



YOU'LL NEVER BE BETTER PROTECTED

## Why choose fittings over fabrication



- COST EFFECTIVE BARRIER AND RAILING CONSTRUCTION
- SAFER ON-SITE WORKING
- QUICK AND SIMPLE INSTALLATION
- ADJUSTABLE TO ON-SITE CONDITIONS



# The Advantages of using Fittings

If you have never considered using fittings to construct a barrier or guard rail, you will not be aware of the numerous advantages fittings have over fabricated alternatives.

## Cost Savings

**Cost** Using fittings can be considerably cheaper. See the example on the opposite page which compares the costs of a 16 metre long hand rail made with fittings and one which has been fabricated. The prices quoted are in GBP £ and they show 24% cost savings overall for fittings compared to a traditional welded handrail, and more impressively a 41% labour saving.

**Flexibility** To construct a welded handrail, all measurements need to be accurate before the construction is made. However, there is always little margin for error when the rail gets to site, and often small adjustments are required which necessitate expensive and time consuming rework. Fittings are different. There is an inherent tolerance that allows for on-site adjustment, tube can be cut on site to length and no expensive equipment is needed to make the guardrail fit together.



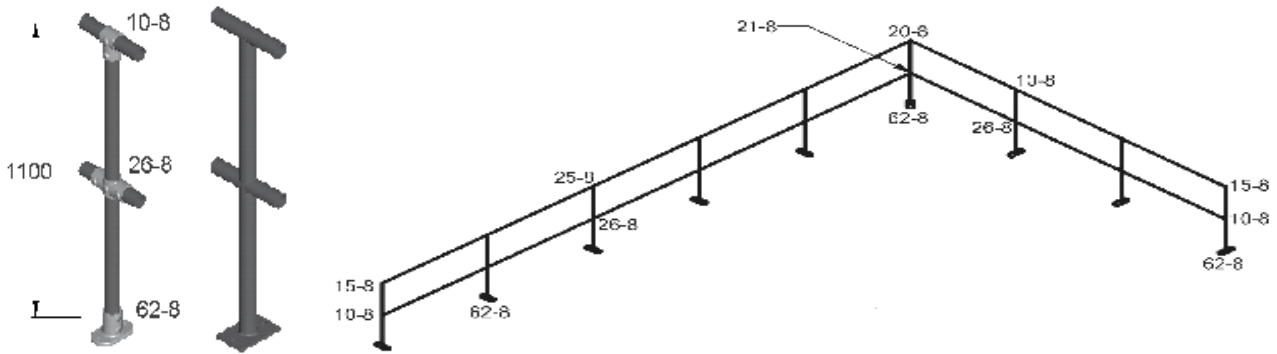
**Durability** The fittings and the tube we supply are all hot dip galvanised. Consequently there is greater resistance to rust than if “black” tube is used for welding. Welded tube is usually treated after being set into concrete and so often rusts at ground level. Galvanised tube, which can be powder coated if required lasts a lot longer.

**Adaptability** If a section of railing is damaged, on a welded construction this often requires whole sections to be removed and reworked, a time consuming and expensive exercise. When using fittings, the damaged area can easily be removed by unscrewing the set screws, replacing the damaged area and then retightening the screws to the correct torque.



**Aesthetics** There is a myth that fittings are unsightly and do not give a good finished appearance. On the contrary, when a handrail is fully assembled using fittings it has a very uniform and regular appearance and looks more finished than many welded structures that have to include complicated bends and joints. The range of fittings we have available means we can accommodate changes in direction of 5-345 degrees.

# Fittings vs. Fabrication Cost Comparison



16 metre long galvanised tubular handrail constructed from Kee Klamp Fittings

Quantity	Type	Size (m)	Total (m)	Unit Cost	Total Cost
9	Galv. Tube	1.1	9.9	8.73	86.43
2	Galv. Tube	16	32	8.73	279.36
			<b>41.9</b>		<b>365.79</b>
<b>Kee Klamp</b>					
7	10-8			5.93	41.51
2	15-8			7.89	15.78
1	25-8			9.60	9.60
6	26-8			8.83	52.98
1	20-8			11.21	11.21
1	21-8			7.92	7.92
9	62-8			10.14	91.26
					<b>230.26</b>
			<b>Total</b>	<b>Unskilled</b>	
			<b>Hours</b>	<b>Rate</b>	
<b>Fabrication &amp; Cutting</b>			1.5	15	22.50
<b>Installation</b>			8.5	15	127.50
			<b>Total</b>	<b>Skilled</b>	
			<b>Hours</b>	<b>Rate</b>	
<b>Installation</b>			8.5	25	212.50
<b>Total Cost</b>					<b>958.55</b>
Handrail length in metres				16	
<b>Cost per metre</b>					<b>59.91</b>
<b>Total Labour Hours</b>					<b>18.5</b>

16 metre long galvanised tubular handrail constructed from traditional fabricated construction

Quantity	Type	Size (m)	Total (m)	Unit Cost	Total Cost
9	Black Tube	1.1	9.9	7.90	78.21
2	Black Tube	16	32	7.90	252.80
			<b>41.9</b>		<b>331.01</b>
<b>Base Plates Size (mm)</b>					
9	Base Plates	150 x 150		2.36	21.24
<b>Galvanising /kg inc transport</b>			170	1.12	190.40
			<b>Total</b>	<b>Skilled</b>	
			<b>Hours</b>	<b>Rate</b>	
<b>Fabrication</b>			18.5	25	462.50
<b>(Cut &amp; Weld tube, Cut &amp; Drill plates)</b>					
<b>Installation</b>			6.5	25	162.50
			<b>Total</b>	<b>Unskilled</b>	
			<b>Hours</b>	<b>Rate</b>	
<b>Installation</b>			6.5	15	97.50
<b>Total Cost</b>					<b>1265.15</b>
Handrail length in metres				16	
<b>Cost per metre</b>					<b>79.07</b>
<b>Total Labour Hours</b>					<b>31.5</b>

This results in a cost saving of 24% using Kee Klamp<sup>®</sup> fittings and a 41% reduction in labour hours



# KEE KLAMP fittings - for barriers and railings



## Advantages of using fittings over fabrication

- No welding
- No hot work permits required to work on the installation
- Can be adjusted on site to suit local conditions
- All fittings are tightened with a ratchet or hex key
- Quick to install
- Fittings don't damage any protective coatings applied to the tube
- All fittings are corrosion resistant
- Fully flexible construction
- Assured design loads (0.74Kn/m)
- Consistent appearance

## Benefits of using fittings over fabrication

- Greater on site safety
- Can utilise lower skilled and therefore less expensive labour.
- No expensive reworking
- No expensive tools required and no cost of power.
- Reduced time and cost involved on site
- Reduces risk of corrosion
- Can be reconfigured to suit changing site requirements
- Consistent strength throughout the structure
- Aesthetically more pleasing than many welded options



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