

NON-DRILL
EDGE PROTECTION



NON-DRILL; FAST AND FIXING-FREE

The true purpose of NON-DRILL is to never have to drill into any concrete structure, precast and in-situ. Avoid drilling completely, incorporating additional anchors into design in precast and in-situ pours for both temporary and permanent handrails.

The NON-DRILL connection with nut and plate has many uses to avoid drilling and when removed simply fill the recess with grout, no damage to the concrete with the anchor already below the surface and secured poured around the anchor head.

SUMMARY OF BENEFITS

- Eliminate the need for drilling with the NON-DRILL edge protection and handrail system
 - Connect to lifting anchors on precast structures
 - NON-DRILL works seamlessly with 2.5, 5, 10T connections EdgePro/Hairpin lifting anchors + Ferrules
 - Connecting to the anchor eliminates human error and meets industry standards for edge protection
 - With NON-DRILL, you avoid costly labour hire, drilling into concrete, exposing steel and cutting off bolts
 - Apart from avoiding the need to drill, the big savings with the NON-DRILL system is installation time. You can install 12 NON-DRILL posts in the same time it takes to drill a typical post with 2 holes
- By planning ahead, incorporating anchors into design, the NON-DRILL team will work with your designers to position the anchors for both temporary edge protection and permanent handrails.
- Walls: min 130mm thick- 2.5 tonne anchor 170mm long or standard 16-20mm ferrule
 - Slabs: 2.5 tonne cone anchor 75mm long, 100mm off the edge
 - Where concrete thickness is <100mm e.g., flanges on Super Ts- use Ancon 20mm short foot ferrule 45mm long



NON-DRILL PERMANENT HANDRAIL SYSTEM

WHEN MOVING FROM TEMPORARY TO PERMANENT HANDRAILS

First use as a temporary handrail until backfill is completed, then using the same NON-DRILL post and rails, transfer to permanent handrail using modular connections, without exposing a live edge.

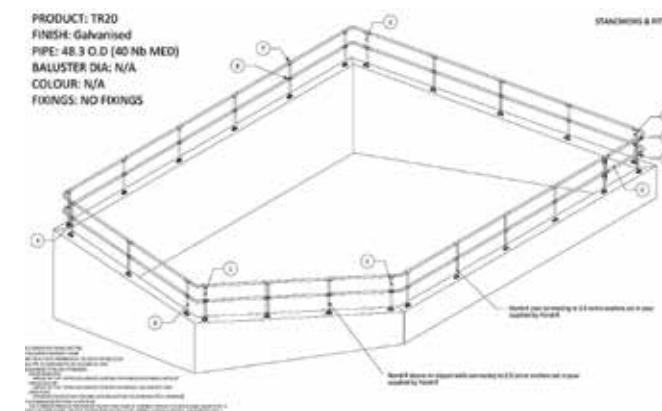
NON-DRILL is now an approved system on various large projects around Australia.

KEY ADVANTAGES OF TRANSFERRING FROM TEMPORARY TO PERMANENT HANDRAILS

The NON-DRILL methodology to transfer without exposing a live edge eliminates the need for scaffolding, EWPs, and working from heights. It also eliminates the need for drilling.

Eliminating drilling ensures the full lifespan of the structure and no silica dust.

Connection to the superior strength of the anchor eliminates human error guaranteeing all load standards are met. Can you always be certain with typical handrails if the installer hits steel when drilling 2- 4 holes in the baseplate, is it repaired properly, or worst bolt cut shorter?



With the NON-DRILL permanent system, structural grout is placed in the recess before tightening down the NON-DRILL post. This seals any moisture ever getting to the connection increasing the lifespan even more.

Additional bonus: due to the superior strength of the anchor, if the handrail was ever damaged, simply replace the damaged post to the same anchor. With a typical handrail this is not so easy if the bolts shear resulting in drilling again in a new location and repairing the sheared bolts.

TRAINING & SUPPORT

NON-DRILL has personnel located in all Australian states that are trained to install the NON-DRILL permanent system.

NON-DRILL offers step by step video installation instructions to train your team or subcontractor of choice.

For Re-Walls construction, NON-DRILL have designed a range of Steel Clamps for use when installing the panels to replace using timbers. NON-DRILL also has a Dropdown System that connects to the anchors on the higher panels for edge protection across the lower panel. Connecting to the anchors replaces the frame system that can damage the front face.

NON-DRILL

Code	Description
230121	NON-DRILL Post – 1.060m
230131	NON-DRILL 1.3T Clutch
230122	NON-DRILL 2.5T Clutch
230123	NON-DRILL 5.0T Clutch
230124	NON-DRILL 10.0T Clutch and extra baseplate
230125	NON-DRILL Modified Clutch for Edge Lifter/Hairpin anchor- Type 2 To Suit Ancon 4t (Red)
230126	NON-DRILL Modified Clutch for Edge Lifter/Hairpin anchor - Type 1 To Suit; Ancon 8.5t (Purple), REID 7t Jaws (Orange), REID 8.5t 3DX (Yellow)
230127	NON-DRILL Modified Clutch for Edge Lifter/Hairpin anchor - Type 3 To Suit; Ancon 15t (Green), REID 10t Jaws (Blue)
230128	NON-DRILL Modified Clutch for 16mm Ferrule/Drop In
230129	NON-DRILL Modified Clutch for 20mm Ferrule/Drop In
230120	NON-DRILL Post AdaptaPanel Bracket
230130	NON-DRILL Shear Stud Connection

- Eliminate the need for drilling with the NON-DRILL edge protection and handrail system
- Connect to lifting anchors on precast structures
- NON-DRILL works seamlessly with 1.3, 2.5, 5, 10T connections and Edge Lifter / Hairpin anchors
- Connecting to the anchor eliminates human error and meets industry standards for edge protection
- With NON-DRILL, you avoid costly labour hire, drilling into concrete, exposing steel and cutting off bolts
- AS/NZS 1170.1 Structural design actions, Part 1: Permanent, imposed, and other actions
- AS 1657:2018 Fixed platforms, walkways, stairways & ladders:
 - under 350N/m, or “Category 1” lateral loading
 - under 750N/m, or “Category 2” lateral loading (using the same connection, increasing the post thickness)



NON-DRILL AdaptaPanel Bracket – for use with AdaptaPanel Panels



CUSTOMISE YOUR POST & CLUTCH COMBO

CLUTCH OPTION

NON-DRILL Post with Clutch 1.3T, 2.5T, 5T or 10T



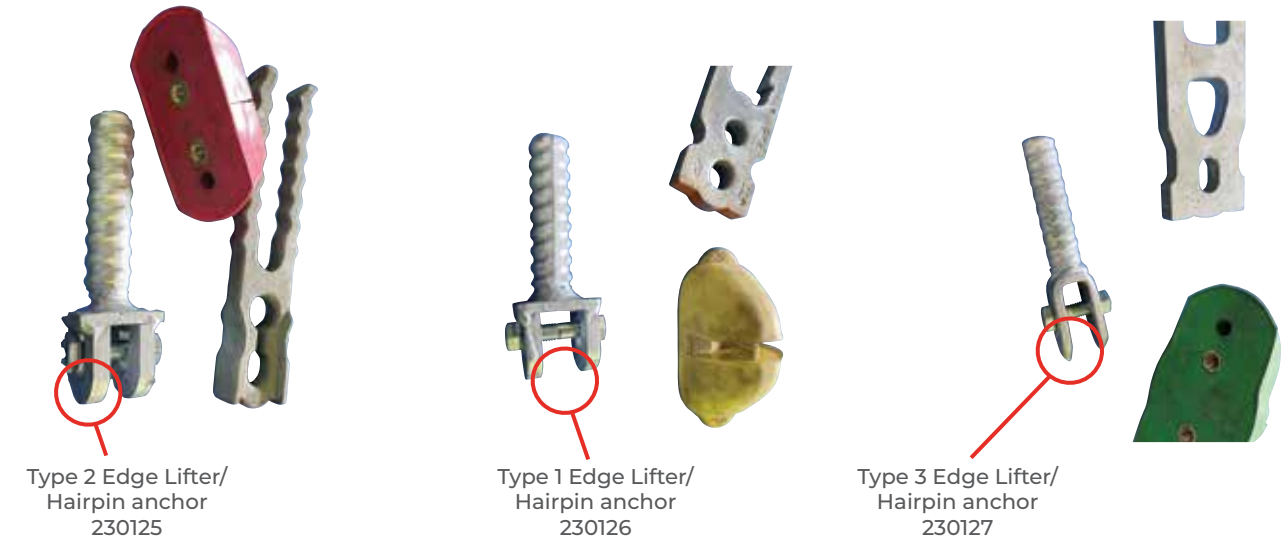
FERRULE/DROP IN OPTION

NON-DRILL Post with modified Clutch for 16mm or 20mm ferrule/drop in



EDGEPRO/HAIRPIN LIFTER OPTION

NON-DRILL Post with modified Clutch for EdgePro/Lifter 4T, 7T or 10T



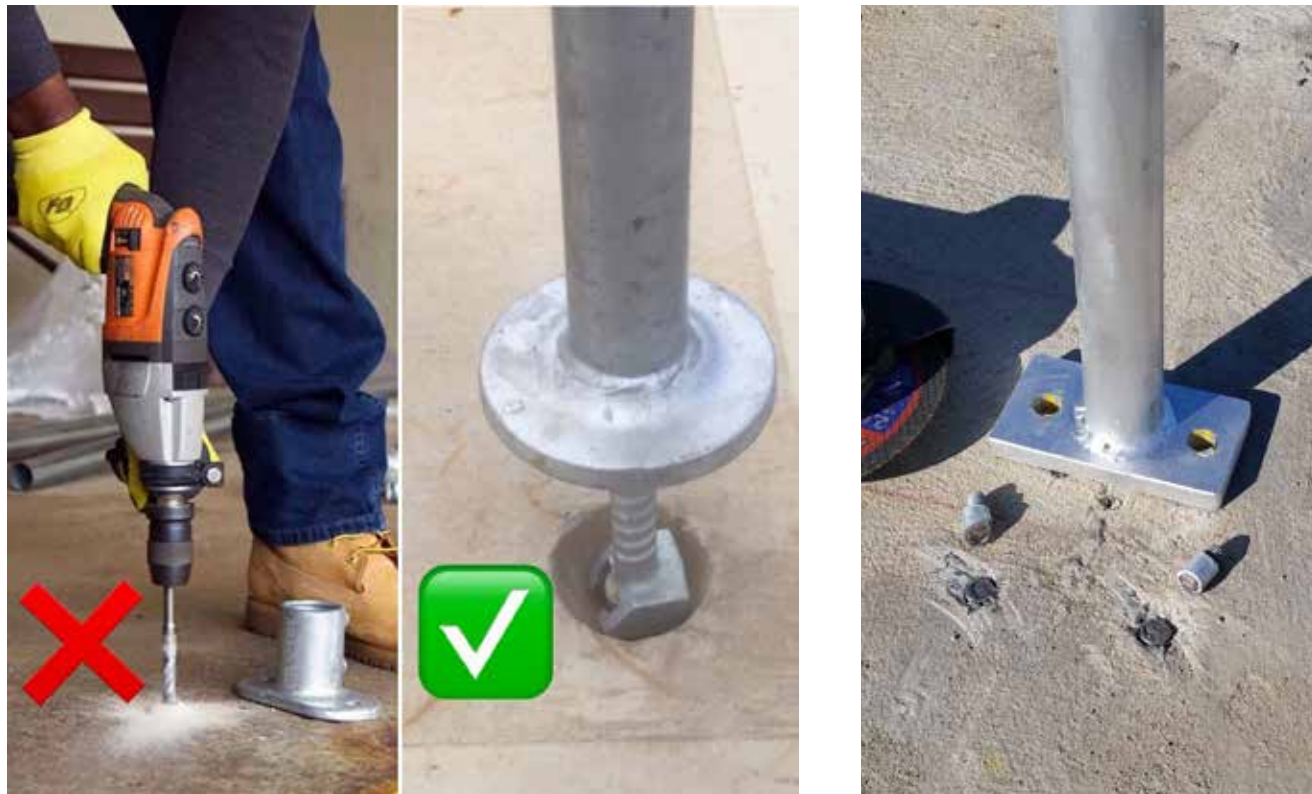
NON-DRILL POST & HANDRAIL SYSTEM

- Eliminate the need for drilling with the NON-DRILL edge protection and handrail system
- Connect to lifting anchors on precast structures
- NON-DRILL works seamlessly with 2.5, 5, 10T connections and EdgePro/Hairpin lifting anchors



QUICK & EASY TO INSTALL

- By connecting to the anchor - eliminate human error and meet industry standards for edge protection
- With NON-DRILL you avoid - costly labour hire, drilling into concrete - exposing steel, cutting off bolts



NON-DRILL POST & HANDRAIL SYSTEM



NON-DRILL POST & HANDRAIL SYSTEM



Typical handrail height of 1m, max spacing on NON-DRILL post as follows:

- 3.2mm wall thickness= 2.4m
- 4.0mm wall thickness= 2.6m
- 5.4mm wall thickness= 2.8m

Note: 5.4mm wall thickness requires extra round 150mm baseplate and must connect to a min 5 tonne lifting anchor due to higher pull-out capacity

Various options – top and mid rail using scaffold clips or clamp connections

To enclose live edge, SafeSmart AdapataPanels or 3m (50x50x4mm) mesh screens with 200mm overlap fixed to top and bottom rail.



NON-DRILL now approved by SafeWorkVIC to be installed by competent personnel. No scaffold sign off required, means you can utilise your existing personnel onsite to install (training videos can be provided)

“SafeWork Under the legislation (OHS Regulations 2017), scaffold means ‘a temporary structure specifically erected to support access or working platforms.’ This handrail system may be formed from scaffolding components (tube and coupler), but it is not scaffold as it does not support access or work platforms. As such, there is no need to hold a HRWL to install it (no matter the potential fall height). this requirement for the system to be installed by trained and competent persons, “

SETTING ANCHORS

RETAINING WALLS

Set anchors to easily install temporary edge protection before formwork is removed. If a permanent handrail is required, it can be transferred using the same posts and rails with exposing a live edge when backfilling is completed.



NON-DRILL POST & HANDRAIL SYSTEM



HEAD STOCKS & CULVERTS

To pour or place head-walls, needing only a tower scaffold to gain access. Cast anchors in the side surface to use the NON-DRILL side connection to keep the top surface clear.

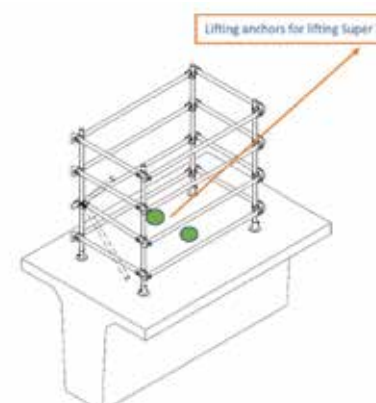


BRIDGE / PLANK GIRDERS

- Anchors incorporated into design for storage, transporting and when installing
- Suitable anchors for the flanges ranging from 70mm to 100mm – 2.5 tonne cone anchors 55mm long or Shortfoot 20mm ferrule 45mm long, both min 200mm from the edge
- Anchor design can be provided



- Edge protection around the lifting anchors to protect riggers when installing chains
- Entry is a spring loaded arm to move as chains lift and drop - option of 2 or 4 rails high



NON-DRILL POST & HANDRAIL SYSTEM



TEMPORARY TO PERMANENT

- Retaining walls - engage NON-DRILL system when backfill is within 1m from top of wall
- Slabs / stairs – engage NON-DRILL before removing formwork



- When backfill progresses to the top of wall using the same posts and rails, transfers from a temporary to a permanent handrail without exposing a live edge
- Each post is unscrewed at 50mm to place grout under baseplate and to seal connection from moisture and line up handrail



- Line up handrail walls/slabs



NON-DRILL POST & HANDRAIL SYSTEM



TEMPORARY TO PERMANENT

- 161 connection - Where permanent handrail is classed as pedestrian access, NON-DRILL has a connection that requires no rails to be cut, connecting to the outside of the post, big savings on installation.



WALKWAY BRACKETS

NON-DRILL has designed a walkway bracket with a strong pull-out capacity that need only one connection point, with loads up 500kg per/m.



OTHER USES FOR SETTING ANCHORS

Connecting lanyards, Davit rescue system, tripod for surveyors and securing formwork props.



PRECAST WALL PANELS CONSTRUCTING LARGE BUILDINGS

Utilise the existing anchors or have your precast company add additional anchors 200mm from the edge, allowing you to install edge protection before lifting.

When lifting, there will be edge protection in place removing the need for scaffolding and EWP's and the NON-DRILL post will be clear from the chains.

If installing second floor panels, a mobile frame on wheels has been designed to attach to the NON-DRILL system, allowing safe removal of the edge protection on each panel to drop the second floor panel on top.

CULVERTS

Once the culvert units are positioned and the anchors that are perfectly spaced, typically 5 and 10 tonne cone anchors along the edge, NON-DRILL can then be installed.

For edge protection on the front edge where the headwall gets formed, instruct your precast company to cast-in 20mm ferrules on the side edge. NON-DRILL has designed a side connection post which can also support the formwork for the headwall, and if the headwall and wing walls are precast, handrails (temporary or permanent) can attach to the existing anchors on top. The NON-DRILL sleeve connection can then be used to plumb the post on the wing walls.

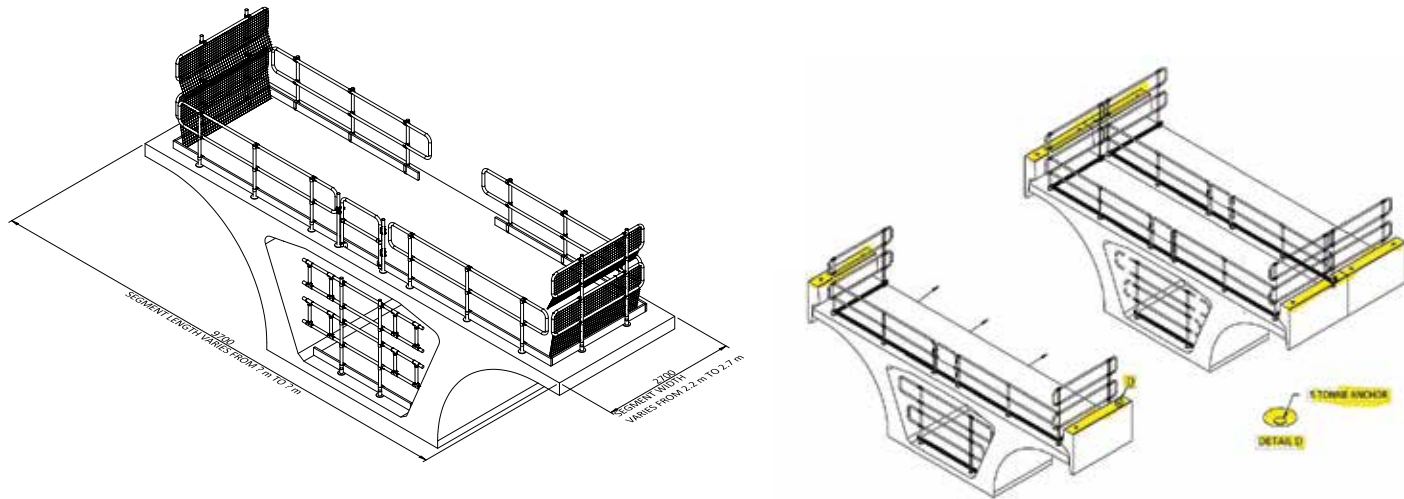


NON-DRILL POST & HANDRAIL SYSTEM

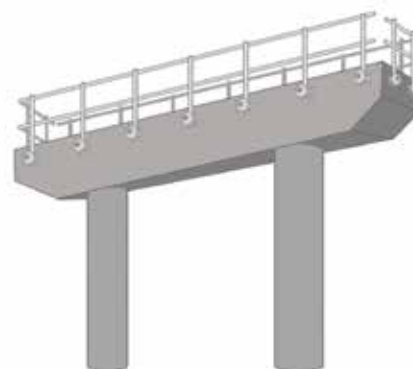
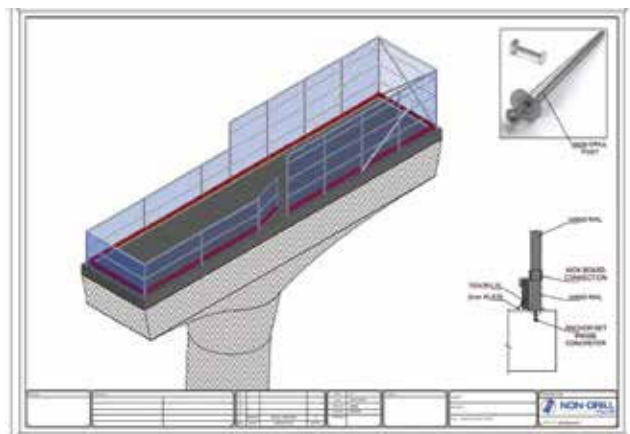


BRIDGE SEGMENTS / PARAPETS

- Incorporating anchors into design or drop-in anchors for existing concrete
- See segment design for West Gate Tunnel Project below. There was over 40,000 anchors incorporated into design. Segment highlighted in yellow showcases where NON-DRILL was transferred to existing anchors on bridge parapets



- Headstock design options of top mount or NON-DRILL side connection



NON-DRILL POST & HANDRAIL SYSTEM



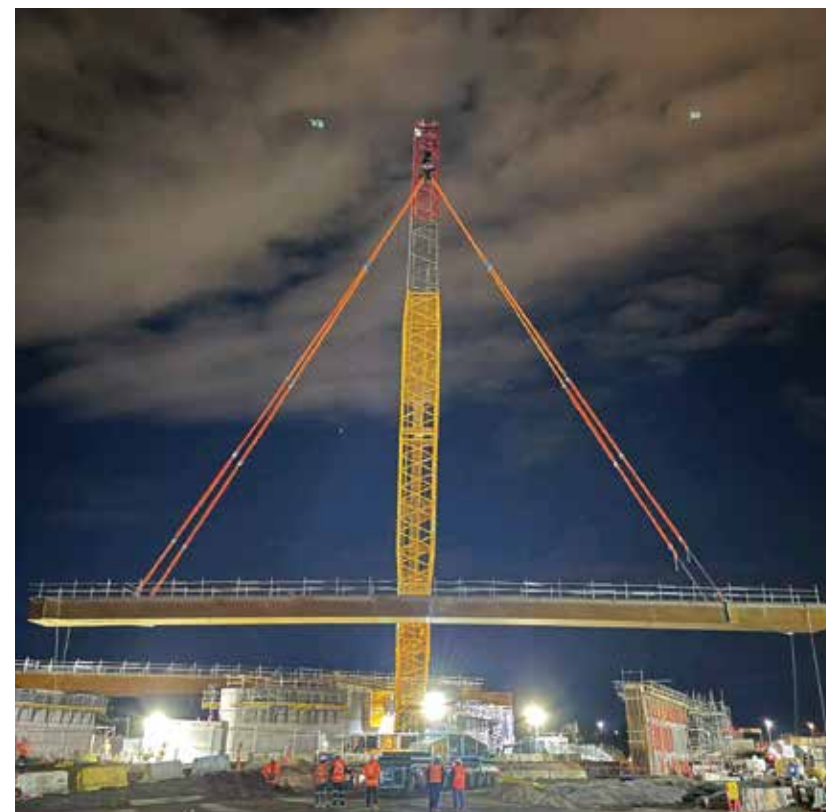
CONTAINER EDGE PROTECTION

- To suit 20ft or 40ft containers
- Special claw attachment that works in with container locking slots
- AdjustaStairs and Proscaf landings to provide access to container



SHEAR STUD EDGE PROTECTION

- Shear Stud base connector is 250mm high to suit 3 shear stud heights of 150mm, 175mm and 225mm allowing you to reuse them for bridges with varying stud sizes
- Utilise the 5t claw anchor to attach to shear studs
- Maximum post spacing of 2.4m with 1.0m high handrail



NON-DRILL POST & HANDRAIL SYSTEM



CONCRETE JERSEY BARRIERS 3M & 6M

Due to the superior strength of the 5 tonne NON-DRILL anchor, NON-DRILL has designed a hoarding system for 3 metre & 6 metre Concrete Jersey Barriers.

- Wind Load - 3m Barrier, 2.2m high from top of Barrier.
- Wind Load - 6m Barrier, 1.6m high from top of Barrier.
- SafeSmart can also offer design and fabricate gates with this type of hoarding.



On concrete jersey barriers, anchors sit idle once the barrier is in place - this gives many options to avoid drilling, which is back charged to repair.

For Gawk screens, NON-DRILL offer the mesh panel system or install top and bottom rails with mesh screens 3m long 50x50x4mm squares with 200mm lap fixed onto the rails.

Note: if adding shade cloth the wind load increases.



NON-DRILL POST & HANDRAIL SYSTEM



CONCRETE JERSEY BARRIERS 3M & 6M

To suit a cyclist rail on top of barrier, 1.4m high from ground level, a cranked post can be positioned using the NON-DRILL sleeve connector.



Using the same anchors you can attach a sign post, and if on road side have a bracket connected to the anchor that off-sets the sign away from the barrier.



NON-DRILL - ELIMINATING THE RISKS OF SILICA DUST



Silica dust, a silent yet formidable adversary in the construction world, has long posed significant health risks to workers. Minimising workers' exposure to harmful silica dust is of increasing concern.

To this end, several innovative drilling solutions have been devised and implemented, but these have all aimed to reduce exposure. The Non-drill Post & Handrail system completely eliminates any exposure to silica by eliminating the need for drilling entirely.

UNDERSTANDING SILICA DUST

Silica is a prevalent mineral, scientifically termed silicon dioxide. This mineral can be found in two distinct forms: crystalline and amorphous. The crystalline variant is recognised as quartz, a primary component in materials like sand, stone, concrete, and mortar.

Different rocks and construction materials have varying concentrations of crystalline silica. For instance, granite typically comprises between 25% and 40% silica, and concrete aggregates might have an approximate silica composition of around 30%. In contrast, engineered composite stones can have a silica concentration exceeding 90%.

In the year 2021, a concerning report from WorkSafe Australia revealed that 73 claims were accepted from workers who had contracted diseases linked to silica exposure in their workplace. Tragically, this exposure resulted in the loss of five lives.

Furthermore, data sourced from Artibus suggests that an alarming estimate of 230 Australians annually are diagnosed with lung cancer, a consequence of past silica exposure. This underscores the pressing need for effective measures to mitigate silica-related hazards in the workplace.

WHAT CLIENTS SAY ABOUT NON-DRILL

"There was a late change in how our riser working platforms had to be used, and after struggling to find a handrail system that met our lifting requirements, a colleague recommended Non-Drill. At that point, our operations had come to a halt.

I reached out to Non-Drill with our specifications at 3:30 pm, and by 5:30 pm, Paul had already shared preliminary sketches for a collapsible handrail system. Impressively, by 8:30 am the next day, they had constructed a prototype and sent me a demonstration video. Paul and his team were on site by the afternoon, installing the system.

The entire process, from briefing to design, prototype creation, and installation, was completed in just 24 hours. The speed and efficiency with which they delivered a custom-built system were truly remarkable. I hadn't imagined such a swift turnaround was possible."

- Michael Cain.
Project Engineer - BUILT.

HOW CAN NON-DRILL HELP?

Risk mitigation

Silica dust exposure poses serious health risks, including respiratory diseases like silicosis. The potential legal, financial, and reputational risks associated with worker health issues simply cannot be ignored. By opting for the Non-drill system, it's possible to ensure the right precautions are taken to benefit the health and safety of workers.

Safety Compliance

Adhering to safety standards and mitigating silica dust exposure is a critical aspect of any job site. The Non-drill system is fully compliant with AS 1170.1 and AS 1657-2018. This means that you don't have to compromise on safety or compliance while also greatly reducing further risks of silica exposure.

Cost Savings

By eliminating the need for drilling, the Non-drill Post & Handrail System offers a key advantage in terms of cost savings. With reduced drilling, there's a decreased risk of generating airborne silica dust, which often requires costly measures for containment and cleanup. The long-term benefits could lead to a decrease in healthcare costs, absenteeism, and staff turnover.

Streamlines Operations

The Non-drill system's standardised installation process simplifies operations, meaning that crews can be trained to install the system efficiently, ensuring consistent quality across projects. This streamlining of operations leads to reduced training time, minimised chances of errors, and enhanced overall project management.

By eliminating drilling, offering versatile connections, meeting stringent industry standards, and providing financial advantages, the Non-drill Post & Handrail system addresses the most pressing challenges faced by construction companies. Its potential to enhance safety, reduce costs, and streamline processes makes it an indispensable asset for any construction company striving to deliver excellence in the Australian construction landscape.

A Safer Construction Site

The risks associated with silica dust exposure in the construction sector are undeniable. With the Non-Drill Post & Handrail System, there's a tangible solution at hand. Don't merely react to the challenges; be at the forefront of change. Prioritise the well-being of your team and adopt a system that aligns with the highest industry benchmarks.





SYD 02 8844 4500 - MEL 03 9309 0544 - BNE 07 3266 7111

www.safesmartaccess.com.au