

FENCING SYSTEM - 50 mm , 62 mm AND 75 mm



DESIGN AND INSTALLATION GUIDE



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NASAHI FENCING SYSTEM

Nasahi Panel Fence System

The Nasahi Panel Fence System is a lightweight, high quality, durable and solid fence system suited to both residential and commercial applications. With exterior coating solutions provided by the Granosite fully reinforced exterior plaster system, the Nasahi Panel Fence is an attractive fence system with a solid appearance and feel providing superb sound blocking characteristics.

Important:

- This specification must be read in conjunction with the detail data sheets.
- All materials such as grouts, adhesives and fixings used for the Nasahi Fencing System must be supplied by Nasahi or one of its certified distributors.
- All materials such as fiberglass mesh and plaster components used for the coating of Nasahi Panels must meet the approved coating system specification.

Nasahi Fence Panels are either 75mm thick lightweight autoclaved aerated concrete (AAC) panels cast into reinforced insitu posts or 50mm thick AAC panels screw fixed to steel posts and can be up to 2.4m high. The 75mm and 50mm thick panels come in a standard size of 2200mm long x 600mm high. Panels are bonded together with Nasahi Panel Adhesive and use the Granosite reinforced Plaster System and Paint System for coating and finishing.

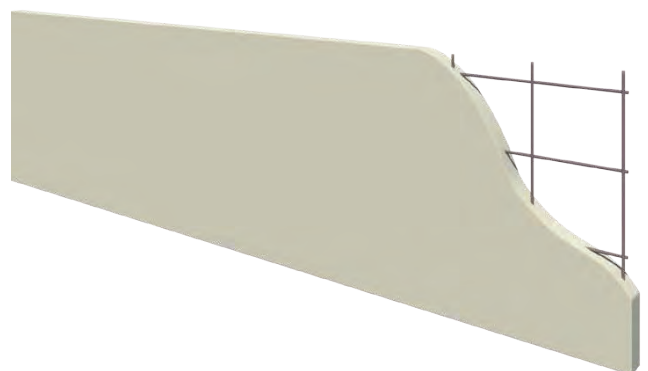


Table 1: Weight of 2200mm Long Panel

Thickness	50mm	62mm	75mm
Working Panel Weight (650kg/m ³)	43kg	54kg	65kg

Concrete

All concrete post footings for insitu concrete post styles shall be 17.5MPa and for cast in steel post styles 25MPa concrete.

Insitu concrete posts shall consist of 17.5MPa concrete.

Mowing strips directly under the panels may be 17.5MPa concrete.

Reinforcing and Steel Posts

M-12 Reinforcing Rods within insitu posts and footings shall be Grade 500E deformed steel bars.

All steel posts shall be sized in accordance with the chart within this document appropriate to the height and wind loadings imposed

Panel Adhesive

Nasahi Panel Adhesive is a polymer modified cement-based adhesive mortar supplied in 20kg bags. It is supplied by Nasahi, mixed on-site with clean water (see instructions printed on each bag), and is applied to all edges of the panels (except control joint) by trowel.

Nasahi Panel Adhesive as approved by Nasahi for bonding decorative trims and banding, along with minor patching and repairs of Nasahi Panels.

Fixings

Panels shall be fixed to the steel posts with 14g x 65mm long self drilling screws. The tips of the screws are to be removed after installation to allow for panels bands to bond flush over

Waterproofing

- Bituminous membrane paint DPM bottom edge of Nasahi Panels
- Mapelastic Smart bottom edge of Nasahi Panels.
- Use Nasahi Waterproof Panels

NASAHI FENCING SYSTEM INSTALLATION SEQUENCE

The Nasahi Fencing System is not a DIY system. Installation must be performed by approved installers to ensure quality of workmanship. Please contact Nasahi for details of licensed distributors.

1. Ensure the builder has completed all items set out in the pre-installation checklist.
2. Plan setout, measure and provide string lines as required.
3. Dig out post holes to size as shown in the details. Excavate trench 75mm deep by width to suit for concrete mowing strip. Box out mowing strip with timber formwork
4. Pour site concrete to level as detailed. Allow to cure. Place 'Z' or 'Square' Posts and secure in position using timber peg and braces. Set all fence posts in place and pour concrete footing to 75mm below finished ground level. Set the top of the posts level with the proposed top of the fence panels.
5. Pour concrete mowing strip and float top with steel trowel to achieve an U3 finish. The top of the mowing strip creates the laying surface for the panels and therefore must be straight and level.
6. Remove the mowing strip formwork and prepare the first course of panels for laying and apply ASA "Bostik Dampfix waterproofing" membrane to the underside edges of the panels. Allow to cure before laying.
7. Lay the first panel over the concrete mowing strip. For Insitu Posts, place steel post formwork and secure in position using timber peg and braces while laying the first course. The top of the formwork shall be level with the proposed top of the fence panels. For 'Z' or 'Square' Posts fix the panels to the posts as per Details 15.1.2 and 15.1.3.
8. Continue to lay the remaining courses. Apply Nasahi Panel Adhesive to all panel joints. Lay the panels completing each row at a time removing all excess adhesive.
9. Fit 200w x 50mm thick Nasahi Panels over post junctions. Fix into position with Nasahi Panel Adhesive.
10. Fix Nasahi Panel top capping into position with Nasahi Panel Adhesive.
11. Sand any joints level and remove all debris and dust ready for plaster finishing.
12. Apply Granosite Plaster System or with paint finish system in selected colour.

COATINGS

Nasahi approves all coatings achieving the performance levels outlined below as suitable for use with their Fencing System. It is the responsibility of the installer to ensure these specifications are met, complete an Installation Compliance Certificate and submit copies to both the builder and Nasahi.

Table 2: Coating Performance Level

Test	Performance Requirement	Units
Water Transmission Resistance	<10	g/m ² /24hr/1kPa
Water Vapour Permeability	$w \cdot sd \leq 0.2$	kg/(m ² .h ^{0.5})
Co-efficient of Water Absorption	$w \leq 0.5$	kg/(m ² .h ^{0.5})
Equivalent Air Layer Thickness of Water Vapour Diffusion	$Sd \leq 2$	m
Durability	Minimum 7-year warranty	
Elasticity	Bridge a minimum crack width of 1mm	

Note: Minimum coating thickness specified by supplier may vary provided the above specifications are met. A co-efficient of water absorption ($w \leq 0.5$) means that minimal water is absorbed regardless of time period. A Coating with $Sd \leq 2m$ has less resistance to water vapour diffusion (escape) than a static 2m thick layer of air.

Surface Preparation

Before applying the coating system, the applicator must ensure that all Nasahi Panels are dry and clean of debris/oil. Surface protrusions must be trimmed back and large imperfections filled with Nasahi Panel Adhesive. Exposed reinforcing bars must be coated with Nasahi Corrosion Protection Touch Up Paint.

RECOMMENDED COATING SYSTEM

Nasahi recommends the following system be used on systems as it has been shown to meet the approved coating specification.

Table 3: Recommended Coating System

External Corner Angles	32mm x 32mm Aluminium, PVC or Stainless Steel corner angles.
Primer Coat (to manufacturer specifications)	Primer/Sealer to enhance adhesion (if required by coating manufacturer)
Base Coat Render	High build acrylic, Portland cement-based render with minimum thickness of 3mm. This base coat must encapsulate the reinforcing mesh.
Reinforcing Mesh	165g/m ² Alkali resistant fibreglass mesh with minimum aperture 10mm square embedded into the base coat render.
Texture Coat	Cement based polymer modified dry powder or wet pre-mixed full acrylic texture coating with minimum thickness 1mm applied with trowel or float over base coat.
Paint System	A minimum of two coats of 100% acrylic-based exterior paint should be applied to a thickness of 150um per coat, and have crack bridging capability of 5 times the total dry film thickness.

Note: Where coatings deviate from the recommended coating system outlined above, the coating must meet the approved coating specification and be warranted by the manufacturer.

WORKING WITH NASAHI PANELS

All quarry products including Nasahi Panels contain crystalline silica

Nasahi Panels do not contain any additives that are known to cause health problems; however, because of the risk of exposure to Silica Dust it is recommended that the correct PPE is worn. The Installer is responsible for informing all employees of these Health and Safety requirements under the Occupational Health and Safety Act.

Prolonged exposure to Silica Dust without the correct PPE can be harmful and potentially cause skin irritation and life threatening health hazards such as bronchitis, silicosis and lung cancer. Silica dust is generated when cutting, drilling or moving the panels. The site should be cleaned of dust regularly and when using power tools these should be fitted with an efficient, well-maintained dust extraction system.

Personal Protective Equipment (PPE)

When working with Nasahi Panels, it is recommended that the following Australian compliant PPE is worn as a minimum:

- P1 or P2 Dust masks
- Protective Glasses / Goggles
- Ear Plugs / Ear Muffs – Class 5
- Gloves, long sleeve shirt and long pants
- Protective footwear

Hazardous Materials

For MSDS of all components sold by Nasahi, please visit our website.

CUTTING PANELS

Nasahi Panels can easily be cut to the required length, using power or hand tools. Nasahi Panels are delivered to site flat packed. The flat packs can be used as a cutting bench for other panels as required. Any reinforcement exposed during cutting must be coated with Nasahi Corrosion Protection Touch Up Paint.



BASIC TOOLS REQUIRED TO INSTALL NASAHI® PANELS

- Saw (with Diamond Blade)
- Drill (for screwing fasteners)
- Vacuum
- Mixing Buckets
- Hawk and Steel Trowel
- Rasp (Sanding Float)

DELIVERY

Nasahi Panels are delivered to site in flat packs of up to 20.

Each pack has a wet mass of approximately 900kg, including packaging.

Panel packs must only be stacked one pack high and must be properly supported on level ground.

If packs are to be placed on any type of structure, always consult the project engineer to verify the structural adequacy of the structure.

Nasahi Panels should be stored on a level surface and never more than one pack high.

MANUAL HANDLING

To reduce the likelihood of damage, handling of Nasahi Panels around site should be kept to a minimum.

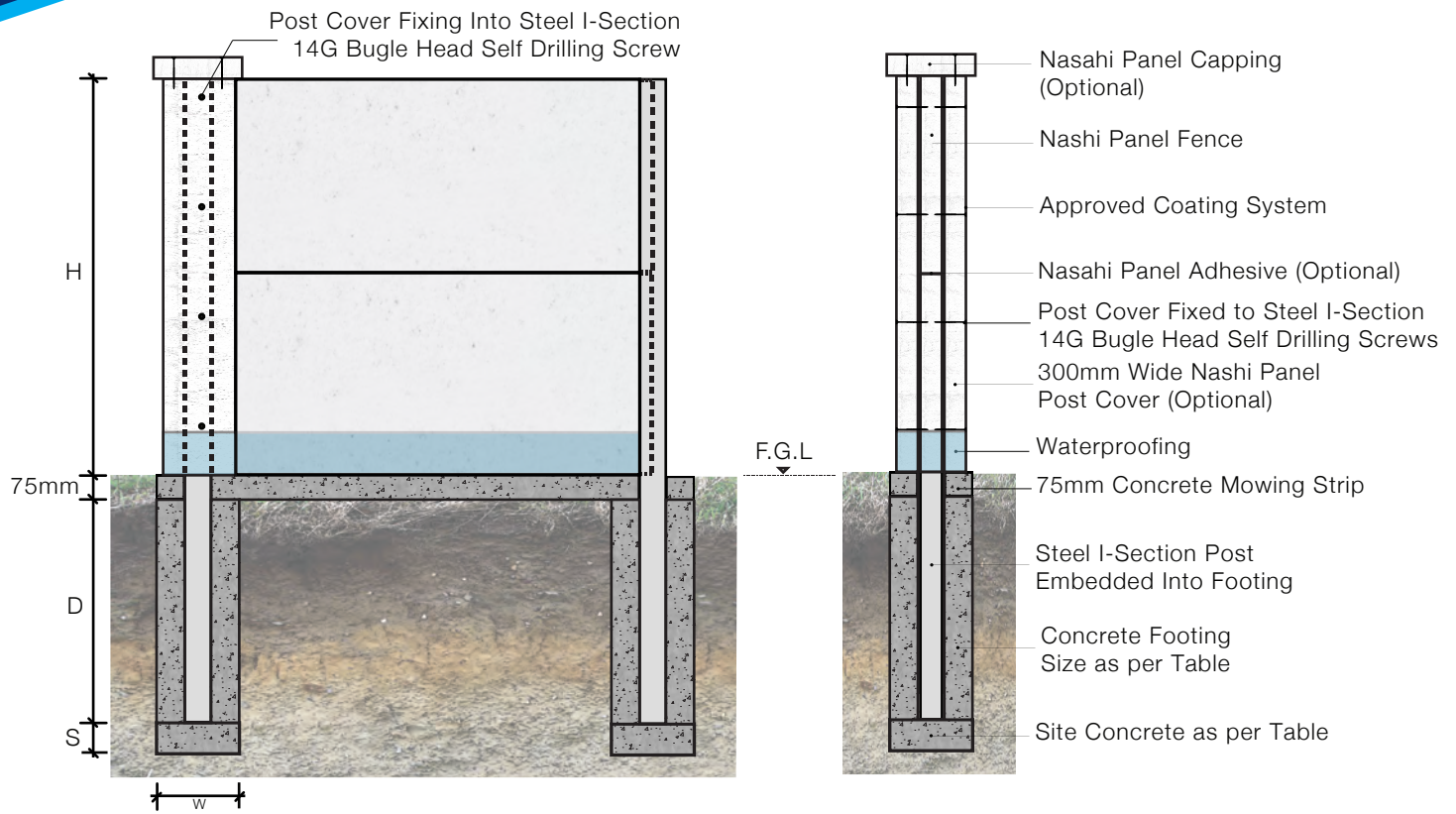
When lifting a panel, turn onto its long edge and support the weight by lifting with two people as shown below.

Packs should be unloaded as close as possible to the installation area; however, where this is not possible Nasahi recommends the use of trolleys and/or other mechanical devices.





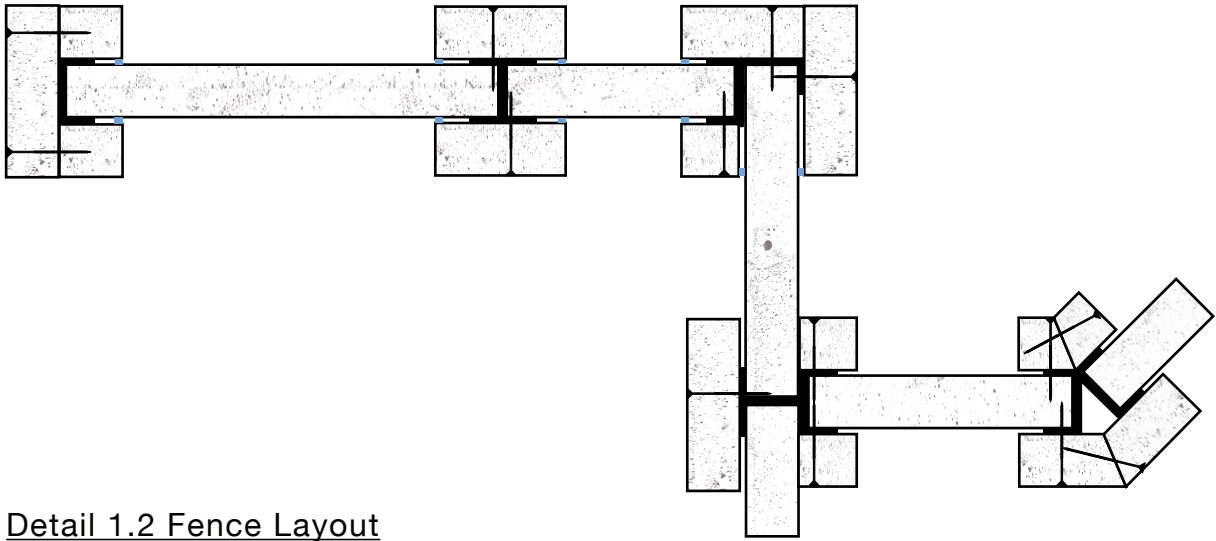
FENCE FOOTING DETAILS



Detail 1.1 Post Footing Detail

Wind Zone (Up to)	'H' Fence Height (Up to)	Minimum Post Size (mm)	'W x D' Footing Size (mm)	'S' Site Size Thickness (mm)
Medium	1200	73x2 'Z'	200 x 800	200
	1800	76x4 'Z'	400 x 800	200
	2400	50x5 'SQ'	400 x 1100	100
High	1200	72x3 'Z'	400 x 700	200
	1800	72x6 'Z'	400 x 1000	200
	2400	50x5 'SQ'	400 x 1100	100
Very High	1200	72x3 'Z'	400 x 800	200
	1800	72x6 'Z'	400 x 1200	200
	2400	50x5 'SQ'	400 x 1100	100





Detail 1.2 Fence Layout

