



SAFE HANDLING - ADVICE FOR KERBS AND FLAG PAVING



YOU'RE IN SAFE HANDS WITH BRETT

Kerbs and flags are heavy objects and will generally require specialist lifting equipment allied to sensible handling to ensure a safe working environment.

Brett believes that many potential site handling issues can be overcome by gaining our early involvement at the design stage. This allows us the option to design out on-site cutting and unnecessary lifting by tailoring our product delivery to best suit your individual project and site conditions.



SAFE WORKING PRACTICE - LEGISLATION AND GUIDANCE

In 2003, the Health and Safety Executive (HSE) targeted kerb laying as a means of enforcing existing legislation namely the Manual Handling Operations Regulations 1992. This is part of their ongoing strategy to address the high incidence of muscular-skeletal disorders within the construction industry.

One direct result of this initiative was that Interpave, the precast concrete kerb and paving association, produced detailed handling guidance for kerb and flag products. This is designed to further enhance the safe handling, lifting and movement of flag and kerb units and complements the HSE publication incorporating their hierarchy of reducing risk.

As a member of Interpave and a leading supplier of hard landscaping products, Brett is continually investigating and implementing the best handling methodology and technology. In this document we outline some of the key handling options relating to our products - using not only mechanical lifting grabs but also a range of vacuum lifting and positioning options.



Vacuum lifting



Mechanical lifting

Our Design Support Service can offer extensive installation advice, including hire of lifting equipment and on-site problem-solving, as well as design assistance in achieving radii and other kerb forms.

Contact us on 0845 60 80 579 or by email at projectdesigner@brett.co.uk

KERBS

Brett design and kerb cutting service

Brett offers a design layout service for all of our products, including our Trief and Kassel Kerbs, which can in many cases eliminate the need for the contractor to cut products on site thereby reducing risk and improving construction efficiency.

A key part of this service involves the Brett Technical Department analysing intended site layouts and providing advice on how to optimise standard components. Where necessary, we will produce customised components that are specially manufactured or cut existing products to suit. Cutting is undertaken in our manufacturing plants under safe and controlled conditions.

A schedule summarising quantities and product types is supplied for each project with each one given a unique ID. These are then identified on the construction drawings to assist the contractor in the installation process.

As part of this service our Trief and Kassel kerbs can also be cored for drainage purposes or to accommodate location dowels as required on bridge decks where kerbs are adhered in place due to the reduced excavation depths.

The cutting of kerbs should be undertaken in accordance with the guidance published by Interpave. This guidance was developed as part of an HSE supply chain initiative and is based upon a hierarchy of control:

Avoid cutting

Minimise cutting

Control dust generation during cutting

Handling Trief and Kassel Kerbs

The handling of all kerbs should always be in accordance with the Health and Safety Executive's construction information sheet No 57 'Handling kerbs: Reducing the risks of musculoskeletal disorders and the Interpave guidance 'Handling Kerbs and Flags'.

Mechanical grabs

Mechanical grabs are activated either hydraulically or by relying on the mass of the kerb to activate the gripping bars by scissor action. This equipment is used in conjunction with existing site construction plant that is certified to lift heavy loads such as a backhoe or excavator.

Vacuum lifting

Vacuum lifters are usually self-contained units that are used in conjunction with existing site construction plant that is certified to lift heavy loads such as a backhoe or excavator. The vacuum pump is usually powered by a rechargeable battery.

Whereas re-positioning can be necessary when using a mechanical lifting clamp - to allow access for side clamps - a key advantage of vacuum lifters is that they allow product to be lifted directly from the pallet without the need for prior repositioning. One fewer handling process means faster handling with less risk.



Trief Cadet Kerb unit 220kg

Vacuum pad SWL 350kg

Vacuum lifter SWL 500kg

Fork Sleeves with Lifting Hook SWL 2500kg



Trief Cadet Kerb unit 117kg

Mechanical grab SWL 1500kg

The Brett Design Support Service is always available by phone, email or on-site to discuss and advise on the best handling options for specific ranges and projects. Our early involvement will enable us to help design out handling risks.

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Handling options for Trief and Kassel Kerbs

Description	Weight (kg)	Plan dimension (mm)	Mechanical grab	Vacuum lifter
Trief GST2A				
Standard Kerb	220-261	914 x 380	✓	✓
Short Lengths	110-191	Various	✓	
Radius Units	71-240	Various	✓	✓
Quadrants	31-135	Various	✓	
Tapers	89-210	Various	✓	
Trief GST2				
Standard Kerb	184-218	914 x 380	✓	✓
Half Units	92-109	455 x 3 80	✓	
Tapers	85-173	Various	✓	✓
Trief GST1A (Cadet)				
Standard Kerb	152-180	914 x 270	✓	✓
Half Units	70-90	455 x 270	✓	
Radius Units	56-139	Various	✓	✓
Quadrants	18-43	Various	✓	
Tapers	108-128	Various	✓	✓
Kassel Kerb KK160				
Standard Kerb	274-325	1000 x 435	✓	✓
Half Kerb	137-163	500 x 435	✓	
Radius Units	279-331	Various	✓	✓
Quadrants	248-294	Various	✓	
Transitions	265-310	Various	✓	✓
Ramps	164-305	Various	✓	✓
Kassel Kerb KK180				
Standard Kerb	192-346	1000 x 435	✓	✓
Half Kerb	146-173	500 x 435	✓	
Radius Units	279-353	Various	✓	✓
Quadrants	205-318	Various	✓	
Transitions	271-321	Various	✓	✓
Ramps	182-326	Various	✓	✓
Kassel Slimline KK160				
Standard Kerb	103-122	1000 x 235	✓	✓
Transitions	99-117	Various	✓	✓
Kassel Slimline KK180				
Standard Kerb	128-152	1000 x 241	✓	✓
Transitions	103-122	Various	✓	✓

Selecting lifting equipment

When planning a project it is essential to plan and assess the work in order to ensure that risk is kept to a minimum. This process allows for selection of the appropriate equipment for handling and laying the relevant product at the design stage.

It is important to ensure that safe working load (SWL) of the lifting equipment is not exceeded and in the case of vacuum lifting, the correct vacuum pad is used. All equipment must be used and maintained in accordance with the manufacturers instructions.

In addition to use with a standard concrete finish, vacuum pads are suitable for use with diamond pattern, exposed aggregate and granite finishes.

The above table shows lifting equipment that is typically suitable, in the majority of cases, for the products listed, but it is the responsibility of the contractor to ensure that the optimal lifting and handling conditions and equipment are provided for all site operatives.

FLAGS

Again, the Brett Design Support Service is available to offer expert advice right from the design and planning stage through to installation. This applies not only to defining product suitability and performance but also on installation issues of logistics, scheduling, handling and positioning on site.

Safe handling for flags

The Interpave document 'Handling Kerbs and Flags' provides safe handling guidance advice when installing flag paving products. This guidance is based upon the following hierarchy of control:

Elimination - totally eliminate the manual lifting of product at the design stage.

Total mechanical - always handle and install product mechanically.

Partial mechanical - use mechanical product handling wherever possible.

Selecting lifting equipment

When planning a project it is essential to assess the work in order to select the appropriate equipment for handling and laying flags thereby minimising risk on site. It is important to ensure that the safe working load of the lifting equipment is not exceeded and that the appropriate shaped vacuum pad is used.

Flags with textured surfaces such as shot blasted, riven or tactile surfaces can be successfully handled with the appropriate vacuum pad. All equipment should always be used and maintained in accordance with the manufacturer's instructions.

Manual handling

In some instances, where it will not be possible to employ mechanical lifting equipment, flags can be laid manually. Preferably this should employ devices where two operatives share the lift, or by using a single person lifter that requires the operative to perform the lift by using body weight to push down as opposed to lifting.

Unless a lifting device is used that can rotate flags from the vertical position to a horizontal position it will be necessary to manually reposition flags to a horizontal position ready to drop into place.

Vacuum lifting

Vacuum flag lifters can be a mobile self-powered lifter designed for one or two person operation. The mobile self-powered lifter has a boom arm to facilitate efficient installation in larger areas. With an appropriate attachment it is possible to pick up flags that are vertically stacked on the pallet and rotate the flag to a horizontal position ready for installation. As with the kerb vacuum devices the vacuum pump is usually powered by a rechargeable battery.



Vacuum pad lifting riven flag



Sequence shows vertically stacked flags brought to horizontal position using vacuum lifting machinery

Product ranges



BUS BOARDING KERBS

Brett manufacture the proven Kassel bus boarding kerb used in 1200 cities throughout Europe to optimise passenger safety and journey efficiency.



CONTAINMENT KERBS

Brett manufacture the market-leading Trief containment kerb which has been used to improve road safety throughout the UK since 1962.



PERMEABLE PAVING SOLUTIONS

Brett manufacture a wide range of permeable paving systems to control run-off whilst also minimising pollution and land-take in SUDS solutions, this also includes machine lay options.

STOCKISTS

All of our products are available throughout the United Kingdom from our established network of stockists.

ACCREDITED CPD SERVICE

Brett offer a range of RIBA accredited CPD presentations. Contact Brett Commercial Support for more information.



CONCRETE BLOCK PAVING

Brett manufacture an extensive range of concrete block paving products available in a variety of colours and styles to suit most applications, many are also suitable for machine lay installation.



FLAG PAVING

High quality man-made and natural stone flag paving in wide-ranging colours and textures for residential environments.



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