



SEPARATING PEOPLE FROM HAZARDS

Safety Solutions for The Global Rail Industry



- FLEXIBLE SOLUTIONS FOR ALL TYPES OF SAFETY LINE SYSTEMS, HANDRAILS, RAILINGS AND BARRIERS
- COMPREHENSIVE RANGE OF COLLECTIVE AND PERSONAL FALL PROTECTION SYSTEMS
- MEET AND EXCEED EUROPEAN AND USA SAFETY STANDARDS
- DESIGN AND INSTALLATION SERVICES ENSURING COMPLIANCE WITH MAJOR STATUTORY REQUIREMENTS



Safety Solutions for The Rail Industry

Kee Safety are leading global suppliers and installation specialists of handrail, guardrail and height safety systems. With over 80 years of experience, we offer all of our customers cost effective, flexible safety solutions across multiple sectors and industries with a single clear focus; *separating people from hazards.*

Kee Safety have supplied and installed safety barrier and fall protection systems across thousands of miles of rail network, as well as numerous train stations and structures throughout the world. Our systems are installed on the London Underground, many UK rail networks, Georgia Gulf Sulfer's industrial rail plant in Bainbridge USA and the Mass Rapid Transit stations throughout northern Malaysia in Asia to name but a few.



Fall Protection Solutions



In the majority of countries worldwide, falls from height are the leading cause of death or serious injury in the workplace.

Every day contractors require regular access to railcars, diesel/electric locomotives, overhead power-lines and many other structures such as stations and bridges to carry out essential repair and maintenance work.

Kee Safety offer a wide range of collective and personal fall protection solutions for the rail industry.

By using our fully tested and certified systems, the health and safety of anybody who is required to work at height can be assured.

Expert Design & Installation Service

Kee Safety provide a premium design and installation service. We undertake surveys and produce the necessary CAD drawings for each project, giving you peace of mind, as well as the most professional and cost effective solution.

Our quality and attention to detail ensures that every application conforms to the highest relevant standards.

Where Fall Protection may be required?

- Railway platforms
- Station and depot rooftops
- Carriage and building maintenance
- Overhead power-line maintenance
- Railway bridges
- Workshop & Warehouse buildings
- Chemical storage shelter

Safety Barriers

**Kee®
Safety**

Kee Safety barrier and guardrail systems offer a cost effective alternative to traditional welded handrail systems.

Our barriers and guardrail systems are quick and easy to design and install due to the modularity of the design.

**Kee®
Klamp**

The global leading brand in edge protection

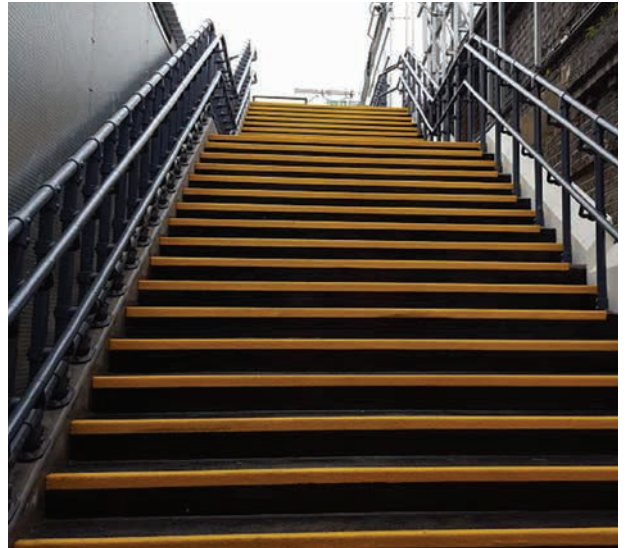
Innovative and versatile products used in the construction of safety handrails, railings and barriers. The fittings are hot dip galvanised cast iron for optimum corrosion resistance, strength & durability. Each component can support an axial load of 900 Kg and includes a 2:1 safety factor.

**Kee®
Lite**

Light weight aluminium

Tubular fittings manufactured from a high grade aluminium silicon magnesium alloy. The components are strong yet light, and extremely durable even in harsh environments. They are only one-third the weight of iron fittings and can be anodised to increase the corrosion resistance.

Kee Safety barrier systems conform to stringent global industry standards. KEE KLAMP and KEE LITE fittings have been tested and approved by TÜV, one of Europe's leading test houses.



- Quick and cost effective installation
- A simple way to create guardrail & handrail
- Galvanised steel & aluminium options
- No welding & no hot work permits required
- High corrosion resistance
- Adaptable to changes in design
- Uses standard tube
- Flexible system allows on-site alterations

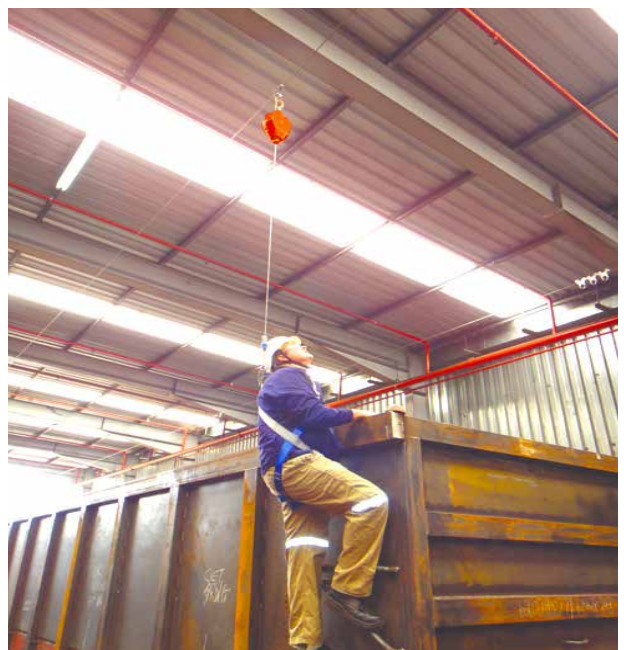
Engineered Life Lines

**Kee®
Line**

KEELINE & KEELINE Overhead

The Horizontal lifeline system provides either personal fall arrest or fall restraint protection for multiple users. KEELINE can be used on all types of roof surfaces and KEELINE Overhead where it is beneficial to have the lifeline system mounted directly above the user. Applications for use include vehicle loading and maintenance, machine maintenance and access, building maintenance and cleaning and overhead crane access.

- Safety assured! Proven fall protection system meeting all current global legislative requirements
- Fully functional on all approved surfaces
- Minimises the number of posts and roof fixings required
- The user is always connected to the system
- Saves installation time and reduces project costs



Case Study - Georgia Gulf Sulfur - Overhead Lifeline System

The Customer

The Georgia Gulf Sulfur manufacturing plant, located in Bainbridge, Georgia in the USA, manufactures milled agricultural and industrial sulfurs for applications ranging from peanut farming to rubber tire manufacturing.

The Problem

A high risk of falling existed while working at height on the uneven and sometimes slippery surfaces on top of the “hopper” railcars. The KEELINE Overhead cable lifeline allows the worker to tie-off to a self retracting lifeline before ascending the railcar’s ladder.

Access near the edge of the railcar is required as shown in the bottom right hand picture, and the KEELINE Overhead system allows the worker to safely perform the task working near that edge.

The Solution

Flexible Lifeline systems (part of the **Kee Safety Group**) designed, fabricated and installed a total of three Inverted ‘L shaped gallows’ to support the 100 ft long KEELINE Overhead system. The gallows provide the necessary clearance away from the railcar vertically & horizontally while allowing the user sufficient overhead clearance.

This **Kee Safety Group** system was designed to provide fall protection coverage over the length of two railcars, typically used by Georgia Gulf Sulfur while delivering a one user fall-arrest capacity. This engineering service solution is available anywhere in the world.

Flexible Lifeline Systems designed the large concrete pier foundations that support each of the gallows based on the system loading data and on-site soil conditions obtained from a geotechnical investigation report.

The three foundations were installed per the Flexible Lifeline Systems’ design criteria by a third-party contractor, with Flexible Lifeline Systems mobilising to the site shortly after to erect the gallows and attach the KEELINE Overhead system.



One of three inverted ‘L’ shaped gallows



Overhead view of the completed solution



Maintenance work conducted near the edge



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