



Kee Safety Ltd.



INSTRUCTIONS FOR THE DESIGN AND INSTALLATION OF HANDRAIL & GUARDRAIL SYSTEMS USING THE KEE STAINLESS SYSTEM.

THE DESIGN.

Kee Stainless components are made from Cast Stainless Steel Grade CF-8 (S30400), and are supplied as standard with a Satin Brushed finish. They are suitable for use in the construction of handrail and Guardrail systems for internal dry environments.

The components have been designed for use with Ø 48.3mm O.D. x 2.0mm wall thickness Circular Seamless Tubing.

Designers must be satisfied as to the fitness for purpose, and they must also be satisfied that they have referred to all relevant standards / parameters. For example:

BS 5850 – Structural use of steel work in buildings
BS 6180 – Barriers in and about buildings
BS 6399 – Loading for buildings
BS EN 14122 Part 3 – Safety of Machinery – Permanent means of Access.

When designing structures with vertical and horizontal members that cross, tube continuity must be maintained for the vertical, unless there is a specific structural reason to do otherwise.

Anchors and fixings must be specified to take account of the fixture thickness and design loads according to the manufacturers recommendations.

Attention must be given to the environmental conditions (e.g. saline, cyclical loads or vibration), which the structure will have to endure in service, and the possible implications for service life and the need for regular inspections to check the integrity and conditions of structures.

Attention must also be given to potential abuse by vandals, the Glued Joints / pop rivets have sufficient durability under normal day-to-day use, but may not fair so well against the actions of determined vandals.

Components must not be used in scaffolding.

Components must not be welded.

If in doubt consult Kee Safety Ltd for further advice.

GENERAL INSTRUCTIONS FOR THE SYSTEM.

Where possible the components should be assembled so that the pop rivets are on the underside of the tubing away from the normal line of sight.

Do not modify components, do not use components which are (or appear to be) damaged or defective in any way.

Do not mix Kee Stainless series components with any other brands. Use only genuine Kee Stainless series components to which these instructions relate exclusively.

As components are joined to the tube with Glue ensure suitable precautions are taken during assembly to avoid contact with the skin and eyes.

Ensure that any Glued joints are structurally bonded before use.



SPECIFIC LIMITATIONS ON THE USE OF COMPONENTS

KSF15	Ensure elbows are structurally supported within 250mm, and that no other joint is placed between the two (the elbow and its support).
KSF10, KSF27, KSF70 KKSF90, KSF91, KSF92, KSF93	Don't use within 100mm of a tube end (to centreline), thus ensuring 'clear passage' for the 'multi-grip' pop rivets / screws. Ensure correct alignment with the hand rail, as 'twisted' joints have to endure more strain, and look incongruous. The flanges have 5.5mm O.D. holes, and joints should be secured using Stainless Steel 'multigrip' pop rivets – minimum 13mm long. Alternatively, screws or self-tapping screws may be used, along with measures to ensure they cannot work loose. When securing the rail to the saddle, take adequate care not to trap fingers / skin.
De-burring of cut tubes	In order to avoid the danger of cuts or snagging, cut ends must be de-burred, especially when used with types KSF05, KSF15, KSF18, KSF20, KSF25, KSF50, KSF54, KSF55 or KSF84.
' D ' Returns	Forming of ' D ' Returns with type KSF15 will require the fitting to be both Glued and riveted to the tube.

TRANSPORTATION AND STORAGE.

As the components are supplied in a finish surface care should be taken during transportation and installation of fittings / tube to prevent any damage prior to use. They should be stored in a dry and ventilated environment.

ALWAYS REFER TO AUTHORISED KEE SAFETY PRODUCT LITERATURE OR TO THE WEBSITE (www.keesafety.com). FOR FURTHER INFORMATION ON THE USE OF COMPONENTS AND THEIR ASSEMBLY AND INSTALLATION. IN CASE OF DOUBT, ASK KEE SAFETY LTD OR YOUR LOCAL AUTHORISED KEE SAFETY LTD DISTRIBUTOR.