

# Kee Klamp®

YOU'LL NEVER BE BETTER PROTECTED



## Pre-assembled Safety Barrier Systems



# SAFETY BARRIER SYSTEMS



**Ramps** - Flat and level and 3-11 Degrees



**Guardrails** - Flat and level



**Stairs** - Flat and level and 30-45 Degrees

Pedestrian Barriers: offers both in-line and offset solutions which allow continuous guardrail across a variety of angles. Installation is quick and easy and does not require welding or special tools.

Kee Safety Pre-assembled uprights have been specifically designed to simplify and reduce labour time on site, allowing barriers and guardrails to be installed in record time. The uprights are supplied fully assembled, saving you the need to build the upright from individual components. We have an extensive range of pre-assembled uprights available to suit angles from 0 to 45 degrees, and in three different variants - Top Fix, Side Fix & Core Bore.

To speed up installation time even further, we can provide rails cut to your specified length, saving you time cutting on site. Alternatively, we can supply the rails in stock lengths to be trimmed to suit as required.

Kee Safety Pre-assembled uprights can be used for:

- Barriers
- Guardrails
- Handrails
- Demarcation
- Factory & warehouse Barriers
- Walkway Handrailing
- Ramps & Stairs

## Technical Information

Our Pre-assembled uprights are constructed using our world renowned Kee Klamp components, manufactured to the following standards:

- Cast Iron Fittings or Castings - Comply with BS EN 1562 & 1563
- Hot Dip Galvanised finish - Comply with BS EN ISO 1461

For added piece of mind Kee Klamp components are approved by TÜV, Europe's leading independent testing house. The maximum load of each fitting type is as stated on the TÜV Certificate, a copy of which is available upon request. For an up-to-date TÜV listing see our website at: [www.keesafety.co.uk](http://www.keesafety.co.uk).

# PRE-ASSEMBLED KITS

FEATURES	BENEFITS
Creates a Safe environment for workers	No welding, bending or threading required
No welding, bending or threading required	Simple installation using the hexagon key provided
Versatile modular construction	Alternative baseplate availability
Sections can be added as required making it extremely versatile	Quicker and easier to install

ANGLE OF KEE KLAMP SAFETY BARRIER SYSTEM							
FITTING TYPE OR FIXING METHOD	Flat and Level		3-11°	11-30°	30-45°		
	Top Fixed	GBS01	62-8 Base End				GBS09 62-8 Base End
		GBS02	62-8 Base Intermediate	GBS05 67-8 Base End	GBS07 363-8 Base End	GBS10 62-8 Base Intermediate	
		GBS03	62-8 Base 90° Corner	GBS06 67-8 Base Intermediate	GBS08 363-8 Base Intermediate	GBS11 62-8 Base 90° LH Corner	
		GBS04	62-8 Base Variable Corner			GBS12 62-8 Base 90° RH Corner	
						GBS13 62-8 Base 30-45° Incline to flat	
						GBS14 62-8 Base 30-45° Flat to incline	
	& Offset Rail	GBS40 62-8 Adjustable Angle Upright - Offset					
	Core Bored	GBS15	Core Bored End				GBS23 Core Bored End
		GBS16	Core Bored Intermediate	GBS19 Core Bored End	GBS21 Core Bored End	GBS24 Core Bored Intermediate	
GBS17		Core Bored 90° Corner	GBS20 Core Bored Intermediate	GBS22 Core Bored Intermediate	GBS25 Core Bored 90° LH Corner		
GBS18		Core Bored Variable Corner			GBS26 Core Bored 90° RH Corner		
					GBS27 Core Bored 30-45° Incline to flat		
					GBS28 Core Bored 30-45° Flat to incline		
& Offset Rail	GBS41 Core Bored Adjustable Angle Upright - Offset						
Side Fixed	GBS29	68-8 Base End				GBS36 68-8 Base End	
	GBS30	68-8 Base Intermediate	GBS32 68-8 Base End	GBS34 68-8 Base End	GBS37 68-8 Base Intermediate		
	GBS31	68-8 Base Variable Corner	GBS33 68-8 Base Intermediate	GBS35 68-8 Base Intermediate	GBS38 68-8 30-45° Incline to flat		
					GBS39 68-8 30-45° Flat to incline		
& Offset Rail	GBS42 68-8 Adjustable Angle Upright - Offset						
	DRET D-Return	DRET87 D-Return	DRET56A D-Return	DRET56 D-Return			





LOAD CHART							
	Flat and Level		3-11°	11-30°	30-45°	Off Set Rail	
360 N/m	Top Fix	2660mm (13.74KN)	2840mm (13.34KN)	2840mm (13.34KN)	2840mm (13.34KN)	2660mm	(13.74KN)
	Core Bored <sup>1</sup>	2660mm	2840mm	2840mm	2840mm	2660mm	
	Side Palm	2560mm (10.88KN)	2760mm (10.78KN)	2760mm (10.78KN)	2760mm (10.78KN)	2560mm	(10.88KN)
740 N/m	Top Fix	1600mm (16.99KN)	1775mm (17.13KN)	1775mm (17.13KN)	1775mm (17.13KN)	1600mm	(16.99KN)
	Core Bored <sup>1</sup>	1600mm	1775mm	1775mm	1775mm	1600mm	
	Side Palm	1530mm (13.37KN)	1650mm (13.48KN)	1650mm (13.48KN)	1650mm (13.48KN)	1530mm	(13.37KN)
1500 N/m	Top Fix	790mm (17.00KN)	875mm (17.12KN)	875mm (17.12KN)	875mm (17.12KN)	790mm	(17.00KN)
	Core Bored <sup>1</sup>	790mm	870mm	870mm	870mm	790mm	
	Side Palm	750mm (13.28KN)	830mm (13.50KN)	830mm (13.50KN)	750mm (13.28KN)	750mm	(13.28KN)









1. Assumes a minimum concrete grade of C30.  
Assumes 48.30mm DIA x 3.20mm horizontal tube and 48.30mm DIA x 4.00mm upright tube to determine the bay size.

**Industrial Use-Non Emergency:** 360 Newtons per metre run (N/m) **Commercial Use:** 740 Newtons per metre run (N/m) **Retail/Public Access:** 1500 Newtons per metre run (N/m)

The current regulations give various design requirements to be fulfilled of which the Design Load is the most important. Based upon rail diameter being BS EN 10255 medium wall tubing and the upright being BS EN 39 heavy wall tubing. Design Loads are as stated in BS 6180. The above bay sizes are calculated using the relevant fitting or fixing configuration for the upright type. The figures shown in brackets are the required anchor pull out loads for the bay size indicated after all reduction factors have been applied.

**Notes:** The table is based on the maximum permissible bending moment of the tube. To achieve bigger bay sizes than those stated please contact Kee Safety Ltd for further details

<p><b>GBS01</b></p> <p><b>End Upright - Top Fixed</b></p> <p>Long Part GBS6281510</p> <p>Variant Flat</p> <p>Base/ Fixing type 62-8</p> <p>Handrail height 1100mm</p> <p>Flat and Level</p> 	<p><b>GBS02</b></p> <p><b>Intermediate Upright - Top Fixed</b></p> <p>Long Part GB6282510</p> <p>Variant Flat</p> <p>Base/ Fixing type 62-8</p> <p>Handrail height 1100mm</p> <p>Flat and Level</p> 	<p><b>GBS03</b></p> <p><b>Corner Upright - Top Fixed</b></p> <p>Long Part GB6282010</p> <p>Variant Flat</p> <p>Base/ Fixing type 62-8</p> <p>Handrail height 1100mm</p> <p>Flat and Level</p> 	<p><b>GBS04</b></p> <p><b>Variable Corner Upright - Top Fixed</b></p> <p>Long Part GB6281910</p> <p>Variant Flat</p> <p>Base/ Fixing type 62-8</p> <p>Handrail height 1100mm</p> <p>Flat and Level</p> 
<p><b>GBS015</b></p> <p><b>End Upright - Core Bored</b></p> <p>Long Part GBCB81510</p> <p>Variant Flat</p> <p>Base/ Fixing type Core Bored</p> <p>Handrail height 1100mm</p> <p>Flat and Level</p> 	<p><b>GBS16</b></p> <p><b>Intermediate Upright - Core Bored</b></p> <p>Long Part GBCB82510</p> <p>Variant Flat</p> <p>Base/ Fixing type Core Bored</p> <p>Handrail height 1100mm</p> <p>Flat and Level</p> 	<p><b>GBS17</b></p> <p><b>Corner Upright - Core Bored</b></p> <p>Long Part GBCB82010</p> <p>Variant Flat</p> <p>Base/ Fixing type Core Bored</p> <p>Handrail height 1100mm</p> <p>Flat and Level</p> 	<p><b>GBS18</b></p> <p><b>Variable Corner Upright - Core Bored</b></p> <p>Long Part GBCB81910</p> <p>Variant Flat</p> <p>Base/ Fixing type Core Bored</p> <p>Handrail height 1100mm</p> <p>Flat and Level</p> 
<p><b>GBS29</b></p> <p><b>End Upright - Side Fixed</b></p> <p>Long Part GB6881510</p> <p>Variant Flat</p> <p>Base/ Fixing type 66-8</p> <p>Handrail height 1150mm</p> <p>Flat and Level</p> 	<p><b>GBS30</b></p> <p><b>Intermediate Upright - Side Fixed</b></p> <p>Long Part GB6882510</p> <p>Variant Flat</p> <p>Base/ Fixing type 66-8</p> <p>Handrail height 1150mm</p> <p>Flat and Level</p> 	<p><b>GBS31</b></p> <p><b>Variable Corner - Side Fixed</b></p> <p>Long Part GB6881910</p> <p>Variant Flat</p> <p>Base/ Fixing type 66-8</p> <p>Handrail height 1150mm</p> <p>Flat and Level</p> 	<p><b>DRET</b></p> <p><b>D-Return</b></p> <p>Long Part KGA4DRT10</p> <p>Variant Flat</p> <p>Base/ Fixing type NA</p> <p>Handrail height NA</p> <p>Flat and Level</p> 

<p><b>GBS05</b></p> <p><b>End Upright - Top Fixed</b></p> <p>Long Part GB6788710</p> <p>Variant 3-11°</p> <p>Base/ Fixing type 67-8</p> <p>Handrail height 1000mm</p> <p><b>3-11°</b></p> 	<p><b>GBS06</b></p> <p><b>Intermediate Upright - Top Fixed</b></p> <p>Long Part GB6788810</p> <p>Variant 3-11°</p> <p>Base/ Fixing type 67-8</p> <p>Handrail height 1000mm</p> <p><b>3-11°</b></p> 	<p><b>GBS19</b></p> <p><b>End Upright - Core Bored</b></p> <p>Long Part GBCB88710</p> <p>Variant 3-11°</p> <p>Base/ Fixing type Core Bored</p> <p>Handrail height 1000mm</p> <p><b>3-11°</b></p> 	<p><b>GBS20</b></p> <p><b>Intermediate Upright - Core Bored</b></p> <p>Long Part GBCB88710</p> <p>Variant 3-11°</p> <p>Base/ Fixing type Core Bored</p> <p>Handrail height 1000mm</p> <p><b>3-11°</b></p> 
<p><b>GBS32</b></p> <p><b>End Upright - Side Fixed</b></p> <p>Long Part GB6888710</p> <p>Variant 3-11°</p> <p>Base/ Fixing type 68-8</p> <p>Handrail height 1050mm</p> <p><b>3-11°</b></p> 	<p><b>GBS33</b></p> <p><b>Intermediate Upright - Side Fixed</b></p> <p>Long Part GB6888810</p> <p>Variant 3-11°</p> <p>Base/ Fixing type 68-8</p> <p>Handrail height 1050mm</p> <p><b>3-11°</b></p> 	<p><b>DRET87</b></p> <p><b>D-Return</b></p> <p>Long Part GBDRT8710</p> <p>Variant 3-11°</p> <p>Base/ Fixing type NA</p> <p>Handrail height NA</p> <p><b>3-11°</b></p> 	<p><b>GBS07</b></p> <p><b>End Upright - Top Fixed</b></p> <p>Long Part GB3855A10</p> <p>Variant 11-30°</p> <p>Base/ Fixing type 363-8</p> <p>Handrail height 1000mm</p> <p><b>11-30°</b></p> 
<p><b>GBS08</b></p> <p><b>Intermediate Upright - Top Fixed</b></p> <p>Long Part GB3832710</p> <p>Variant 11-30°</p> <p>Base/ Fixing type 363-8</p> <p>Handrail height 1000mm</p> <p><b>11-30°</b></p> 	<p><b>GBS21</b></p> <p><b>End Upright - Core Bored</b></p> <p>Long Part GBCB55A10</p> <p>Variant 11-30°</p> <p>Base/ Fixing type Core Bored</p> <p>Handrail height 1000mm</p> <p><b>11-30°</b></p> 	<p><b>GBS22</b></p> <p><b>Intermediate Upright - Core Bored</b></p> <p>Long Part GBCB32710</p> <p>Variant 11-30°</p> <p>Base/ Fixing type Core Bored</p> <p>Handrail height 1000mm</p> <p><b>11-30°</b></p> 	<p><b>GBS34</b></p> <p><b>End Upright - Side Fixed</b></p> <p>Long Part GB6855A10</p> <p>Variant 11-30°</p> <p>Base/ Fixing type 68-8</p> <p>Handrail height 1050mm</p> <p><b>11-30°</b></p> 

**GBS35**

**Intermediate Upright - Side Fixed**

**Long Part**  
GB6832710

**Variant**  
11-30°

**Base/  
Fixing type**  
68-8

**Handrail height**  
1050mm



11-30°

**DRET56A**


**D-Return**

**Long Part**  
GBDRT5A10

**Variant**  
11-30°

**Base/  
Fixing type**  
NA

**Handrail height**  
NA



11-30°

**GBS09**

**End Upright - Top Fixed**

**Long Part**  
GB6285510

**Variant**  
30-45°

**Base/  
Fixing type**  
62-8

**Handrail height**  
1000mm



30-45°

**GBS10**

**Intermediate Upright - Top Fixed**

**Long Part**  
GB6242710

**Variant**  
30-45°

**Base/  
Fixing type**  
62-8

**Handrail height**  
1000mm



30-45°

**GBS11**

**LH Corner Upright - Top Fixed**

**Long Part**  
GB628LH10

**Variant**  
30-45°

**Base/  
Fixing type**  
62-8

**Handrail height**  
1100mm



30-45°

**GBS12**

**RH Corner Upright - Top Fixed**

**Long Part**  
GB628RH10

**Variant**  
30-45°

**Base/  
Fixing type**  
62-8

**Handrail height**  
1100mm



30-45°

**GBS13**

**Incline To Flat Upright - Top Fixed**

**Long Part**  
GB628IL10

**Variant**  
30-45°

**Base/  
Fixing type**  
62-8

**Handrail height**  
1100mm



30-45°

**GBS14**

**Flat To Incline Upright - Top Fixed**

**Long Part**  
GB628IC10

**Variant**  
30-45°

**Base/  
Fixing type**  
62-8

**Handrail height**  
1100mm



30-45°

**GBS23**

**End Upright - Core Bored**

**Long Part**  
GBCB85510

**Variant**  
30-45°

**Base/  
Fixing type**  
Core Bored

**Handrail height**  
1000mm



30-45°

**GBS24**

**Intermediate Upright - Core Bored**

**Long Part**  
GBCB42710

**Variant**  
30-45°

**Base/  
Fixing type**  
Core Bored

**Handrail height**  
1000mm



30-45°

**GBS25**

**LH Corner Upright - Core Bored**

**Long Part**  
GBCB8LH10

**Variant**  
30-45°

**Base/  
Fixing type**  
Core Bored

**Handrail height**  
1100mm



30-45°

**GBS26**

**RH Corner Upright - Core Bored**

**Long Part**  
GBCB8RH10











**Variant**  
30-45°

**Base/  
Fixing type**  
Core Bored

**Handrail height**  
1100mm



30-45°

<p><b>GBS27</b></p> <p><b>Incline To Flat Upright - Core Bored</b></p> <p>Long Part GBCB8IL10</p> <p>Variant 30-45°</p> <p>Base/ Fixing type Core Bored</p> <p>Handrail height 1100mm</p> <p>30-45°</p> 	<p><b>GBS28</b></p> <p><b>Flat To Incline Upright - Core Bored</b></p> <p>Long Part GBCB8IC10</p> <p>Variant 30-45°</p> <p>Base/ Fixing type Core Bored</p> <p>Handrail height 1100mm</p> <p>30-45°</p> 	<p><b>GBS36</b></p> <p><b>End Upright - Side Fixed</b></p> <p>Long Part GB6885510</p> <p>Variant 30-45°</p> <p>Base/ Fixing type 68-8</p> <p>Handrail height 1050mm</p> <p>30-45°</p> 	<p><b>GBS37</b></p> <p><b>Intermediate Upright - Side Fixed</b></p> <p>Long Part GB6842710</p> <p>Variant 30-45°</p> <p>Base/ Fixing type 68-8</p> <p>Handrail height 1050mm</p> <p>30-45°</p> 
<p><b>GBS38</b></p> <p><b>Incline To Flat Upright - Side Fixed</b></p> <p>Long Part GB688IL10</p> <p>Variant 30-45°</p> <p>Base/ Fixing type 68-8</p> <p>Handrail height 1050mm</p> <p>30-45°</p> 	<p><b>GBS39</b></p> <p><b>Flat To Incline Upright - Side Fixed</b></p> <p>Long Part GB688IC10</p> <p>Variant 30-45°</p> <p>Base/ Fixing type 68-8</p> <p>Handrail height 1050mm</p> <p>30-45°</p> 	<p><b>DRET56</b></p> <p><b>D-Return</b></p> <p>Long Part GBDRT5610</p> <p>Variant 30-45°</p> <p>Base/ Fixing type NA</p> <p>Handrail height NA</p> <p>30-45°</p> 	<p><b>GBS40</b></p> <p><b>Offset Intermediate Upright - Top Fixed</b></p> <p>Long Part GB6211410</p> <p>Variant Variable</p> <p>Base/ Fixing type 62-8</p> <p>Handrail height 1100mm</p> <p>Variable</p> 
<p><b>GBS41</b></p> <p><b>Offset Intermediate Upright - Core Bored</b></p> <p>Long Part GBCB11410</p> <p>Variant Variable</p> <p>Base/ Fixing type Core Bored</p> <p>Handrail height 1100mm</p> <p>Variable</p> 	<p><b>GBS42</b></p> <p><b>Offset Intermediate Upright - Side Fixed</b></p> <p>Long Part GB6811410</p> <p>Variant Variable</p> <p>Base/ Fixing type 68-8</p> <p>Handrail height 1050mm</p> <p>Variable</p> 		

## 14-8

### Straight Coupling

An in-line joint between two pieces of tube of the same size, which is stronger than internal couplings.



## 15-8

### Elbow (90°)

An elbow creating a 90° joint between two pieces of tube.



## 18-8

### Internal Coupling

A flush joint between two tubes of the same diameter.



Note: This fitting can only be used with tube wall with a thickness of 3.2 mm



**WARNING:** Type 18 coupling must not be used as a load bearing joint.

## BC53-88

### Swivel Elbow

A variable angle in-line connection, adjustable through 272°.



## 55-8

### Obtuse Angle Elbow

An alternative to bending, or when a junction between a sloping tube and an end post is required.



## 61-8

### Flange

Wall fixing bracket.



## 77-8

### Plastic Plug

A grey plastic plug to fit open ended tubes.



## 98

### Ratchet Set

Reversible ratchet for easier fastening of grub screws.



Note: Actual product may differ from that shown. Image is for illustration purposes only.

## SGEUPC2

### Kee Gate

Safety Gate when working at heights.



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