



ACO. creating
the future of drainage

ACO One-way Fence and Tunnel Entrance

Wildlife guidance system to prevent amphibians and small animals from accessing roads and other danger areas.

The ACO Wildlife One-Way Fence Panel is a tough and durable recycled plastic fence that acts as a barrier to amphibians and small animals approaching hazardous areas. It can also function as a guide to direct amphibians and other small animals to a place of safety, such as a tunnel under a road.

The unique curved shape of the panel prevent amphibians and small animals climbing over from the protected side, but ensures that those in the danger area are not trapped by the fence – they can climb over the curved panel and drop to safety on the other side. The curved shape provides cover for animals from natural predators, strong sunlight and also retains vegetation growth.

Benefits

- Compatibility with Climate Tunnels
- Contact surfaces are non-absorbent with minimal thermal conductivity, protecting amphibians
- Adaptable for variations in terrain



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Applications

- Migratory paths across road systems
- Tunnels across roads, paths and verges

System Overview

Product Code	Description	Length [mm]	Width [mm]	Height [mm]	Weight [kg]
ACO One-way Fence and Tunnel Entrance					
99705	Wildlife One-way Fence Panel	1050	525	440	4.8
99708	Wildlife One-way Post (chisel point)	40	40	950	2.0
99712	Wildlife Tunnel Entrance	750	585	521	19.0



Overlap between fence panels allows for adjustment to site terrain



Tunnel Entrance (front and back views) directs wildlife into tunnel crossings

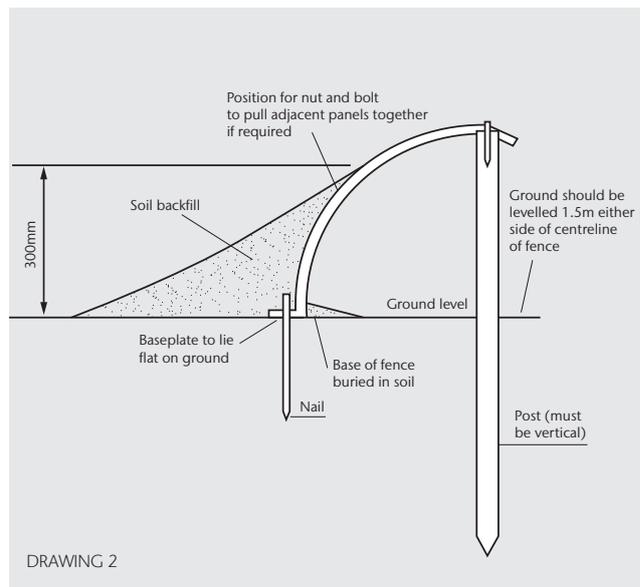
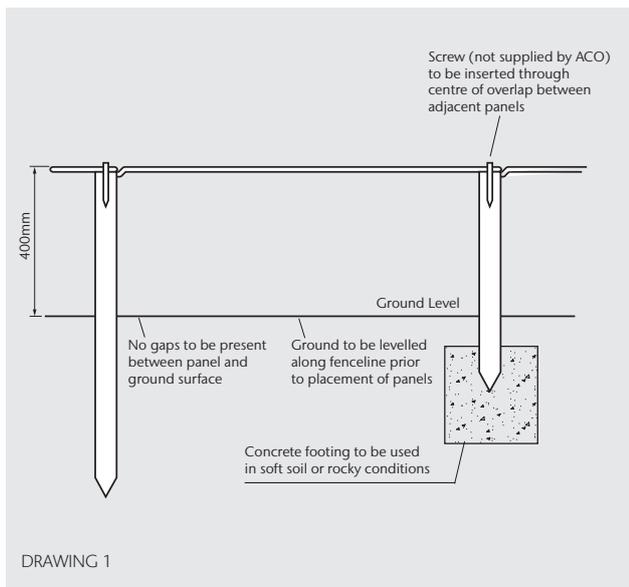


Back view of ACOWay Fence and Tunnel Entrance

Compatibility

ACO One-Way Fence is compatible with the ACO Wildlife Tunnel Entrance. The combination of these two products will guide wildlife into ACO's Climate Tunnel.

The versatility of the system allows the fence to adjust to the changing contour of the landscape, and with back fill will blend the product aesthetically into its surroundings



Installation

STEP 1

Great attention to detail is required to ensure that the fence fulfils its functions as an effective barrier and guide.

Ground preparation/setting out

The rigidity of the fence panels means that in order to ensure a smooth fence line it is necessary for the ground to be fully prepared before installation begins. The ground should be levelled in a 3m wide strip along the proposed line of the fence (1.5m either side of the middle of the fence line). This will ensure the baseplate of each panel lies at the correct angle and that adjacent panels are positioned correctly in relation to one another.

The line of the fence should be pegged out carefully and checked in advance of construction. For straight runs of fence a builder's line should be used to ensure accuracy of installation.

Levelling off a 3m wide strip will also help to ensure the correct fence height is maintained. On slopes the ground should be prepared, where possible, to give a constant gradient. Where changes in gradient cannot be avoided, these should be spread over as long a section of fence as possible to avoid difficulties in fixing the panels tightly together. Similarly, changes in fence direction should be spread over a long run of panels to give a gentle curve rather than angular shifts. Abrupt changes in direction are best dealt with by connecting two straight runs of fence with a mitre joint sealed with a suitable polymeric sealant.

Stone trenches under panels can help with surface water infiltration and avoid unwanted build up.

STEP 2

ACO Fence Post

In soft to firm ground conditions the posts can normally be driven with a mallet to the correct depth. In harder ground, or in soils with a significant stone content, it may be necessary to use an auger or similar tool to loosen the ground prior to setting posts. In some situations, for example where there are large stones or rock outcrops close to the surface, it may be acceptable to shorten the posts using a saw, stabilising them with an appropriate concrete footing if necessary. Where ground conditions prevent posts from being driven to their full depth for more than five posts in a row it will be necessary to set the posts in concrete footings (300 x 300 x 300mm) to maintain the strength and robustness of the fence.

In all cases posts should be vertical and set in the correct position relative to the two adjacent panels (i.e. the centre point of the post should be immediately beneath the centre of the overlap between the top of adjacent panels). The height of the posts should not vary more than 2cm from the specified height and should be rigorously checked, as too low a fence will not work and too high a fence may be unstable (see Drawing 1).

STEP 3

Fixing Panels

Panels should be positioned such that the baseplate fits flush with the ground with no gaps underneath. Any gaps should be eliminated by the addition or removal of earth prior to the final placement of each panel. Adjacent panels should be lapped to the full depth of the 50mm rebate moulded at one end of each panel and be attached to the support post by a screw (not supplied by ACO). Panels and posts should be pre-drilled prior to fixing the screw. The drill hole should be positioned at the mid-point of the overlap between panels (drill holes close to the edge of a panel may cause the panel to split) and slightly offset from the apex of the panel. Screws should be galvanised or otherwise protected against corrosion. Drilling slightly oversized holes and using a pan-head screw with a washer will allow the overlap to accommodate thermal expansion and contraction. The baseplate of each panel should be secured by driving a minimum 6" nail (such as the 180mm GroundGuard nail supplied by ACO) into the ground.

The recommended way to install the fence is to begin at one end and work along, panel by panel, so that a tight finish between panels is achieved, with no gaps greater than 2mm. Begin by installing an initial post at the start of the run, then install panels and posts as required. If a fence is started in several places, difficulties may be experienced in joining the different sections. Similarly, long runs of fence posts should not be installed prior to the attachment of panels, since there is a danger of inaccuracies in post spacing leading to post positions being out of alignment with the panels. Where panels do not fit perfectly it may be acceptable to pull them together using a nut and bolt fixing through a hole drilled through the overlap between panels (see Drawing 2).

STEP 4

Backfilling

The area around the baseplate on the outside (convex side) of each panel should be covered initially in fine soil, which should be strongly compacted to discourage amphibians and other animals from burrowing under the fence. Further layers of lightly compacted soil should be added so that the backfill extends to a height of 250-300mm above the baseplate and slopes gradually away from the fence to ground level. Sufficient soil should be placed alongside the inside bottom edge of each panel (i.e. the side nearest the posts) so that when this is compacted the base of the fence is buried to a depth of 50mm. This will help prevent animals from attempting to burrow beneath the baseplate. It may be considered desirable to turf, seed or plant the backfill on the outside of the fence with grass or other vegetation to stabilise it and improve the visual appearance of the fence. Such vegetation should not be allowed to overgrow the panel and allow access over it.

Inspection

Check the condition of the fence installation on a continual basis, as faults are far easier to rectify sooner rather than later. In particular check the fence is at the correct height and there are no gaps between panels. The aim is for a tight joint. The position of posts and fixings should also be checked.

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