

# SecuraTop® ACT School Security Fencing

Product description	The fencing consists of 2400mm long (standard length) panels with uprights with a sharp crushed spear top profile welded into horizontal rails and secured to posts with proprietary security bracket and anti-tamper fastenings.
System function	To act as a physical barrier and provide perimeter security. By way of the design and the steel sections used the fence is reasonably difficult to scale (due to the height and rail spacing, and the risk of injury from the sharp picket profile), penetrate or get under. This deters and delays unauthorised access.
Product application	Perimeter security for schools.
Panel height	2100mm (standard).
Post spacing	2480mm post centres or 2415mm gap between posts (standard)*. <i>*This assumes a 65x65mm post.</i>
Gap under fence	50-100mm on level ground. Maximum of 150mm on sloped ground.
Panel configuration	The horizontal rails have a hole punched in one or both sides of the tube to suit the profile of the vertical picket. The picket is then inserted through/ into the rail and welded in place in the top and bottom rail. The pickets extend 150mm above and below the top and bottom rail.
Picket profile	25x25x1.2mm Square Hollow Section (SHS) steel.
Picket spacing	137mm centre-to-centre of each vertical picket. 112mm gap between pickets*. <i>*A picket spacing of 87mm is recommended for applications where is desirable for the fence to be child-safe and/ or a more severe hazard being protected by the barrier.</i>
Picket top profile	Crimped (round) spear top.
Rails	40x40x1.6mm SHS steel.
Panel brackets	Bluedog SmartaBracket®: 3mm gauge mild steel material, 1-piece heavy duty, security bracket (four brackets per panel). The bracket fits over the end of the 40x40mm rail of the panel and mounts on the non-attack side (normally the inside) of a 65x65mm fence post. There are two fixing points to the post and one to the rail of the panel. This bracket centres the panel on the post along the fence alignment. The bracket is hot dip galvanised after fabrication and then powder coated.
Change of direction brackets	Bluedog SmartaBracket®: 3mm gauge mild steel material, 1-piece heavy duty, security bracket. The bracket fits over the end of the 40x40mm rail of the panel and mounts on in-line with the panel on the post. There are two fixing points through the bracket to the post and two through the bracket to the rail of the panel. The bracket is hot dip galvanised after fabrication and then powder coated.
Fasteners	12g x 25mm long tamper proof self drilling Tek screw in a Class 3 (minimum) corrosion finish (three screws per bracket). Requires a special setting tool that fits to a drill to install and remove the screw.
Intermediate posts	65x65x2.5mm post (3000mm long for a 2100mm high panel).
Gate frame	65x65x2.5 Stiles and 65x65x1.6mm Rails (three horizontal rails).
Gate configuration	The horizontal rails have a hole punched in one or both sides of the tube to suit the profile of the vertical picket. The picket is then inserted through/ into the rail and welded in place in the top and bottom rail.

Gate locking hardware	<p>Bluedog Boltn'Lock® heavy duty Ø20mm slide-bolt unit with twin Broadhurst lockboxes. The cast lockboxes protects the shackles lock that inserts into the lockbox. This unit is welded to the gate prior to powder coating. The slide-bolt is lockable with a shackles lock in both the open and closed positions. A 5mm slide bolt receiver fixes to the gate post or adjacent double gate latch stile on site with a combination of 14g tek screws and M8 bolts.</p> <p>A strip of perforated metal (1mm) fits to the outside of the gate adjacent to the latch stiles preventing the gate hardware being used as climbing points from the outside.</p>
Gate drop-bolt hardware	<p>Ø16mm x 700mm long drop bolt (drop bolt guides and locking tabs welded to the gate stile during fabrication). The units is pad lockable in the down position only. The drop bolt is zinc plated after fabrication and then powder coated.</p>
Gate hinging	<p>Bluedog Eternity® greasable tapered roller bearing (bottom) and sealed deep groove ball bearing hinging (top) to suit the 65mm gate stile. The top assembly allows the level of the gate leaf to be lifted or lowered. A 10mm gate post bracket is secured to the gate post with 4 x M10x25mm long stainless steel screws (that requires a specialist setting tool to install for tamper resistance). The gate post is drilled and tapped to suit the M10 fasteners. The gate stile bracket inserts into the top and bottom gate stiles and is fixed with a 14g tek.</p>
Gate posts	<p>100x100x5mm (3000mm long to suit 2100mm high fence) for openings up to 4800mm.</p> <p>150x150x5mm (3000mm long to suit 2100mm high fence) for openings of 4800-6000mm.</p>
Base flanges	<p>130x130x5mm with 4xØ13 holes to suit 65x65 post.</p> <p>150x150x8mm with 4xØ13 holes to suit 75x75 post.</p> <p>200x200x10mm with 4xØ13 holes to suit 100x100 post.</p> <p>The post inserts into the centre of the base flange (standard). The base flanges are hot dip galvanised after fabrication.</p>
Post footings	<p>Fence posts Ø300mm x 900mm deep using 20mpa concrete for 2100mm high fencing*</p> <p>Gate posts Ø450mm x 900mm deep using 20mpa concrete for 2100mm high fencing*</p> <p>*subject to site specific soil conditions and loadings</p>
Post cap	<p>Bluedog pre-galvanised steel square cap (powder coated). The pressed steel cap is fitted on site (tap on with rubber mallet) and fits tightly over the top of the post and is not easily removed once installed. The cap can be fixed in place with a self drilling tek screw if required.</p>
Tubular pre-galvanised material	<p>Mild steel. Strength grade: C250 minimum. Zinc coating inside and out with 50 grams/ square metre minimum.</p> <p><i>Recommended:</i> <a href="#">Orrcon Mild Steel Galvabond®</a> Electric Resistance Welded (ERW) precision tubing with 135 grams/ square metre zinc coating mass (minimum) for increased corrosion resistance.</p>
Weld type	<p>All welds are Silicon bronze*.</p> <p><i>*This weld has superior corrosion resistance and powder coating film adhesion compared to a standard (lower cost) mild steel weld.</i></p>
Metal pretreatment process	<p>The product undergoes a 7 stage chemical pretreatment process to clean, etch and prepare the metal surface for powder application. This process includes first submerging the product in two consecutive heated alkali degreasing baths, then a series of rinse baths and then a nanoceramic conversion coating bath that places a fine crystalline structure on the surface of the steel for the powder to 'key' into and prevent oxidation on the surface before powder coating. This facilitates improved powder film adhesion.</p>

Powder coat process	The product is powder coated using an automated conveyorised powder coating line. Powder is applied to the metal surface using air pressure and an electrostatic charge. The product then passes through a heated curing oven. This causes the powder to gel and then harden to a tough durable surface. The thickness and curing times are closely monitored as these variables influence the mechanical characteristics of the finished coating.
Powder coat for standard outdoor applications	For standard outdoor application D1000 Excel™ polyester powder is used as standard. All powders used are supplied by Interpon and formulated by Akzo Nobel. Interpon D1000 exhibits a tougher cured film which provides superior damage resistance to packaging materials. It is designed to give excellent long term exterior durability and colour retention and is available in a limited range of colours and in gloss, satin and matt finishes. Film thickness: ~80µm minimum.
Powder coat for applications at risk of graffiti	For applications at risk of graffiti, EasyClean™ can be used as an alternative to the standard polyester coating. EasyClean is a Polyurethane coating that is designed to allow the simple and rapid removal of most forms of graffiti. This ease of graffiti removal reduces overall maintenance costs. Interpon Typical applications include fence installations at train, tram and bus stations, schools and playgrounds. Film thickness: ~80µm minimum.
Powder coat for higher corrosion environments	For applications that will be subject to higher corrosion, a zinc-rich epoxy primer can be applied under the top coat of polyester to give much greater corrosion resistance. The epoxy primer provides a non-porous barrier between the corrosive elements (salt, pollutants etc.) and the metal surface.  Alternatively, the product can be hot dip galvanised after fabrication. This involves immersing the product in a bath of molten zinc. This applies a heavy coating of continuous protective zinc over all surfaces (internal and external).
Applicable Australian Standards	AS 1450 – Steel tubes for mechanical purposes - Product Designation AS 1450/C250/ERW. AS 1397 – Steel sheet and strip – Hot-dip zinc-coated or alu/zinc coated - Product Designation AS 1397/G2. AS 1163 – Structural steel hollow sections – Product Designation AS 1163 C350LO. AS/NZS 4680:2006 – Hot dip galvanized (zinc) coatings on fabricated ferrous articles AS 4506.2005 Metal finishing - Thermoset powder coatings.
Reference material	ACT Directorate School Security Specification and drawings Bluedog drawing set. Bluedog installation guide. Bluedog proforma product specification.