Selecting & Installing your Roller Barrier System

The Non-Aggressive Anti-climb System of choice.

TRIED ★ TESTED ★ TRUSTED

ROLLER® BARRIER

ROLLER® BARRIER

Key Features of Roller Barrier Solution at a glance

- Safe, Effective, Non-Aggressive Anti-climb Barrier (no risk of causing impalement type injury)
- Quick and Easy to Install
- Simple to incorporate into New Builds
- Easy to Retro Fit to existing structures
- Suitable for use in almost any environment
- Colour options to blend with surroundings
- Unobtrusive and Non-threatening appearance
- Standard and Bespoke solutions available
- Long, maintenance free life expectancy

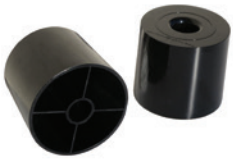
Contents

Assessing what you need

A quick introduction to the components

The 3 main components of the Roller Barrier system are; the special Roller Cups, the Central Shaft onto which they thread, and the Mounting Brackets which fix the shaft and cups in position to protect the wall, fence, flat roof, etc.

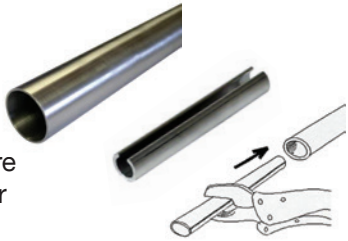
The Roller Cups



Manufactured from robust Polycarbonate (an engineering grade polymer), the Roller Cups are designed to be too big to allow a hand hold and rotate independently to form an unstable and ungrippable barrier.

The virtually unbreakable Cups are designed to withstand physical attack, as well as being protected against fire risk and UV degradation. Stock colours include black and green, while bespoke cups can be manufactured in any standard RAL colour. To aid councils and organisations to reduce their carbon footprint, wherever possible, Roller Cups are manufactured from recycled polycarbonate.

The Central Shaft



Manufactured from quality aluminium material (BS6082), the extruded thick wall Central Shaft is supplied in two metre lengths and can easily be extended to form a longer run by joining two or more shafts together using the special Joining Spigots, or cut to a shorter length if required.

Mounting Brackets

Our range of stock brackets cover most requirements and include units for single, double or triple row installations.

There is a choice of top or face fix units as well as some adjustable units which offer maximum versatility. For those occasional situations where stock brackets are simply not suitable, we can manufacture bespoke brackets, so you'll never be stuck for a solution.

Our stock products also include items such as bracing plates to aid the installation of Roller Barrier onto steel mesh fencing such as Euroguard or 358 type anti-climb mesh.

Brackets are manufactured as standard from steel with a galvanised finish, but can as an option be manufactured in stainless steel and / or where required, can also be overpainted with a durable baked on powder coat paint finish to blend in with the surrounding area.

Here are a few examples of our popular stock brackets (see our website www.rollerbarrier.com - for the full range of brackets, accessories and options).

The Universal Bracket

Straight Twist Bracket

Cranked Bracket

Extended Fascia Bracket

Fence Top Bracket

Straight Bracket

Alley Bracket

Adjustable Bracket

Run End Termination Packs

◄ Collar & End Cap
(shown here with Trigard)

Cross Bolt & Shear Nut ►

Mounting Fixings

Roller Barrier is supplied as standard without mounting fixings, as the type of fixing required will depend on the type of material and substrate that the fixing will be installed into (i.e. brick, masonry, wooden or steel fence or gate, etc).

We do however stock a range of fixing nuts, bolts and screws (including security fixings) which are available to purchase separately.

Our Fast-Fix masonry fixings will speed up your installation.

Warning Signs

It is always a good idea to install warning signs where any anti-climb product is installed and in some cases it may be a legal requirement. We offer a range of stock signs in different sizes and materials.

Selecting the type of Roller Barrier Solution that's right for you

Whether you are considering the use of Roller Barrier;

- **to keep people within, or out of, a walled or fenced area**
- **to stop people climbing onto flat roofs**
- **to prevent damage caused by "Free Runners" (Parkour)**
- **to stop people walking along vulnerable pipework**
- **or for any number of other applications**

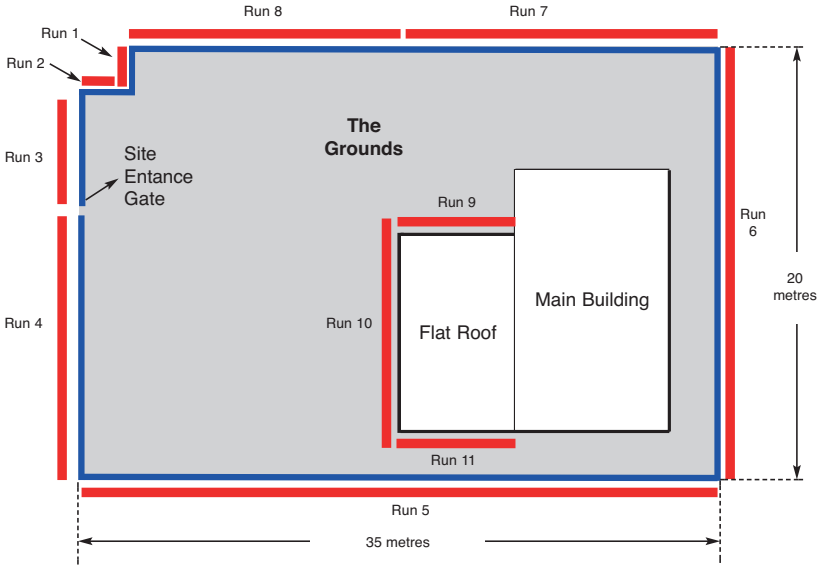
…you'll be pleased to know that this versatile, non-aggressive anti-climb barrier has a proven track record for delivering a practical solution for all the above, among other applications.

This easy guide is designed to help you to choose the right type and quantity of components, to ensure a hassle free, quick and easy Roller Barrier installation, but if you would like any advice or guidance, just call our friendly specialists – our advice is free and could save you time and money.

As a starting point, working out what you need will be made much easier if you use a site plan (or simple sketch plan) covering the area(s) where you plan to install Roller Barrier, see the example overleaf.

Here's how a site plan will help you to easily work out how much Roller Barrier you need

In this example, the requirement as specified, is to protect all perimeter walls, gates and fences, as well as the low flat roof to the front of the main building. The Roller Barrier runs are shown in Red - The "Site Dimensions" are approximately 20 x 35 metres.



Run No.	Length in Metres	Run Type	Fixed to	Comments
1	2	single row	wall top	-
2	1	single row	wall top	-
3	4	single row	gate top	Steel gate (box section top)
4	14	single row	wall top	-
5	35	double row	wall top	-
6	20	single row	security fence	3 metre high Euroguard type fence
7	15	single row	security fence	3 metre high Euroguard type fence
8	19	single row	security fence	2 metre high Euroguard type fence
9	7	single row	building fascia	-
10	9	single row	building fascia	-
11	7	single row	building fascia	-
Total	133 metres			

We can see from this that the **Total Linear length** required = **133 metres**

...of which 35 metres is a double row requirement (for which you will need to order extra components, such as Shafts, Roller Cups, etc.)

There are 4 simple questions to answer before you start selecting your components:

1. Where is the Roller Barrier to be installed and what will it be fixed to?
2. Do you need a single row, double row, or the Trigard triple row, or a mixture?
3. How many runs of each type do you need and the length of each?
4. What is the total linear length of your planned protective Roller Barrier installation?

1. Where is the Roller Barrier to be installed and what will it be fixed to?

Roller Barrier can easily be retro-fitted to almost any gate, fence, wall, building fascia, etc. and there are many different types of mounting brackets available from stock to meet most needs (bespoke designed brackets can also be produced to special order, typically with a 2-4 week lead-time).

Most installations involve fitting the barrier along the top of walls, fences or gates, or installation onto a building fascia at roof level. It is also however a popular anti climb solution for fixing to mesh fencing around sports grounds, swimming pools and schools, among other locations.

The Mounting Brackets which support the Central Shaft onto which the special Roller Cups are threaded, feature strategically located fixing holes or slots for maximum flexibility during installation. As the brackets are manufactured from galvanised or stainless steel, they can if preferred, be welded in position, although welding would compromise the galvanised or painted finish, so after installation, it may be necessary to spray galvanise the welded areas and touch up the paint if required.

Obviously, the structure to which the Roller Barrier is to be attached (i.e. brick wall, wooden fence, steel gate, etc.), will determine the type and size of fixings required. For this reason, the system is sold as standard without fixings, however we stock a wide range of fixings (including security fixings), which can be ordered separately.

2. Do you need a single row, double row, or the Trigard triple row, or a mixture?

For many installations, a well-positioned single row of Roller Barrier will do the job.

In some vulnerable areas however, such as along the top of lower height walls, a double row of Roller Barrier (one positioned above the other) may be the preferred option.

The Trigard Roller Barrier System incorporates a triple row of rollers arranged in a pyramid shape. It is particularly useful for preventing people from climbing onto lower walls and buttresses, but can also be used in many other areas.

Single row protecting flat roof

Double row on wall top

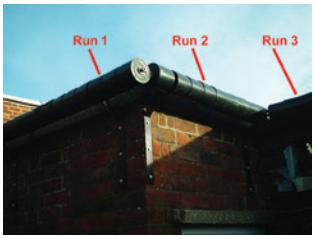
Trigard – triple row pyramid

3. How many runs of each type do you need and the length of each?

Most installations will include several different runs, i.e. when installed on a rectangular building to prevent access to its flat roof via each of the four sides, there would be at least 4 runs (one for each side of the building).

In fact any proposed installation which involves installing the barrier around any type of corner or angle, will automatically be split into separate runs, as would installing the barrier along the top of a rising stepped wall. See some examples below.

Single run



3 Runs

4 Runs

4. What is the Total Linear Length of your planned Roller Barrier installation?

The simplest type of installation would be a single straight run of Roller Barrier, such as installing it along the top of a straight perimeter wall or fence, in which case the Total Linear Length would simply be the length of the proposed barrier measured in metres from end to end (you may need to allow a little extra for overlapping end sections, etc).

Where the installation is made up of different runs, the Total Linear Length is calculated by simply adding together the Linear Lengths of all the individual runs.

Choosing the components and the quantities you require.

Roller Barrier is sold by the linear metre and the standard per metre price offered, includes the cost of; Central Shafts, Joining Spigots, Roller Cups, “Standard” Brackets and Cross Bolt type Shaft Termination Fixings.

The Mounting Brackets allowed for in the standard per metre price, include the; Fence Top, Universal, Straight and Straight Twist, Cranked or Alley Brackets. You specify the mix required at time of order.

You may of course need to upgrade some or all of the standard brackets to meet the specific needs at your site (i.e. upgrade to Adjustable, Double Row or Bespoke Brackets, etc.). You may also need extra components such as Brackets, Shafts (and End Termination fixings), Cups, and other items, to cater for additional needs arising from the use of double or multi-row elements, etc. of your planned installation, or where your installation is divided into multiple separate runs.

Here is what you would receive as standard if ordering 20 linear metres of Roller Barrier.

Qty	Item	Comments
10	2 metre Central Shafts	10 x 2 metres = 20 metres.
9	Shaft Joining Spigots	
2	“Cross Bolt” Shaft Termination End Fixing Sets	Extra Termination sets (“Cross Bolt” or “Collar” type) may be needed
200	Black or Green Roller Cups	10 Cups Required per installed metre of Barrier - you can specify which colour cups you require at time of order. Note: other colours are available to special order (please ask about price & availability)
11	Standard Brackets	2 metre spacing assumed for standard installation – you can specify which type of bracket you require at time of order. (note: a supplementary charge will apply for any extra or Non-Standard brackets ordered).

Here are some further notes to help you with your selection

The Central Roller Barrier Shaft

The Shaft is manufactured from extruded, thick wall aluminium tube and is supplied in 2 metre lengths.

For continuous runs longer than 2 metres, shafts can easily be joined together with a joining spigot, while the shaft can be cut to a shorter length with a hacksaw.

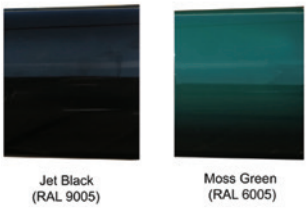
Extending shafts with joining spigot

Cut shafts shorter with a hacksaw

As the system is sold by the linear metre, it will be supplied as standard with adequate shafts for the linear length of Barrier ordered, i.e. an order for 11 linear metres will come with 6 x 2 metre Shafts. You will however need to order extra Shafts (and joining spigots if needed) for any runs where you intend to install more than a single row of Roller Cups, or where your installation will be divided into multiple separate runs.

The Roller Cups

There are 10 independently rotating cups to each metre of the run (for a single row installation). Stock colours include Black and Green, but cups can be manufactured in any standard RAL colour (subject to minimum order quantity of 1,000 cups, equivalent to a 100 metre run).



Stock colour Roller Cups are available in black or green

Optional RAL colours

Cups can be cut down to fit into small or awkward size gaps

Again, as the system is sold by the linear metre, it will be supplied as standard with 10 Cups per metre ordered, i.e. an order for 11 metres will come with 110 Cups. You will however need to order extra Cups (and shafts) for any runs where you intend to install more than a single row of Roller Cups.

Terminating Each Run

To prevent the Roller Cups from being removed from the Central Shaft once installed, it is important to terminate both ends of each run with an end fixing **(note: Cups at each end of a run should always be fitted with the solid face outward)**.

A choice of end fixings are available; Bolt / Shear Nut set, or Collar / End Cap set (the anodised aluminium collar is secured with a stainless steel grub screw and covered with an attractive flexi-rubber cover cap).

Bolt, Security Shear Nut, Washer and End Plug set

Aluminium Collar and End Cap Set (choice of black or white options)

Choosing the right Mounting Brackets

The Roller Barrier mounting brackets support the shaft and cup assembly in position and are typically fixed to walls, fences, gates or building fascia. In most locations, when installing a single row Roller Barrier (and where possible), installing it so that the cups are slightly cranked toward the anticipated approach side, i.e. toward any potential intruder, will offer the most effective deterrent.

The maximum recommended distance between installed mounting brackets is 2 metres, however in high risk areas, or where the barrier is installed at a height of less than 2 metres from ground (or standing level), a smaller distance (i.e. 1.0 to 1.5 metres) between the mounting brackets is suggested. For installations of the triple row Trigard product, or installations of single or double row barrier at low level, brackets should be spaced at distances no greater than 1 metre apart.

Most installations can be completed using a choice of mounting brackets from the stock range, but for those odd locations which require a specially designed bracket, we are pleased to offer a bespoke design and manufacturing service (typical lead-time for the manufacture of bespoke brackets is 2-4 weeks).

Stock brackets are generally manufactured from heavy duty steel plate with a galvanised, weather resistant finish. Most types, including bespoke units, can also be manufactured in Stainless Steel. All brackets can as an option be supplied with a baked-on powder coat paint finish in any standard RAL colour.

Where the barrier is to be installed onto some form of mesh fence, each bracket will also require a Bracing Plate. When installed, the mesh will be the “filling in the sandwich”, with the Mounting Bracket on one side of the mesh fence and the Bracing Plate on the other side, with the whole structure being fixed together with suitable nuts and bolts.

Here are examples of some of our most popular brackets (most types are available in single or double row versions) and there are special brackets for triple row Trigard installations (call us or see Roller Barrier on the website for the full range of stock brackets).

Fence Top Bracket

(this unit qualifies as a Standard Bracket)

Universal Bracket

(this unit qualifies as a Standard Bracket)

Cranked Bracket

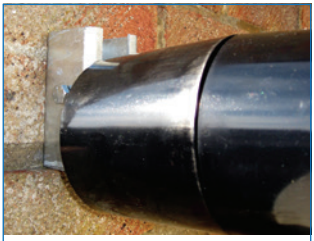
(this unit qualifies as a Standard Bracket)

Straight Twist Bracket

(this unit qualifies as a Standard Bracket)

Straight Bracket

(this unit qualifies as a Standard Bracket)



Alley Bracket

(this unit qualifies as a Standard Bracket)

Example of a
Double Row bracket

Fence Mount Bracket
& Bracing Plate

Example of an
Adjustable Bracket

Extended Universal Bracket

Bracing Plates

Trigard Bracket

Choosing your Fixings

Because every installation potentially features a different mix of Mounting Brackets and structures to which they will be fitted, the Roller Barrier system is supplied without fixings, so that you can choose the right fixings for your specific installation.

When selecting your fixings, you will need to take into account, the potential weight loading to be supported. Roller Barrier itself weighs approximately 7kg per installed metre, in addition to which you will need to consider the extra weight that could be added should a person or persons attempt to scale it.

We offer a range of conventional and security fixings, which many installers use, and which you can order separately. Popular fixings available from stock include;

- Hex Head - Fastfix Masonry Screws
- Coach Screws
- Anchor Bolts & Sleeve Anchors
- Hex Head Bolts & Nuts
- Shear Nuts

Fastfix Masonry Screws

Coach screws

Anchor Bolts

Hex Head Nuts & Bolts

Shear Nuts

How many and what type of components will you require?

Now that you have worked out the overall length of Roller Barrier you need, and checked out the components available, the next stage is to work out which components you need for your installation and how many of each you'll require.

For this you will need to consider one run at a time and work out;

1. How many Central Shafts and Roller Cups are required for that run?

Shafts come in 2 metre lengths, so if your planned Barrier run is 5.6 metres long, you will need 3 x 2 metre shafts – one of which will need to be cut down to a 1.6 metre length. You will also need 2 x joining spigots to join the three sections of shaft together.

Note: In our Site Survey example (see page 6), the total site requirement is 133 metres. As standard, this would be supplied as; 67 x 2 metre shafts, with 66 joining spigots and 1,330 Roller Cups (10 cups per installed metre).

You may however need to order extra Cups, Shafts and Joining Spigots, to allow for; any areas where you intend to install a multiple row Barrier (in the example above there are 35 metres of planned double row Barrier), or for wastage arising from cutting shafts for use in multiple short runs, etc.

2. How many and what type of Brackets are required for that run?

Your choice of Bracket will depend on where you are going to install the barrier, what you are going to fix it to, and whether you are installing a single, double or triple row of cups. The universal bracket which can be top fixed or face fixed, is a popular choice where a single row of Roller Barrier is being fixed to a wall.

When fixing a bracket to the wall of a building, you may need to consider issues such as the standoff needed to allow for things like roof eaves, or to avoid interfering with rainwater guttering. etc.

Cranked brackets, Adjustable brackets or the various Extended Length brackets offer various levels of offset, however this is the most likely area where a bespoke manufactured bracket may be needed.

Where a bespoke bracket is required, you will need to tell us what the bracket will be fixed to, i.e. wall of a building, (so that we can suggest how long the fixing leg should be and how many fixing slots may be required). You will also need to tell us the dimensions required for the “stand off” and “the distance between the bottom of the horizontal section of the Bracket and the centre of the Roller Cup”, etc. (It may be helpful to discuss your requirement with one of our specialists, as they will almost certainly have discussed similar special requirements with other customers, so will be able to help you work out the best solution for your site).

If fixing to a mesh fence, remember that you will need a bracing plate as well as the bracket for each fixing.

The bracket will be positioned on one side of the mesh and the bracing plate on the other side, to form a mesh sandwich.

The whole structure will then be bolted together to keep it in position.

Where you need to install a double row Roller Barrier, to keep things simple, and minimise the number of brackets required, each of the double row brackets will support 2 shafts and their cups.

Here is an example of a double row bracket:

Many of our standard single row Brackets are also available as double row versions.

The Trigard triple row solution, features a purpose designed bracket that holds the three rows of cups in a pyramid pattern. Trigard brackets should be installed with the distance between them being no greater than 1 metre.

Where more than two rows of cups are required and the pyramid format is not a suitable solution, a bespoke bracket would be needed.

3. What type of End Fixings are required to terminate the run?

A termination fixing is required at each end of each run, to prevent the unauthorised removal of the Roller Cups from the Central Shaft. There is a choice of a bolt and shear nut option, or a special collar & cap option.

To use the bolt and shear nut option, you will need to cross drill the end of the Central Shaft with a 6mm drill bit. Where the special collar is used, it simply slips onto the end of the shaft and is locked in place by tightening the grub screw, the flexible end cap then slips over the collar to form a smart and attractive end to finish the run.

4. How many and what type of warning signs do you need?

Although Roller Barrier is a non-aggressive system and there are no nasty spikes for anyone to impale themselves on, it is strongly recommended that for all “non-domestic” installations (for some locations it may be a legal requirement), that warning signs be displayed on the approach side of the barrier.

The general principle for displaying warning signs is to display them clearly and in such a way that anyone approaching the barrier from any direction is made aware of its presence.

Signs are available in different sizes and material, with a choice of warning text options.

5. What fixings will you require?

As previously stated, Roller Barrier is supplied without mounting fixings, as the type required will be specific to each installation, and will need to take into account the structures and materials that the system is to be fixed to.

It is the responsibility of the installer to specify the fixings required and ensure that they are suitable for use during the installation. Whilst we offer a range of screws, bolts, and other fixings (including security fixings) that many installers use for their installations, we are unable to accept any responsibility for the failure of the installed system arising from the use of the wrong or inappropriate fixings.

Roller Barrier Installation Guide

General Notes

Unlike aggressive spiked anti climb systems, Roller Barrier poses no risk of life-threatening injuries such as impalement, making it suitable for installation in virtually any environment, however, display of appropriate warning signs is strongly recommended where the system is installed at any non-domestic location.

The system is typically installed as a single, double or triple row of rotating cups according to needs and can be fitted vertically as well as horizontally. The basic installation concept applies whatever the orientation or number of rows of the installation, however the specific location may raise some extra considerations.

The basics that apply to all installations are:

1. Positioning the Barrier
2. The spacing between the Mounting Brackets
3. Fixing the Brackets in position
4. Shaft assembly and installation
5. Mounting the Cups
6. Terminating the Run

As an example, lets use a single run installation mounted along a perimeter wall;

We will assume that the wall is at least 2 metres high, and that the objective is to stop people climbing over the wall from the outside (a lower wall may need the protection of a double row barrier).

1. Positioning the Barrier

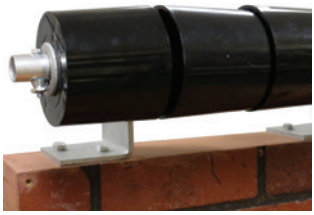
Ideally, wherever the Barrier is to be installed, it will be installed so that anyone approaching it with a view to attempting to climb over it will need to reach up to grab it. Ideally it will be installed so that it is slightly cranked forward toward any approaching intruder.

In this example, this could be achieved installing Universal type brackets on the top of the wall (top fix) facing outward, or by mounting them on the outside of the wall (face fixed) pointing upward. Either type of installation would result in the row of Roller Cups being cranked forward toward any approaching climber.

There will however be occasions where this type of installation may not be possible. If the land outside of the wall is a public thoroughfare for instance, you may not be permitted to install anything which encroaches into that space. In such a case, installing fence top brackets along the top of the wall would be a good alternative and would hold the Cups vertically, directly above the wall and not therefore encroaching into the public space.

Universal Bracket (top fix)

Universal Bracket (face fix)



Fence Top Bracket

Alternative types of bracket could be used, such as the Straight Twist Bracket, or the Cranked Bracket as shown here.

The Cranked Bracket could either be fixed to the inside or outside of the wall and cranked inwards or outwards. Each of these styles of fixing would result in slightly different positioning of the Roller Cups - here it's fixed to the outside (approach side) of the wall and cranked outwards.

For low level installations, Trigard Roller Barrier may prove a good option.

2. The spacing between the Mounting Brackets

The maximum recommended distance between the Mounting Brackets is 2 metres, but where the barrier is mounted within reaching distance from the ground (or standing point), mounting the brackets closer together is recommended. Long lengths of unsupported barrier could present the risk of the shaft becoming distorted if subjected to heavy extra weight, such as a person swinging on it. This could lead to the Roller Cups rubbing against each other preventing free rotation.

The precise spacing requirement will be a judgement made, based on site factors such as the height and accessibility of the installed barrier, etc. In areas of high vulnerability, Roller Barrier is often installed with brackets spaced at 1 metre intervals, whilst a mid-range option could be to space them at 1.5 metre intervals. Where Trigard or low level barrier is installed, brackets should be installed at distances no greater than 1 metre apart.

When considering the spacing of brackets, remember to make an allowance for extra space to ensure that the Roller Cups threaded onto the Central Shaft have space to rotate freely. Each cup is 100mm in length so there are 10 cups per installed metre. It is suggested that a tolerance of 20mm-30mm of free space be added per 1 metre of cups, to allow for any minor distortion of the Central Shaft or slight misalignment of the Mounting Brackets occurring during the installation.

It is also recommended that 1 or 2 Roller Cups be mounted on the Central Shaft to the outside of the last Bracket at each end of the Barrier Run. This may impact on the exact positioning of the final bracket at each end of the Run.

3. Fixing the Brackets in position

Mounting Bracket fixings are not supplied as standard with the system, as the type and size of fixing required will be influenced by site specific factors, such as the type of material and structures to which the Brackets will be attached.

All Brackets feature 10mm fixing holes or slots and it is normal for the fixings used to be M8 size or similar.

When considering the type and size (i.e. length) of fixing to use, remember that while the Barrier itself only weighs around 7kg per installed metre, the fixings (and the structure /substrate they are installed into), will need to withstand the extra weight that could occur in the event of a person or persons attempting to scale it.

Note: If you are unsure of the load capacity of the wall or structure you are fixing to, or the suitability of the fixings themselves, please speak to a building professional as the manufacturers or distributors will not accept any claim for loss or injury resulting from an installation on an unsuitable structure or surface, or by the use of incorrect fixings.

Hot Installation Tip: After each bracket is fixed in position, add the next length of shaft (if required) then slip the appropriate number of Roller Cups onto the Shaft as needed to fill the space between the last fixed bracket and the next one to be installed. It's then easy to make sure that the next bracket is positioned and installed with enough free space between it and the previously installed bracket to allow all Cups to rotate freely.

4. Shaft Assembly and Installation

Shafts are supplied in 2 metre lengths, however it is likely that you will need to join a number of Shafts together and or cut one down to form a continuous length for any given installation run.

A run of 5.5 continuous metres for instance will require the joining of two, 2 metre shafts, plus a further section of 1.5 metres, which will be cut from a third 2 metre shaft. The run will therefore require the use of three 2 metre Shafts and two Joining Spigots.

Remember, when working out the exact length of shaft required, you will need to make allowance for any extra length required for the Termination Fixings at both ends of the run.

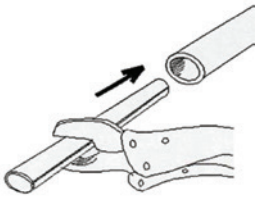
Allow about 35mm of shaft beyond the last cup at each end of the Barrier for the termination fixing.

…and where runs meet at a corner of an installation (i.e. the side and front of a flat roof), one of the runs may need to be extended to form an overlap with the other run, to prevent any gaps in the protection offered by the barrier.

Joining or cutting shafts is quick and easy, and is best undertaken as the installation progresses (it would obviously be impractical to assemble a 10 metre long Shaft and then try to install it!), so installation is normally undertaken 1 shaft (or part shaft) at a time, which also simplifies the mounting of the Cups onto the Shaft.

Joining two shafts together:

- Using heavy duty mole grips or similar, compress one end of the spigot and push approximately ½ its length into the end of the shaft (you may need a hammer to tap it home).
- Then compress the other (exposed) end of the joining spigot and push it into the end of the 2nd shaft.
- Finally force the two shafts together until the ends meet



Where you need to shorten the final shaft to form the required overall run length, as the shaft is manufactured from aluminium, simply cut it to the required length with a standard hacksaw. As Roller Barrier is the Non-aggressive system, when a Shaft is cut, the exposed cut ends should be deburred to prevent any possible risk of future injury.

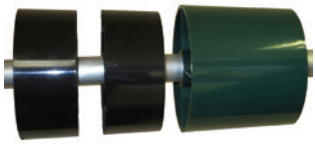
5. Mounting the Cups

The Roller Cups should all be added to the Shaft facing in the same direction, which gives a slight saw tooth appearance to the installed Barrier. The exception to this is the reversal of the final cup to ensure that the Cups at each end of the run are mounted with their solid face outwards.

Where Cups are mounted in a vertical run, they should be installed solid face upward, i.e. to prevent them filling with rainwater.

Filling awkward gaps with the Cups;

There will be occasions when the gap being filled with the Roller Barrier is not an exact multiple of the 100mm Cup length, i.e. you may have a gap of 580mm to fill.



Installing 6 cups is not possible, while installing just 5 cups would leave a gap of 80mm along the Shaft, which is big enough to get a hand grip on. The answer is to cut a cup into two sections (which can be done with a hacksaw) and use one of the sections to fill the gap.

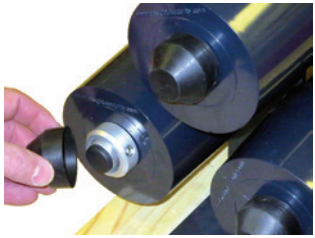
Hot Installation Tip: Where a double row barrier is installed with one row above the other, it is generally preferred to install the Cups so that the top row of cups is installed in the opposite direction to those on the lower row.

6. Terminating the Run

Each run of Barrier needs to be terminated at each end to prevent unauthorised removal of the Cups from the Shaft they are mounted on. There are two standard options:

Collar and End Cap installation

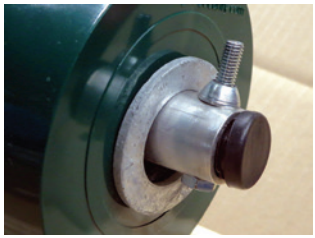
This neat solution is quick to install and looks great at the end of the run.



Installation: push the plastic end plug into the end of the Shaft, slip the aluminium collar onto the shaft and tighten the stainless steel grub screw with a 5mm Allen Key to keep it in place, then push the flexi rubber end cap over the collar – job done!

Note: make sure that the collar is not jammed against the last Cup in a way that would prevent the end Cup from rotating freely.

Bolt and Shear Nut installation



Installation: mark the position where the cross hole in the Shaft is to be drilled (20-25mm) from the end of the shaft and drill a hole at that point with a 6mm drill. Push the plastic end plug into the end of the Shaft, Slip the large washer onto the Shaft then push the M6 bolt through the drilled hole.

Screw the Shear Nut onto the end of the bolt, with the conical end of the nut closest to the shaft. Gripping the head of the bolt, tighten the Shear Nut with a spanner until the hexagonal drive head breaks off leaving the bolt secured in the shaft with just the conical section of the nut and no way to easily undo it again.

Here are a few other things to consider for your installation

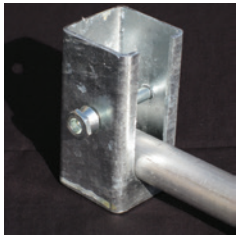
Special Brackets

For some installations, such as installing Roller Barrier, where the end of a run butts up against a wall, or the Barrier is to be installed above a gate in an alleyway, most of our standard brackets simply would not be suitable. The Alley Bracket qualifies as one of our Standard Brackets, but is designed to provide a quick and easy solution for these situations.

The Alley Bracket is designed to bolt to the face of a building or wall, etc. and provides a secure termination of one end of a Roller Barrier run.

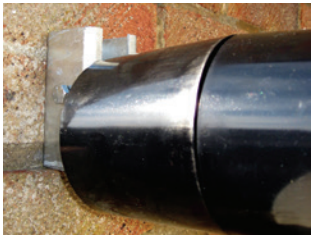
When installing the barrier above a gate in an alleyway, a bracket will be bolted to each of the facing walls and the Roller Barrier shaft and cups simply drops into it.

Once the shaft is located in the bracket, the shaft retaining bolt is inserted and the shear nut applied to prevent unauthorised removal.



Alley Bracket showing the shaft in place and the shaft retaining bolt with shear nut.

For maximum security, the end of the shaft can be cross drilled and the retaining bolt passed through it to anchor it in place.



…an example of the Alley Bracket in use

Corner Installations

Whether you are installing a single or double row, Roller Barrier should always be installed so that at the corner, one row overlaps the other, leaving no unprotected area.

Inset corner installation

Outward facing corner installation

Installing Roller Barrier as a Vertical run

Vertically installed runs are sometimes helpful as part of an overall installation as shown here.

When installed in vertical orientation, all Cups including the bottom one, should be installed with the solid face upward, to prevent water from collecting in the body of the cup.

Installing Roller Barrier in conjunction with other anti-climb products

There are times when Roller Barrier alone may not solve all the problems at a specific site, which is where some of our associated products come into their own.

At this school site, there were many different areas of vulnerability to tackle, so a multi-product approach was adopted.

This picture alone shows three of the various anti-climb products fitted by our installation team:

1. Roller Barrier is shown here being fitted 3 metres above ground level to prevent access to a flat roof
2. Special anti-climb steel mesh panels were attached to both the inside and outside of the existing perimeter fence, to stop its use as a climbing frame by the pupils and others.
3. The black Downpipe Cover was installed to prevent pupils from using the vertical drainpipe as a climbing aid.

Suggested toolkit

- Heavy duty / SDS Power Drill
- HSS bits for metal drilling
- Masonry bits to suit bracket fixings
- Hammer
- Tools to fix brackets, i.e. Spanners to suit M6 and M8 bolts, etc. (all brackets are pre-drilled with 10mm fixing holes or slots)
- Large Hacksaw (for cutting aluminium shaft if needed)
- Heavy duty Mole Grips of similar
- Pencil / marking tool / tape measure
- File / Deburring Tool
- Fixings & Fastenings

Roller Barrier - Care and Maintenance Guide

Introduction

The Roller Barrier system is suitable for installation and use in indoor and outdoor environments. It is weather resistant and designed to offer years of maintenance free service.

It has been designed to provide an effective, yet safe, non-lethal and non-threatening anti-climb barrier to either keep people and / or animals within a designated area, or to keep them out of, or off of a protected / private area.

The main system components are; the special **Roller Cups**, which are threaded onto and independently rotate on a **Central Shaft**, supported at intervals with specially designed **Brackets**, which are fixed to some existing structure, such as a wall, fence, gate top, building facia, flat roof or other suitable structure.

About the components

The special Roller Cups - are manufactured from robust polycarbonate material (an engineering grade polymer) and in consideration for the environment, high quality recycled polycarbonate granules are used wherever possible.

The polycarbonate material is moulded using high temperature / high pressure technology into a cup form which is designed to withstand a heavy blow without cracking or breaking. Prior to the injection moulding manufacturing

process, a number of specialist additives are mixed with the base polycarbonate granules, to ensure the resilience and long operational life of the finished cups in temperatures from – 30 to + 60 C.

These additives include; a powerful fire retardant to ensure that the finished cups are self-extinguishing to foil any attempt to set them alight, a colorant to produce the cups in the desired colour, and anti-aging UV inhibitors to minimise degradation of the material and extend the operational life span of the cups when exposed to sunlight or the elements.

As Roller barrier is used in countries and environments around the world, the UV inhibitor additives used in the production of the Roller Barrier Cups, are those specified for the protection of plastic materials used externally in Southern European environments. Whilst this provides a much higher level of UV protection than is currently necessary for use in the more temperate climates of the UK and other Northern European countries, it does ensure that in those areas, the Barrier will withstand the expected future changes arising from Global Warming or Climate Change.

The Central Shaft – is a thick walled, high quality aluminium extrusion, which combines light weight with tensile strength and weatherproof qualities.

Mounting / Support Brackets – are manufactured from heavy gauge sheet steel material, galvanised to provide weather protection. They can as an option be overpainted with a polymer based, durable baked on powder coat finish to provide any desired standard RAL colour match to blend with local surroundings and also further enhance weather protection.

Further Information

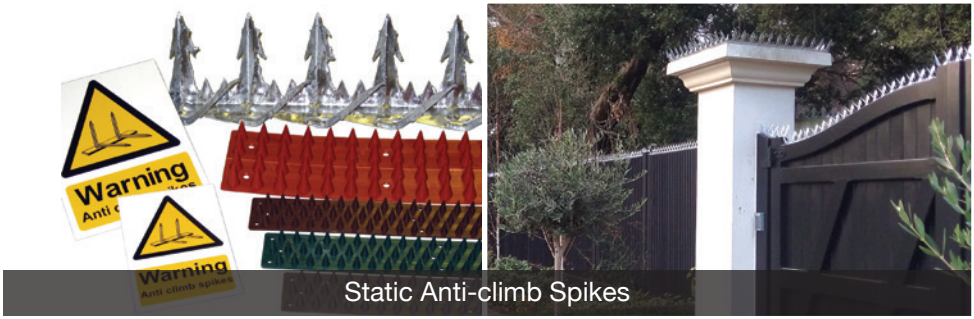
Your Roller Barrier distributor or installer will be pleased to provide any further information or technical advice you may need. Alternatively, you can find more information on the Roller Barrier Website: www.rollerbarrier.com

ROLLER® BARRIER

www.rollerbarrier.com

Here are some of the alternative Anti-climb products currently available

Other Anti-climb Spinners



Static Anti-climb Spikes

Anti-climb Pole Protector Spikes

Anti-climb Downpipe Covers – Anti-climb Fence – Security Fixings

Developed and proven in the UK.

Roller Barrier® is now installed in countries from Canada and USA to Australia and New Zealand - where users include:

- Schools & Pupil Referral Units
- Children Centres & Play Areas
- Hospitals
- Psychiatric & Secure Medical Facilities
- Prisons & Young Offender Institutions
- Historic & Public Buildings
- Railway Stations & Trackside Gates & Fences

Roller Barrier
The non-aggressive anti-climb system of choice

Safe, effective, unobtrusive and maintenance free.

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