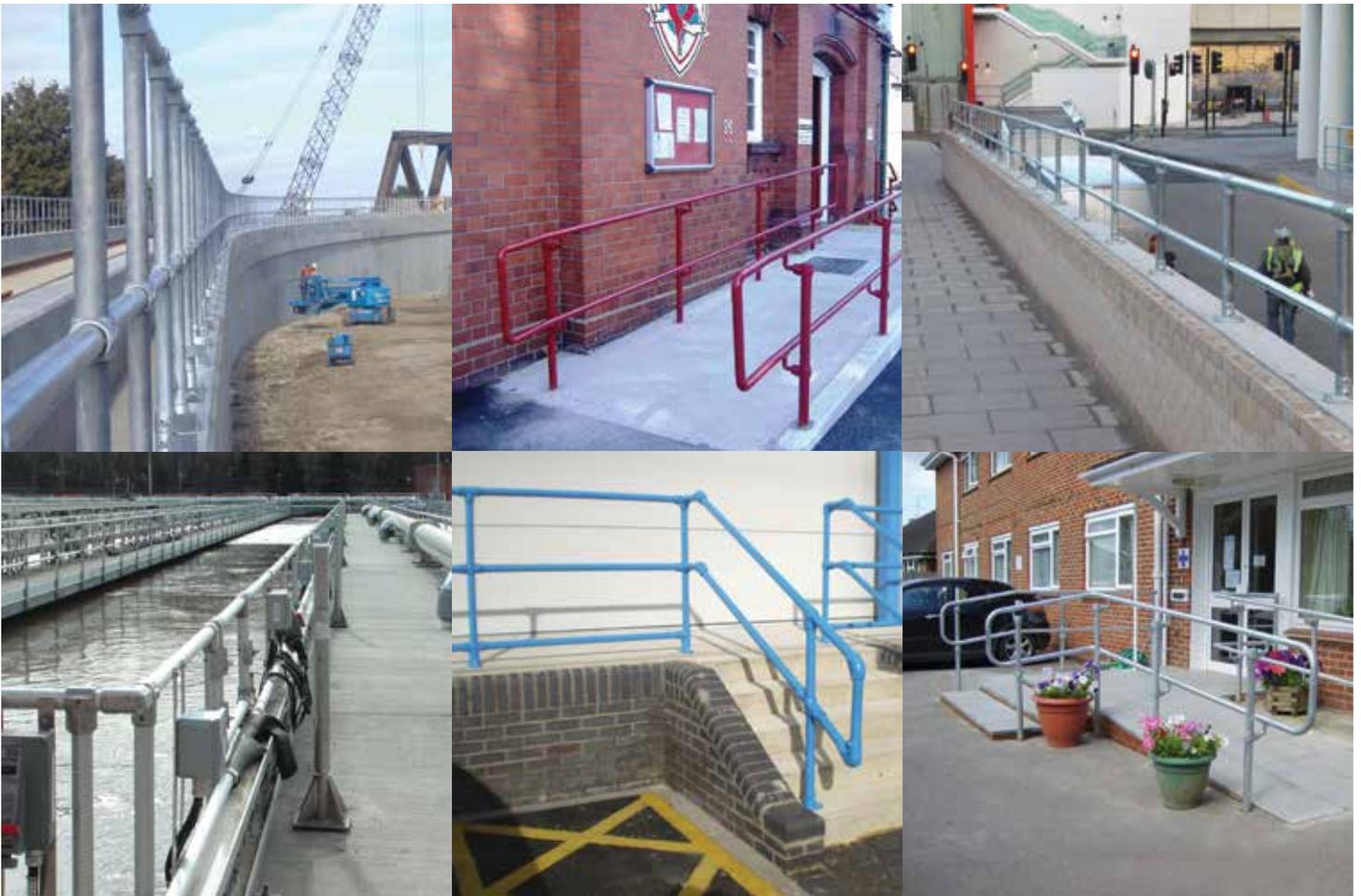
Kee Klamp® Safety Components Guide

M51  TYPE M51-5 M51-6 M51-7 M51-8 M51-9 MALE DOUBLE SWIVEL SOCKET MEMBER	MH51  TYPE MH51-6 MALE DOUBLE HORIZONTAL SOCKET	P51  TYPE P51-8 TWO OFFSET FLANGES	C52  TYPE C52-555 C52-666 C52-777 C52-888 CORNER SWIVEL SOCKET
M52  TYPE M52-5 M52-6 M52-7 M52-8 MALE CORNER SWIVEL SOCKET MEMBER	BC53  TYPE BC53-88 SWIVEL ELBOW	C53  TYPE C53-8 ADJUSTABLE THREE WAY SWIVEL SOCKET	M53  TYPE M53-8 VARIABLE ANGLE DOUBLE SWIVEL SOCKET
55  TYPE 55-6 55-7 55-8 OBTUSE ANGLE ELBOW	56  TYPE 56-8 ACUTE ANGLE ELBOW	P57  TYPE P57-8 CENTRAL FLANGE	P57E  TYPE P57E-7 ELONGATED CENTRAL FLANGE
C58  TYPE C58-5 C58-6 C58-7 C58-8 C58-9 SWIVEL FLANGE	M58  TYPE M58 BASE PLATE	P58  TYPE P58-7 DOUBLE CENTRAL FLANGE	59  TYPE 59-5 59-6 59-7 59-8 59-9 SPIGOT FLANGE
60  TYPE 60-5 60-6 60-7 60-8 EXTRA HEAVY FLANGE	61  TYPE 61-3 61-4 61-5 61-6 61-7 61-8 61-9 FLANGE	62  TYPE 62-5 62-6 62-7 62-8 62-9 STANDARD RAILING FLANGE	63  TYPE 63-6 63-7 63-8 45° - 60° ANGLE BASE FLANGE
363  TYPE 363-7 363-8 11° - 30° ANGLE BASE FLANGE	64  TYPE 64-6 64-7 STANDARD VERTICAL RAILING BASE	65  TYPE 65-6 STANDARD HORIZONTAL RAILING BASE	66  TYPE 66-6 66-7 66-8 GROUND SOCKET
67  TYPE 67-7 67-8 3° - 11° ANGLE BASE FLANGE	68  TYPE 68-6 68-7 68-8 WALL FLANGE	69  TYPE 69-6 69-7 RAILING FLANGE WITH TOEBOARD ADAPTOR	70  TYPE 70-5 70-6 70-7 70-8 RAIL SUPPORT
71  TYPE 71-6 71-7 71-8 WEATHER CAP	72  TYPE 72-8 STAIR TREAD SUPPORT	75  TYPE 75-4 75-5 75-6 75-7 75-8 COLLAR	
76  TYPE 76-5 76-6 76-7 76-8 HOOK	77  TYPE 77-4 77-5 77-6 77-7 77-8 77-9 PLASTIC PLUG	78  TYPE 78-7 78-5 78-6 78-8 EYE FITTING	79  TYPE 79-7 SHEETING CLIP
81  TYPE 81-7 81-5 81-6 81-8 81-9 SINGLE SIDED CLIP			



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Slope Fittings



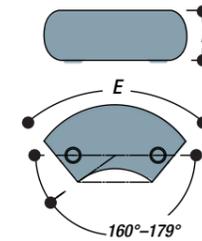
- EXTENDED RANGE NOW AVAILABLE FOR STEEPER GRADIENTS
- FITTINGS TOLERANCE ALLOWS FOR ON SITE ANGLE VARIATIONS
- ENHANCED AESTHETICS FOR THE FINISHED HANDRAIL
- QUICK AND EASY INSTALLATION





55A Variable Elbow (11° to 30°)

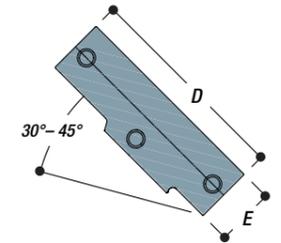
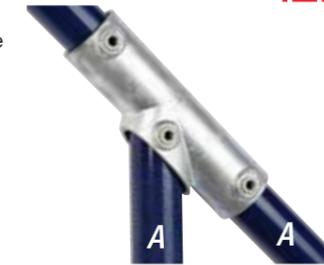
The Type 55A is an ideal fitting to use as an alternative to bending or when a junction between a sloping tube and an end post is required.



TYPE	Tube ref.		mm		Kg
	A	D	E		
55A-7	7	55	115		0.82
55A-8	8	60	150		1.01

427 Three Socket Tee (30° to 45°)

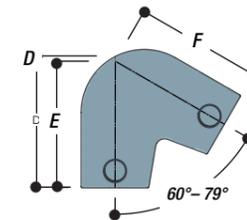
This fitting is used on a safety railing with slopes between 30° and 45° and fixes the top rail to a vertical intermediate upright.



TYPE	Tube ref.		mm		Kg
	A	D	E		
427-7	7	180	55		0.95
427-8	8	216	60		1.22

56A Acute Angle Elbow (11° to 30°)

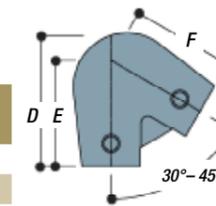
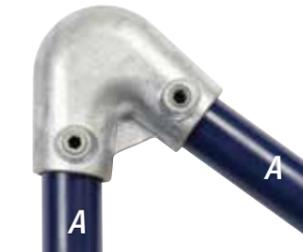
Type 56A is an ideal fitting to use as an alternative to bending, or when a junction between a sloping tube and an end post is required i.e. guardrail on staircases between 11° and 30°.



TYPE	Tube ref.		mm			Kg
	A	D	E	F		
56A-7	7	120	108	108		0.94
56A-8	8	125	112	112		1.12

56-7 Acute Angle Elbow (30° to 45°)

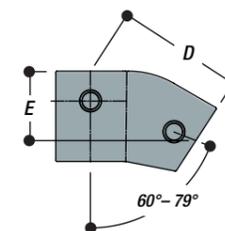
Type 56 is an ideal fitting to use as an alternative to bending, or when a junction between a sloping tube and an end post is required i.e. guardrail on staircases between 30° and 45°.



TYPE	Tube ref.		mm			Kg
	A	D	E	F		
56-7	7	105	99	99		0.98

329 Single Socket Tee (11° to 30°)

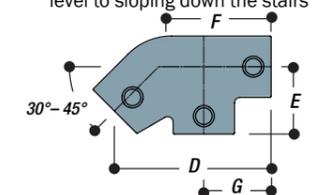
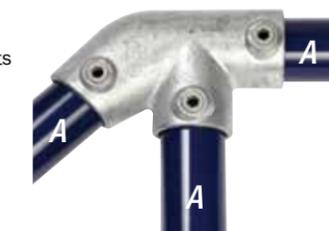
Designed as an alternative to Type 12, this adjustable fitting is most frequently used for bracing and struts and for terminating the mid-rail on sloping guardrails into the end upright. It may be used at any selected angle between 11° and 30°.



TYPE	Tube ref.		mm		Kg
	A	D	E		
329-7	7	99	54		0.73
329-8	8	109	59		0.86

325 Level to Sloping Down Tee (30° to 45°)

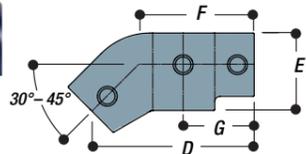
Tee fitting designed for the top rail on guardrail on slopes and staircases between 30° and 45° at the junction where the handrail changes from level to sloping down the stairs.



TYPE	Tube ref.		mm			Kg
	A	D	E	F	G	
325-7	7	142	60	89	60	1.02
325-8	8	154	68	100	68	1.12

326 Level to Sloping Down or Up Cross (30° to 45°)

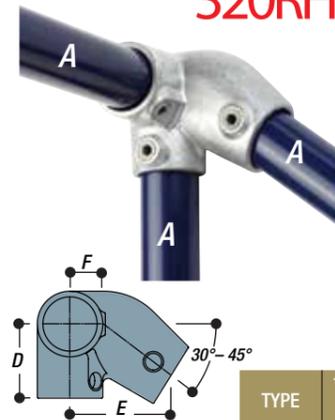
Cross fitting designed for the mid rail on guardrail on slopes and staircases between 30° and 45° at the junction where the handrail changes from either level to sloping down or level to sloping up the stairs



TYPE	Tube ref.	mm				Kg
		A	D	E	F	
326-7	7	142	68	89	60	0.82
326-8	8	154	74	100	68	0.95

320RH Right hand level to Sloping Down Side Outlet Elbow (30° to 45°)

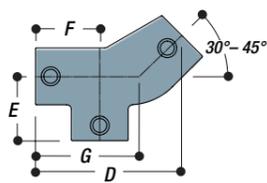
Right Hand Side Outlet Elbow fitting designed for the top rail on guardrail on slopes and staircases between 30° and 45° at the junction where the handrail changes from level to sloping down the stairs



TYPE	Tube ref.	mm				Kg
		A	D	E	F	
320RH-7	7	60	86	29		1.08
320RH-8	8	68	93	32		1.28

325A Level to Sloping Up Tee (30° to 45°)

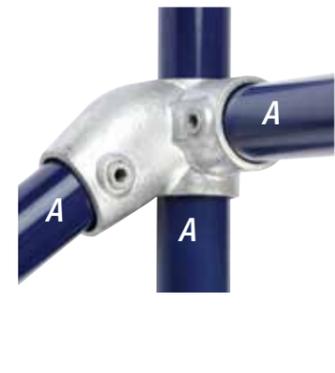
Tee fitting designed for the top rail on guardrail on slopes and staircases between 30° and 45° at the junction where the handrail changes from level to sloping up the stairs



TYPE	Tube ref.	mm				Kg
		A	D	E	F	
325A-7	7	142	60	60	89	1.02
325A-8	8	155	68	68	100	1.12

321LH Left hand level to Sloping Down Side Outlet Tee (30° to 45°)

Left Hand Side Outlet Tee fitting designed for the mid rail on guardrail on slopes and staircases between 30° and 45° at the junction where the handrail changes from level to sloping down the stairs



TYPE	Tube ref.	mm				Kg
		A	D	E	F	
321LH-7	7	86	27	29		0.96
321LH-8	8	92	30	32		1.12

320LH Left hand level to Sloping Down Side Outlet Elbow (30° to 45°)

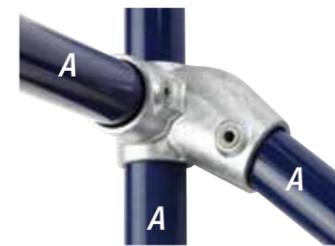
Left Hand Side Outlet Elbow fitting designed for the top rail on guardrail on slopes and staircases between 30° and 45° at the junction where the handrail changes from level to sloping down the stairs



TYPE	Tube ref.	mm				Kg
		A	D	E	F	
320LH-7	7	60	86	29		1.08
320LH-8	8	68	93	32		1.28

321RH Right hand level to Sloping Down Side Outlet Tee (30° to 45°)

Right Hand Side Outlet Tee fitting designed for the mid rail on guardrail on slopes and stair-cases between 30° and 45° at the junction where the handrail changes from level to sloping down the stairs



TYPE	Tube ref.	mm				Kg
		A	D	E	F	
321RH-7	7	86	27	29		0.96
321RH-8	8	92	30	32		1.12

Guardrail Up Slopes 11 to 30

Using Types 55A, 56A, 327, 328, & 329 size 7 & 8

Where the upright remains vertical, i.e. stairways (i) dimension x, x1, x2, x3 to be subtracted from the upright centres; dimension (L) to give the rail length; (ii) dimension y, y1 and y2 for determining the up-right length.

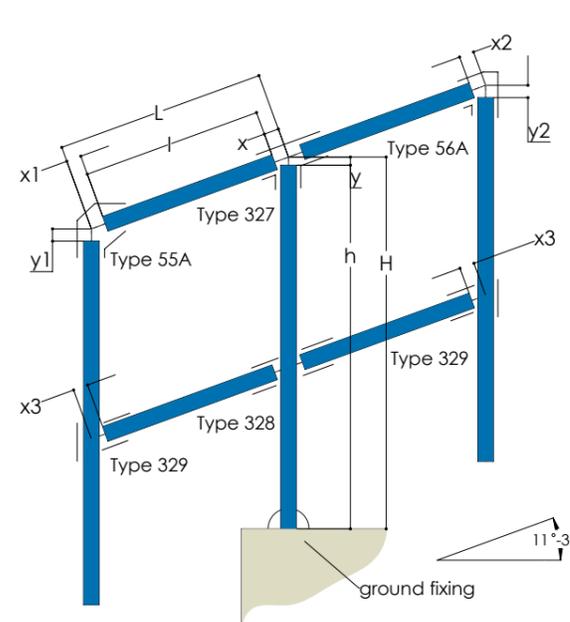


Table 1 gives details of dimensions required for calculating the rail lengths, where angle are between 11° & 30°

Table 1: Rails

Angle Of Slope	Fitting Size							
	7				8			
	x	x1	x2	x3	x	x1	x2	x3
11°	-26	-25	-35	-52	-29	-16	-35	-51
15°	-28	-21	-46	-53	-31	-27	-47	-52
20°	-30	-16	-48	-55	-34	-21	-49	-54
25°	-33	-15	-52	-59	-38	-22	-53	-57
30°	-37	-8	-57	-64	-42	-15	-59	-62

Table 2 Gives details of dimensions required for calculating the upright lengths.

Table 2: Uprights

Angle Of Slope	Fitting Size					
	7			8		
	y	y1	y2	y	y1	y2
11°	+7	-10	-28	+6	-7	-33
15°	+7	-11	-25	+6	-8	-30
20°	+7	-13	-34	+6	-10	-38
25°	+7	-15	-43	+6	-10	-48
30°	+7	-18	-53	+6	-14	-59

Guardrail up Slopes 30 to 45

Using Types 29, 30, 55, 56 & 427 in sizes 7 & 8

Where the upright remains vertical, i.e. stairways (i) dimension x, x1, x3, y & z to be subtracted from the upright centres; dimension (L) to give the rail length; (ii) dimension u, v and w for determining the upright length.

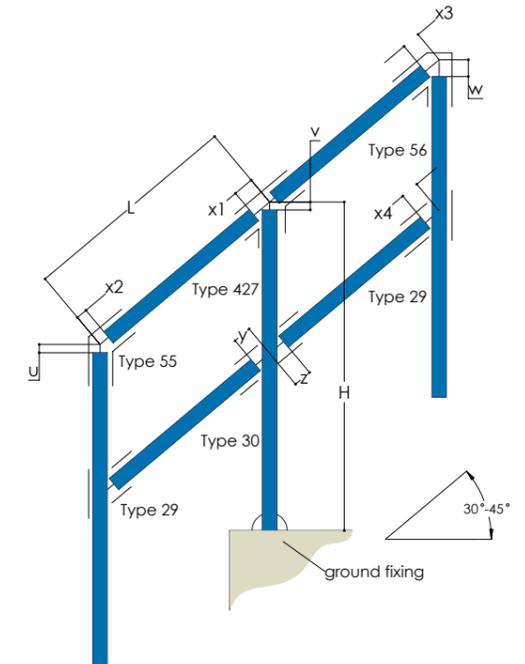


Table 3 gives details of dimensions required for calculating the rail lengths, where angle are between 30° & 45°

Table 3: Rails

Angle Of Slope	Fitting Size											
	7						8					
	x1	x2	x3	x4	y	z	x1	x2	x3	x4	y	z
30°	-39	-20	-55	-37	-49	-55	-45	-22	-49	-43	-60	-74
35°	-44	-16	-61	-40	-50	-54	-50	-18	-55	-47	-60	-74
40°	-47	-20	-71	-45	-51	-53	-55	-21	-66	-52	-61	-74
45°	-50	-26	-85	-51	-91	-53	-55	-26	-81	-59	-68	-66

Table 4 Gives details of dimensions required for calculating the upright lengths..

Table 4: Uprights

Angle Of Slope	Fitting Size					
	7			8		
	u	v	w	u	v	w
30°	-17	+5	-48	-25	+6	-49
35°	-16	+5	-59	-21	+6	-59
40°	-8	+3	-69	-14	+6	-69
45°	+2	-1	-80	-2	-4	-81

Guardrail up slopes 30° to 45°

Using 325, 325A, 326, size 7 & 8

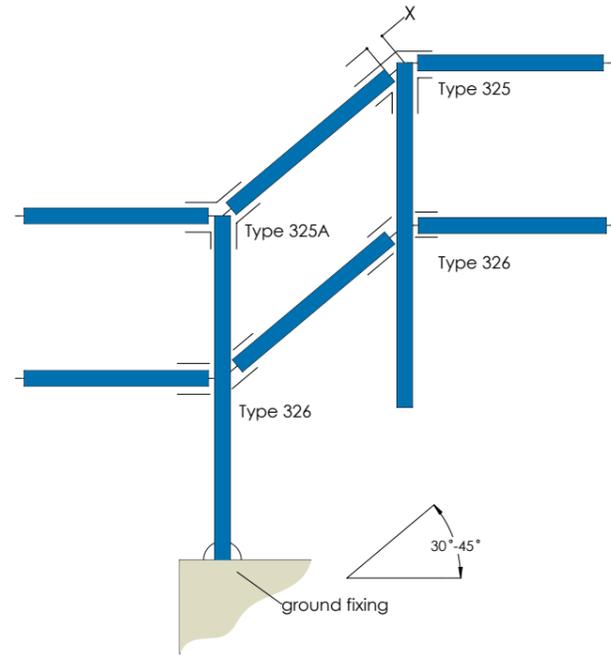


Table 5 gives details of dimensions required for calculating the rail lengths, where angle are between 30° & 45°

Table 5: Rails

Angle Of Slope	Fitting Size	
	7	8
	x	x
30°	-47	-57
35°	-52	-62
40°	-59	-69
45°	-68	-79

Guardrail up slopes 30° to 45°

Using 320RH, 320LH, 321RH & 321LH size 7 and 8

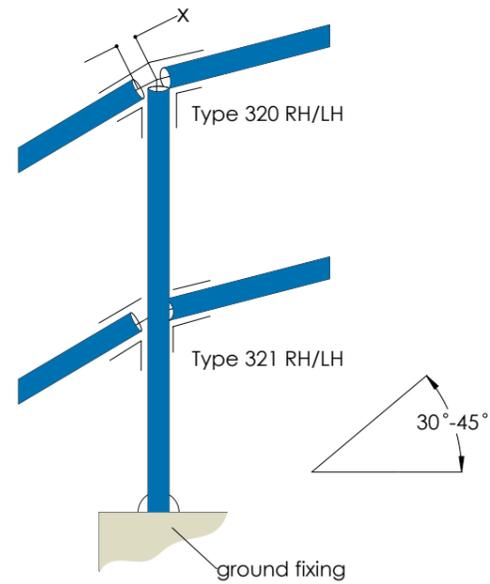


Table 6 gives details of dimensions required for calculating the rail lengths, where angle are between 30° & 45°

Table 6: Rails

Angle Of Slope	Fitting Size	
	7	8
	x	x
30°	-55	-62
35°	-60	-68
40°	-67	-76
45°	-77	-86

New Slope Fittings

The latest addition to the **KEE KLAMP** portfolio is an extension to the current range of slope fittings designed to enhance the building of guardrail along staircases and ramps particularly when the slope is greater than 30°. The new range introduces single fittings to cater for situations where currently a combination of fittings is required. Not only does this improve the aesthetics of the finished guardrail but it also allows for a quicker and easier install. The new range of slope fittings is available in Size 7 (outer diameter 42.4mm) and Size 8 (outer diameter 48.3mm) designed for use with steel tubing to BS EN 10255.

KEE KLAMP fittings are iron castings manufactured to the requirements of BS EN 1562 & BS EN 1563. They are supplied hot dip galvanised to BS EN ISO 1461.

A **KEE KLAMP** fitting can support an axial load of 900Kg per set screw tightened to a torque of 4Kgm (39 Nm). In common with all **KEE KLAMP** products, the threaded recesses of each fitting are covered with **THREDKOAT** protective coating to provide enhanced corrosion resistance and all grub screws are manufactured in case hardened steel coated with **KEE KOAT** for corrosion protection.

Features & Benefits

- **KEE KLAMP** is the best known brand of slip-on tube fittings available for over 80 years
- Manufactured to stringent quality standards to ensure consistent performance
- Extended range of slope fittings gives greater design flexibility
- Adjustability in the fittings allows greater on-site tolerances to be met
- Using single fittings rather than pairs speed up installation times





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