nøwatech

PVC WOOD PLASTIC COMPOSITE DECKING

RESILIENT. PROVEN. TRUSTED.

INSTALLATION GUIDELINES

15 YEAR GUARANTEE

CONTENTS PAGE

1. PROJECT PLANNING

Before you begin with site preparation and construction, make sure you are aware of all building codes and any applicable restrictions. Consult with a qualified professional whenever required, to validate the products, intended application and this guideline, are in compliance with corrosion resistance classes, weight carrying capacities and applicable building codes and restrictions.

Drawings contained in this document are for illustration purposes only.

2. SITE PREPARATION

Ensure the intended area is clear of debris, weeds, and small stones. Remove 50mm of topsoil to expose bare soil.

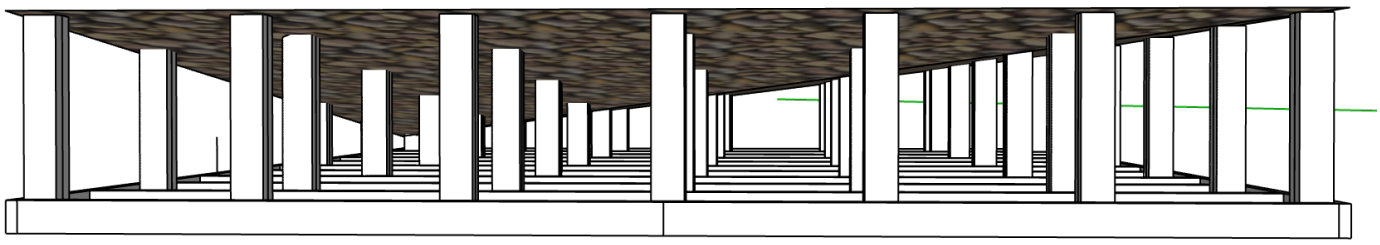
We strongly suggest the use of geotextiles to prevent vegetation growth. Gravel can be added to keep the geotextile in place and serves as a filtration system. Finer particles and water will penetrate, leaving large debris and leaves to dry until finally blown or washed away.

3. DRAINAGE & VENTILATION

Ventilation and water drainage below a deck are extremely important to ensure condensation build up does not encourage the growth of mould, infestation of breeding insects or lead to substructure deterioration.

Ensure the ground below the deck is angled allowing water to sufficiently drain away from the area. Add drainage below the soil if needed, ensuring the area can dry.

A ventilation gap of 50mm from ground level is recommended for efficient ventilation. Airflow will allow air to be pulled into this 50mm ventilation gap escaping through the 5mm gaps between the decking planks.



4. EXPANSION & CONTRACTION

Materials expand or contract when subjected to changes in temperature. Most materials expand when they are heated, and contract when they are cooled. NowaTech PVC Wood Plastic Composite Decking planks and profiles will experience two types of expansion and contraction. The first caused by ***Moisture*** and the second by fluctuations in ***Temperature***.

4.1. MOISTURE

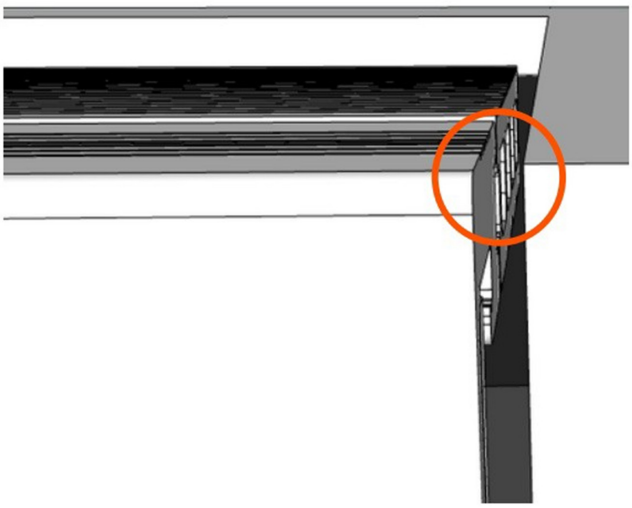
The first type of expansion is caused by moisture absorption from the surrounding atmosphere, once placed on site. During the manufacturing process all the moisture is removed from the wood content of the composite. It is recommended to allow for climatization prior to installation. During climatization the decking planks will reabsorb moisture which leads to a once off one directional expansion.

4.2. TEMPERATURE

Expansion occurs due to fluctuations in temperature. This applies to both day and night as well as seasonal fluctuations in temperature. During the heat of the day the planks will expand, and at night the planks will contract causing recurring bi directional expansion.

4.3. EXPANSION GAPS

Expansion gaps are required to allow for both types of expansion. Allow for expansion gaps between decking planks and all adjoining surfaces. Double check the required expansion gaps based on the overall length of the decking plank, and the locality of the deck.



Expansion rate 0.125%:

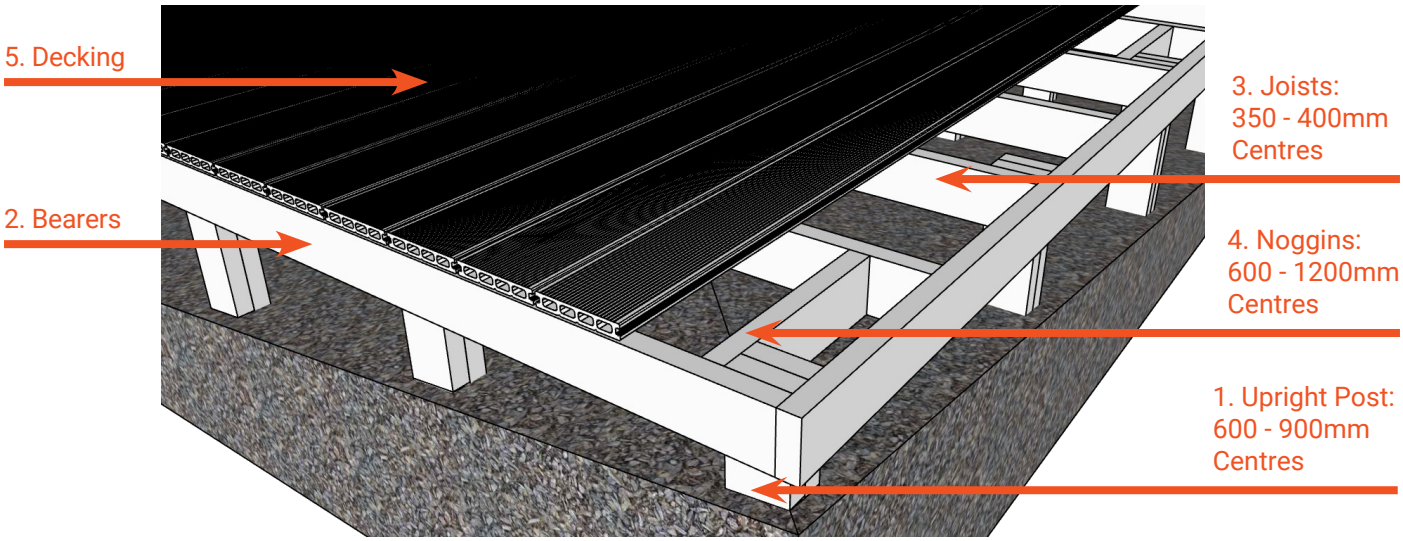
Length: 2000mm	4000mm	5800mm
Exp Gap: 2.5mm	5mm	7.25mm

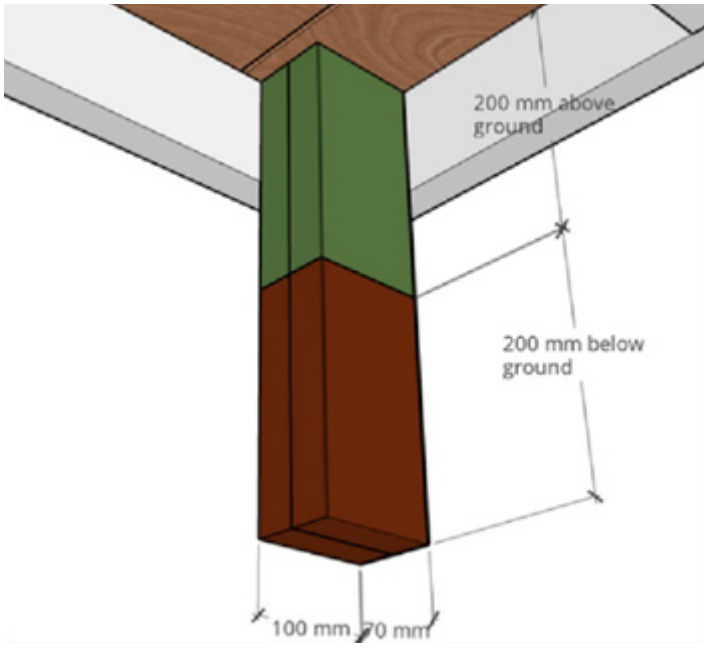
EXPANSION GAPS BY LOCALITY			
	INTERNAL	BUTT JOINS	PERIMETER
COASTAL	5mm	5mm	6mm
INLAND	5mm	5mm	8mm

5. FRAMEWORK COMPONENTS

5.1. UPRIGHT POSTS

Double up on the NowaBatten to create a stronger upright post. Plant posts at intervals between 600mm - 900mm using a standard concrete footing. The depth of the post should be one-third of the length of the overall deck height. Ensure the base of the footing is sound and will not give way over time.





Double up on the joists to create 100 x 70mm upright posts. Cast upright posts into concrete footings.

Total pole length = deck height from ground level + minimum 1/3

Examples:

deck height 200mm = 400mm batten x2 200mm below ground + 200mm above ground

deck height 600mm = 800mm batten x2 200mm below ground + 600mm above ground

deck height 800mm = 1100mm batten x2 300mm below ground + 800mm above ground

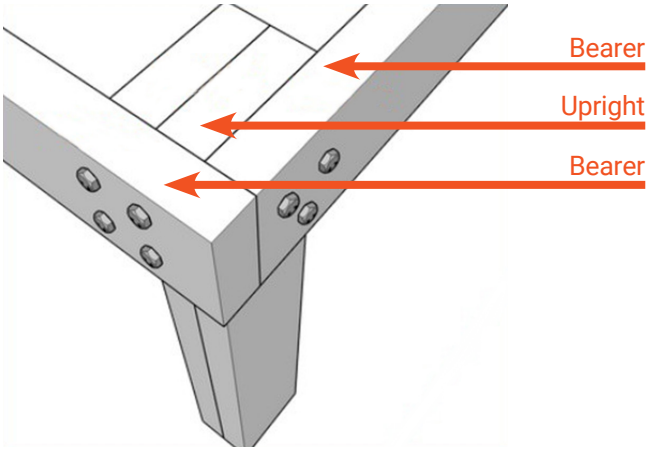
5.2. BEARERS

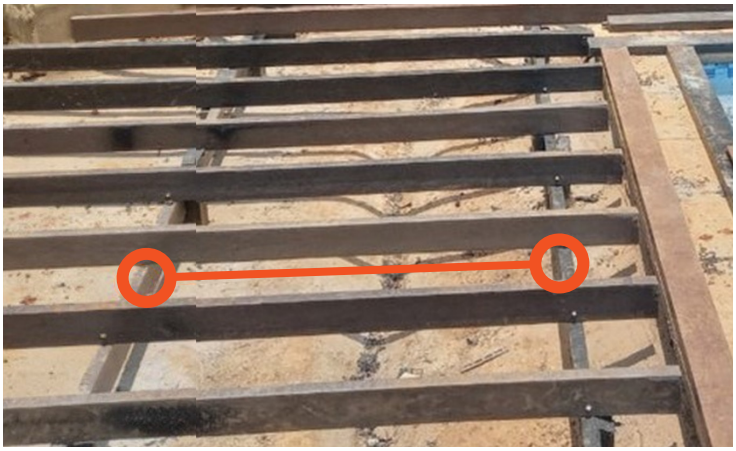
Bearers are attached to the exterior of the upright posts forming a perimeter framework. Upright posts sit flush with the top of the bearers creating a level outer frame.

(below, left)

Bearers can also be used as a supporting layer between the upright posts and joists for additional strength and increased weight carrying capacity. Bearers can be spaced at 600mm - 1200mm centres.

(below, right)



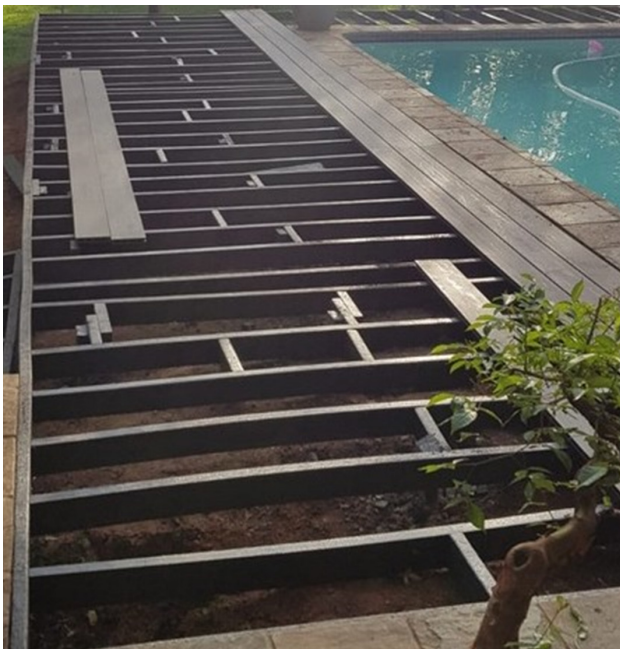


5.3. JOISTS

Joists are placed in between, or on top of the bearers, at 350mm centres for commercial application and 400mm centres for residential application. Due to the nature of composite decking, spacing between joists should be reduced to avoid sagging, warping and damage to your decking planks.

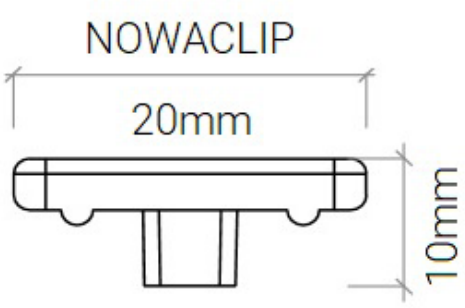
5.4. NOGGINS

Noggins are fixed perpendicularly between joists, securing the joists to one another, and pulling the framework together. Noggins prevent the joists from bending and twisting and can be spaced at 600mm - 1200mm centres or as required.



6. NOWACLIP

NowaTech decking planks are then laid perpendicular to the joists and are fixed to each joists using the proprietary hidden fixation clip, called the NowaClip. Our engineered decking clip fits snugly inside the groove on the sides of the NowaTech decking planks. This specific detailing makes our clip easier to install as the ridges assist in holding the clip in place. Multiple clips can be placed at a time before securing them to the substructure.



6.1 TOP FIXING & PILOT HOLES

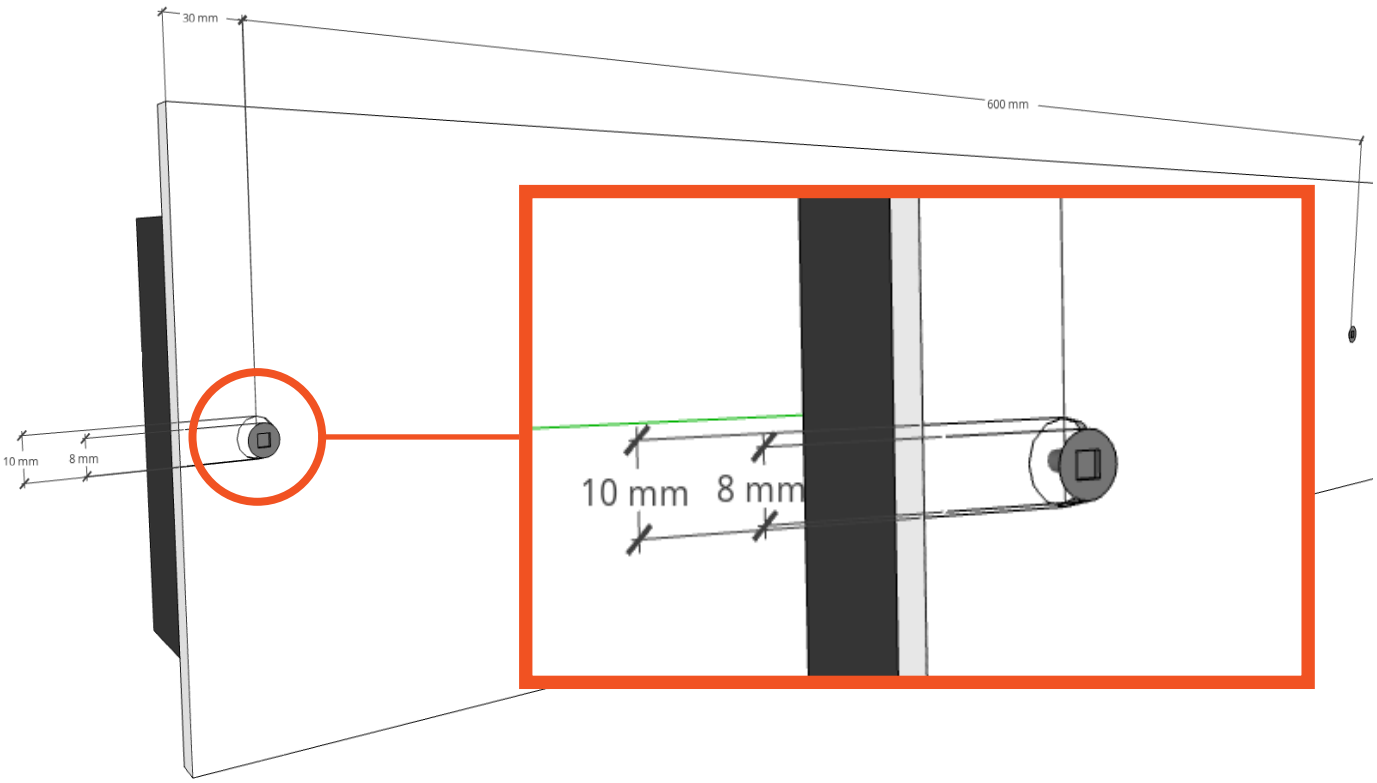
Avoid screwing through NowaTech decking profiles. Tension at fixation points could result in cracking or splitting over time.

Use the NowaClip to install the first and last row of decking planks. NowaClip provides an automatic 5mm spacing between decking planks.

Perimeter expansion gaps of between 5mm to 8mm are required between NowaTech decking profiles and surrounding surfaces. Refer to 4.3. Expansion Gaps (page 4), for expansion gap guidelines per region and product length.

If top fixing is unavoidable, allow for a pilot hole that is at least 2mm larger than the intended screw. The absence of pilot holes could result in the cracking and splitting of the decking planks, corner trims and fascia boards. Boards should be free to move around fixation points during expansion and contraction.

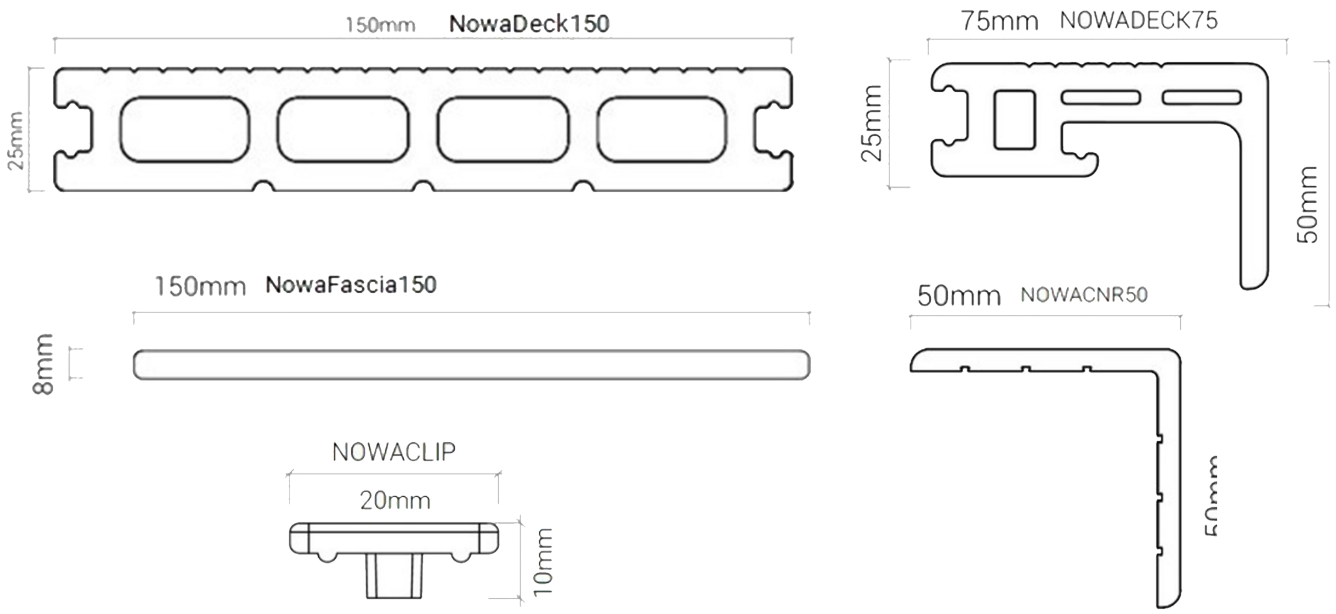
Ensure the correct specification of screw and clip is used based on your deck locality and other factors that influence the required corrosion resistance.



7. NOWATECH DECKING PROFILES

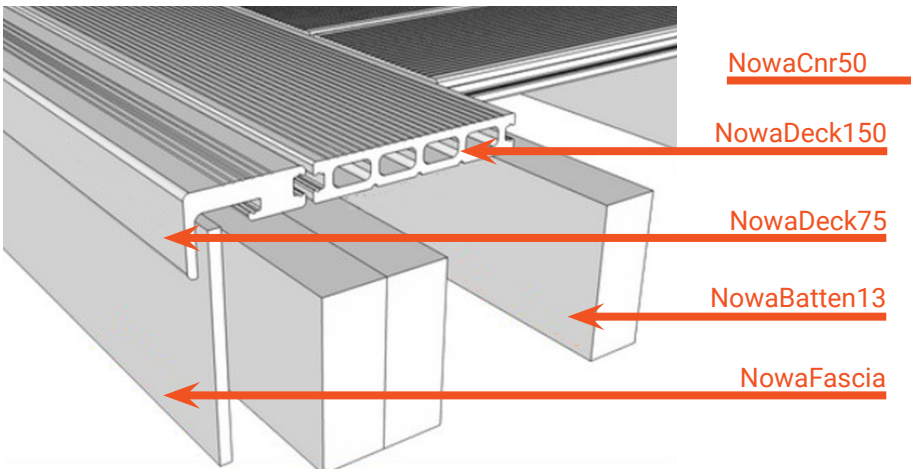
NowaDeck decking planks, corner planks, corner trims and fascia boards, come in 4000mm lengths allowing for easier transport and handling on site.

Custom lengths are available on request with applicable production lead times.



NowaCnr50 is an equal angle trim that is glued to the top of the decking planks using Den Braven High Tack glue and has a 6mm protrusion.

NowaDeck75 corner plank is installed with 2 x NowaClip's per fixation point and sits completely flush with the surrounding decking. This profile is often used for internal pool coping and staircase nosing detail.



8. CHOOSING YOUR SUBSTRUCTURE MATERIAL

The substructure of a deck is just as important as a foundation is to a house. The substructure needs to be able to carry considerable weight and needs to provide a maintenance free solution to match with NowaTech maintenance-free PVC Wood Plastic Composite Decking.

A foundation failure, either due to inferior materials or incorrect installation, can result in the deck collapsing or planks breaking. NowaTech decking planks and profiles carry a 15-year guarantee, and it is therefore recommended that the substructure material, at a minimum, matches the lifespan of our decking planks.

The most common types of substructure materials include CCA treated pine, aluminium, and 100% recycled plastic battens.

CCA TREATED PINE

ALUMINIUM

STEEL

100% RECYCLED PLASTIC

8.1 CCA TREATED PINE

Chromated Copper Arsenate (CCA) is a pressure treatment timber that requires treatment to preserve the timber for a longer life expectancy. There are different classes of CCA treatment suitable for several applications as indicated in the table below. NowaTech strongly recommends the use of CCA class H4 - H6 dependent on the location and application. Over an extended period of time timber will dry out if not maintained or rot if exposed to moisture.

CHROMATED COPPER ARSENATE (CCA) CLASSES			
CLASS	APPLICATION	RECOMMENDATION	USES
H3	Outdoor	Only Above Ground, Not For Continuous Saturation	Outdoor Decking And Beams, Garden Furniture
H4	Outdoor	In-Ground Contact	Agricultural Posts, Landscaping Structures
H5	Outdoor	Submerged In Fresh Water & Wet Soil	Pilings, Retaining Walls, Slipways, Culverts, Groynes, Flood Gates, Jetties, Walkways, Outdoor Decking
H6	Outdoor	Submerged In Sea Water	Pilings, Retaining Walls, Slipways, Culverts, Groynes, Flood Gates, Jetties, Walkways, Outdoor Decking

8.2 ALUMINIUM

Aluminium is light weight making transport and handling easier. Although aluminium does not rust, oxidation does occur when exposed to salt content in the atmosphere. Aluminium does not offer the same stiffness as steel or pine however the equivalent strength is obtainable by increasing the thickness of the aluminium and reducing the spans between supports.

8.3 100% RECYCLED PLASTIC

Plastic battens are ideal for use on self-supporting surfaces allowing you to place them directly onto tiled or concrete slabs. These battens are made from 100% recycled plastic making them ideal for areas close to swimming pools and ponds as they have a high resistance to moisture. These battens also work perfectly as supports for vertical cladding. NowaBatten is maintenance free impervious to insects, resistant to most fuels, acids, oils, and chemicals resulting in a lower fire risk as they do not burn easily. NowaBatten is waterproof and will not rot, crack, or split.

8.4 Steel

Stainless Steel is the most expensive type of steel offering various grades depending on application. Stainless steel is the most corrosion-resistant of all the types of steel, but it can rust under certain conditions, consider the correct material and grade based on the deck locality and climatic conditions.

Galvanized Steel is more expensive than timber but offers a stable and durable alternative to timber. Although pre-galvanized prior to installation, drilling holes and cutting lengths to size expose the steel which could result in corrosion and rust. Extra care should be taken to rustproof any area drilled or cut after the galvanizing process.

9. NOWABATTEN: 100% RECYCLED PLASTIC

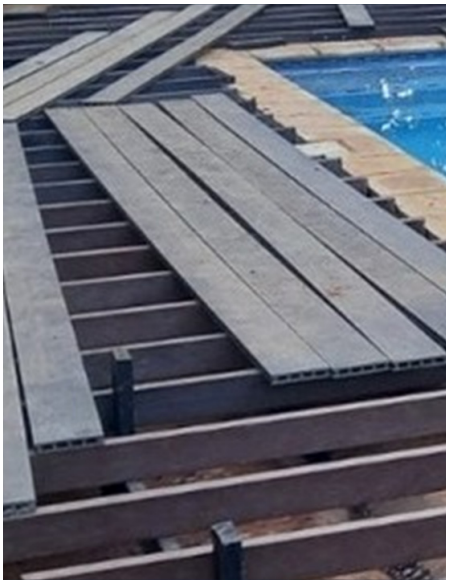
WHAT IS NOWABATTEN?

NowaBatten is the preferred substructure material for NowaTech PVC Wood Plastic Composite Decking, as we strive to provide our clients with a maintenance free substructure that will last as long as our decking. NowaBatten consists of 100% recycled plastics providing a corrosion resistant alternative to timber and steel.

NowaBatten is highly moisture resistant making them ideal for the use close to pools and in areas with high water levels. The profiles are UV resistant and insect resistant. The batten can be left outside indefinitely. Our profiles are also resistant to most chemicals, acids, oils, fuels, and salts and are a lower fire risk as they do not burn easily.

There is no timber in the composition, making the profiles non-weight bearing and ideal for use on self-supporting surfaces such as tiles or a concrete slab. NowaBatten can be used for substructure framework on horizontal and vertical surfaces.

NOWABATTEN PROFILES	
NowaBatten13	100 x 35 x 3500mm
NowaBatten25	70 x 38 x 3600mm



10. DECK DESIGN AND LAYOUT

Before you start with the substructure framework, consider the type of deck design and decking plank layout you prefer. Also consider how you intend to finish the perimeter of the deck and the applicable NowaTech profiles.

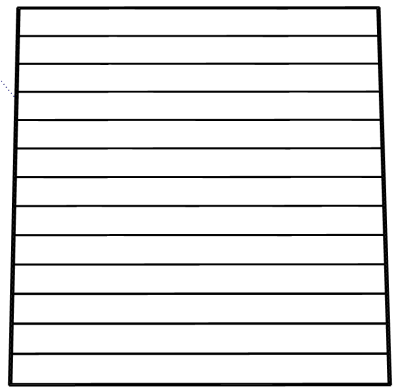
NowaTech decking planks and profiles, are available in standard 4000mm lengths, this might result in joining decking planks to achieve the required length. Consider butt join details. Using breaker boards, which run perpendicularly to the decking planks, assists with expansion and contraction, and provides a design element to the deck layout.

Custom lengths are available on request, applicable production lead times apply.

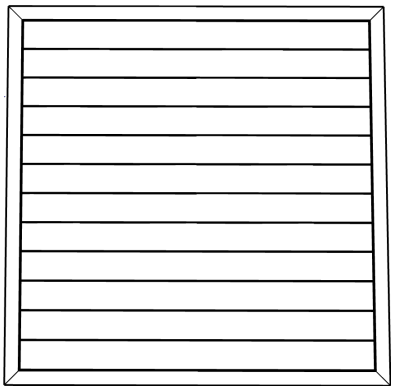
The substructure layout goes hand in hand with the design and configuration of the decking planks. Working from a design perspective, will allow you to accurately plot the deck area, upright post positions and where additional joists would be needed.

FULL LENGTH DECK DESIGNS

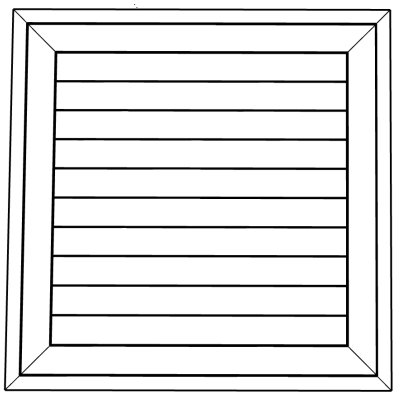
Full Length
With NOWAFASCIA



Full Length With
NOWADECK75 And NOWAFASCIA

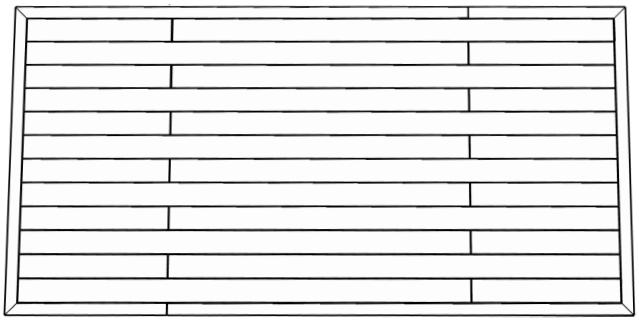


With NOWADECK150,
NOWADECK75 and NOWAFASCIA

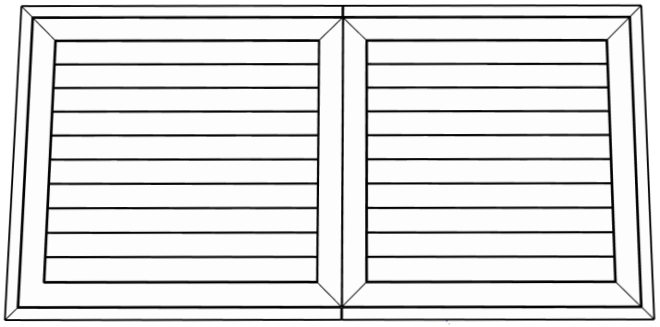


BUTT JOIN DECK DESIGNS

Staggered Butt Joins With NOWADECK75



Breaker Board With NOWADECK75



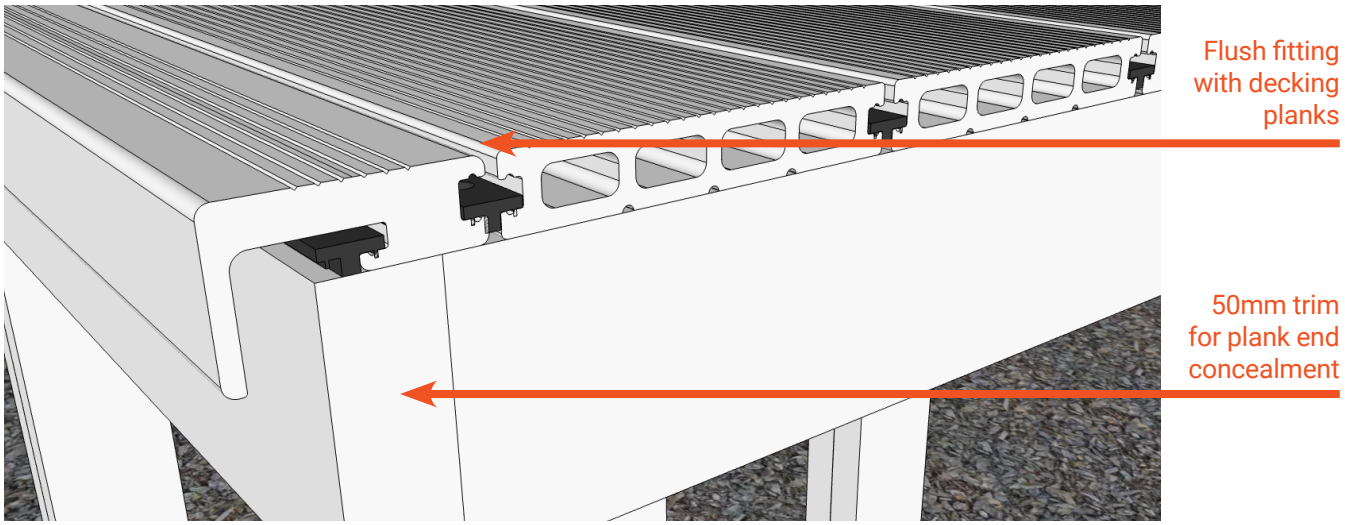
11. NOWADECK75

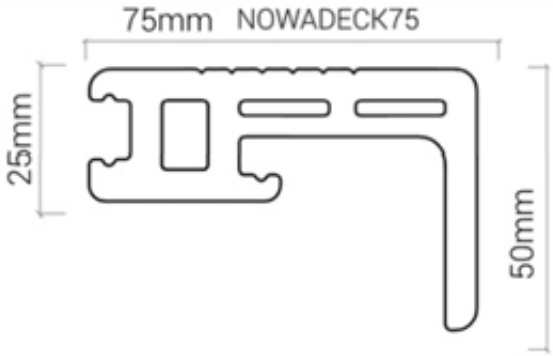
Our NowaDeck75 profile, provides a 75mm decking plank in combination with a 50mm trim, allowing for neat finishing and detailing. This profile requires two clips per fixation point. The external clips join the surrounding decking planks, whilst the internal clip holds the NowaDeck75 profile down and stops lifting. NowaDeck75 is commonly used to finish the perimeter of the deck, swimming pool copings and staircase nosing's.

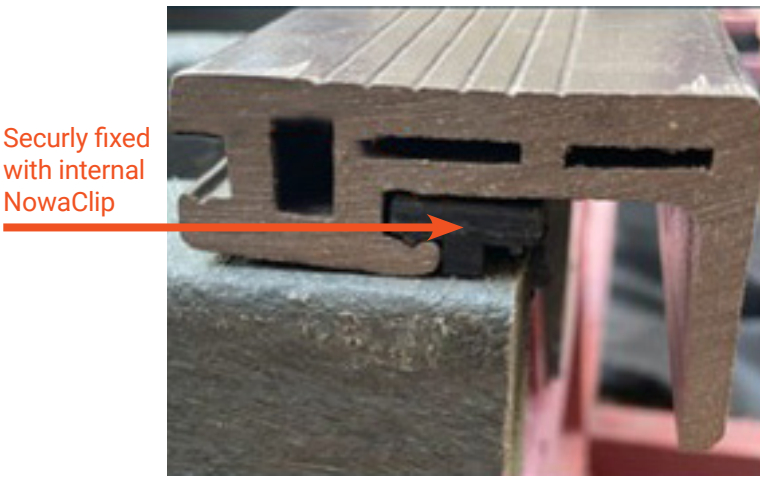
Allow enough space for the installation of the NowaDeck75 profile.

Align the internal clips and fix them to the substructure. Pull the NowaDeck75 profile over the row of clips. Starting at one point knock the plank into the clips using a mallet hammer, securing it to the substructure. Have a look at our NowaDeck75 installation video on YouTube.

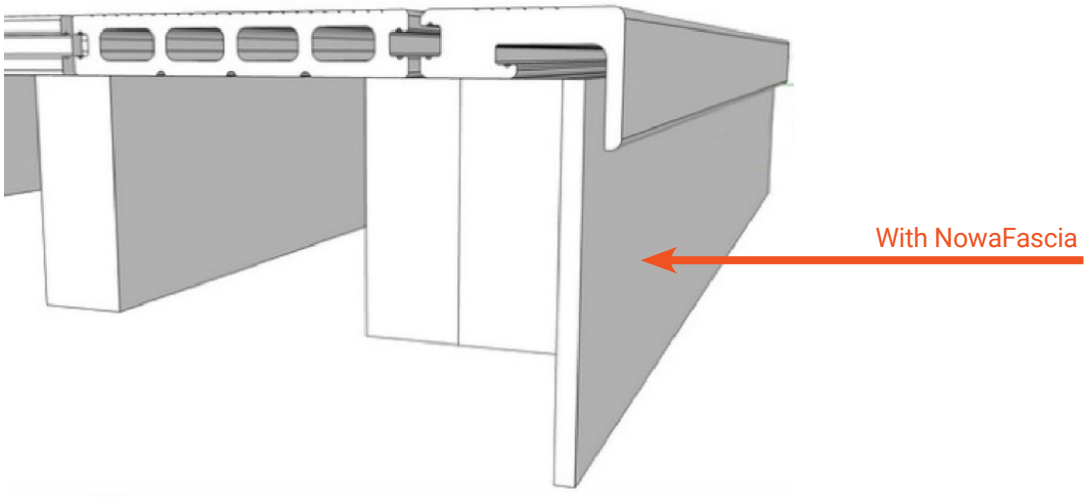
Follow the link: https://youtu.be/177hhlQUMhQ

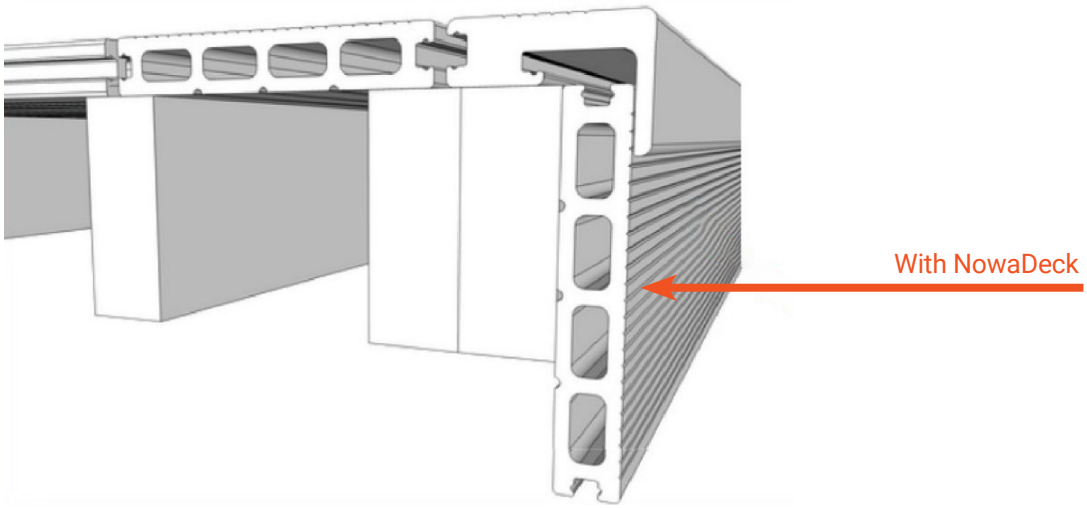


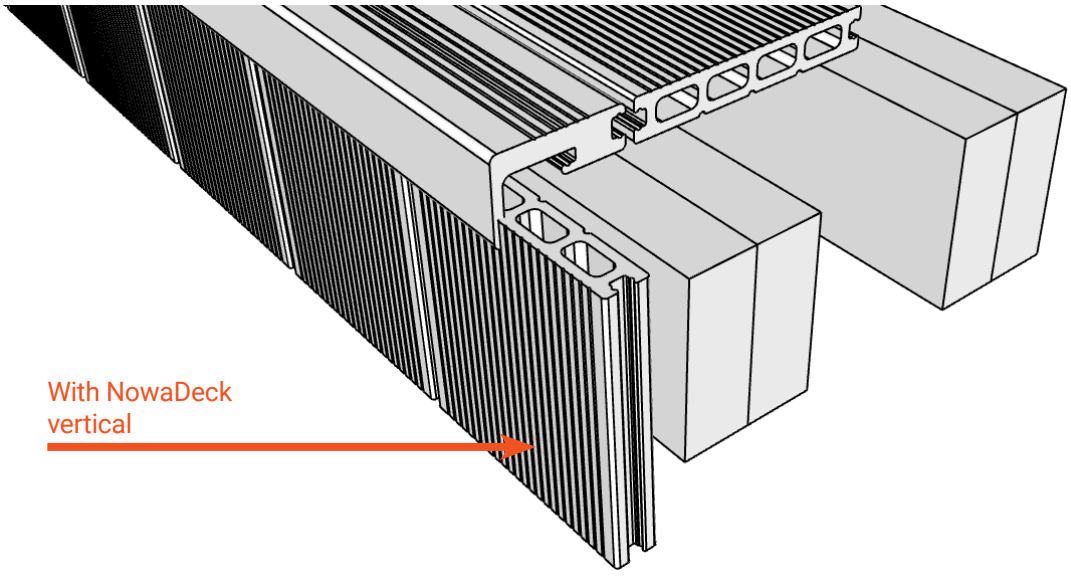




12. PERIMETER FINISHING



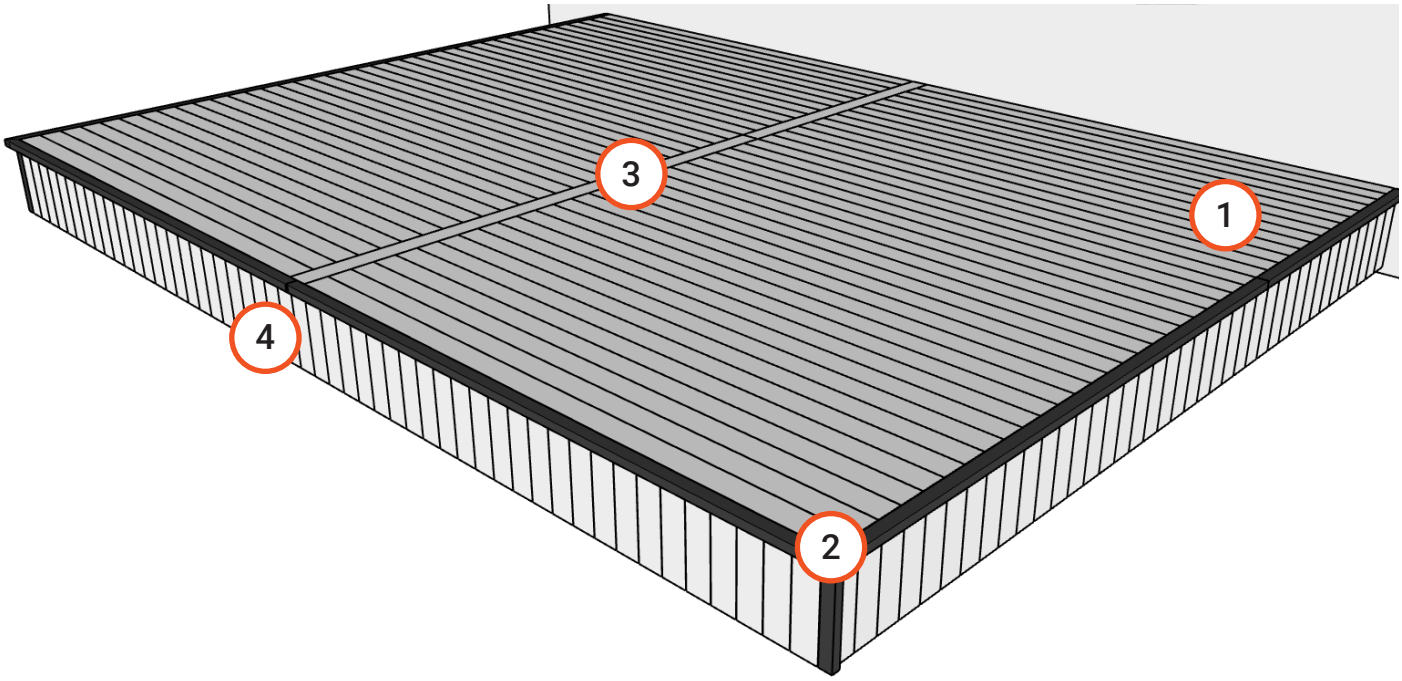




13. NOWADECK MATERIAL CALCULATIONS

For illustration purposes we use a deck area of 48m2 with a perimeter of 20m assuming the deck is installed against a wall on one side. Kindly consider calculations may differ based on unique deck shape, deck size, preferred layout, and installation methodology.

EXAMPLE DECK SIZE: (L) 8000mm x (W) 6000mm x (H) 600mm



1. DECKING PLANKS
Coverage= 6.452m of decking per m2
∴ 6.452m x 48m2 = 309.7 meters
309.7m / 4m = 78 (4m planks)

2. FINISHING TRIMS
Perimeter in linear meters & vertical corners using corner plank or corner trim.
∴ 6+8+6+0.6 +0.6= 27.2meters
21.2m / 4m = 6 (4m corners)

3. BREAKER BOARDS
Add the required number of additional decking planks for breaker board details.
∴ 1 x breaker board 6m
= 2 (4m facias)

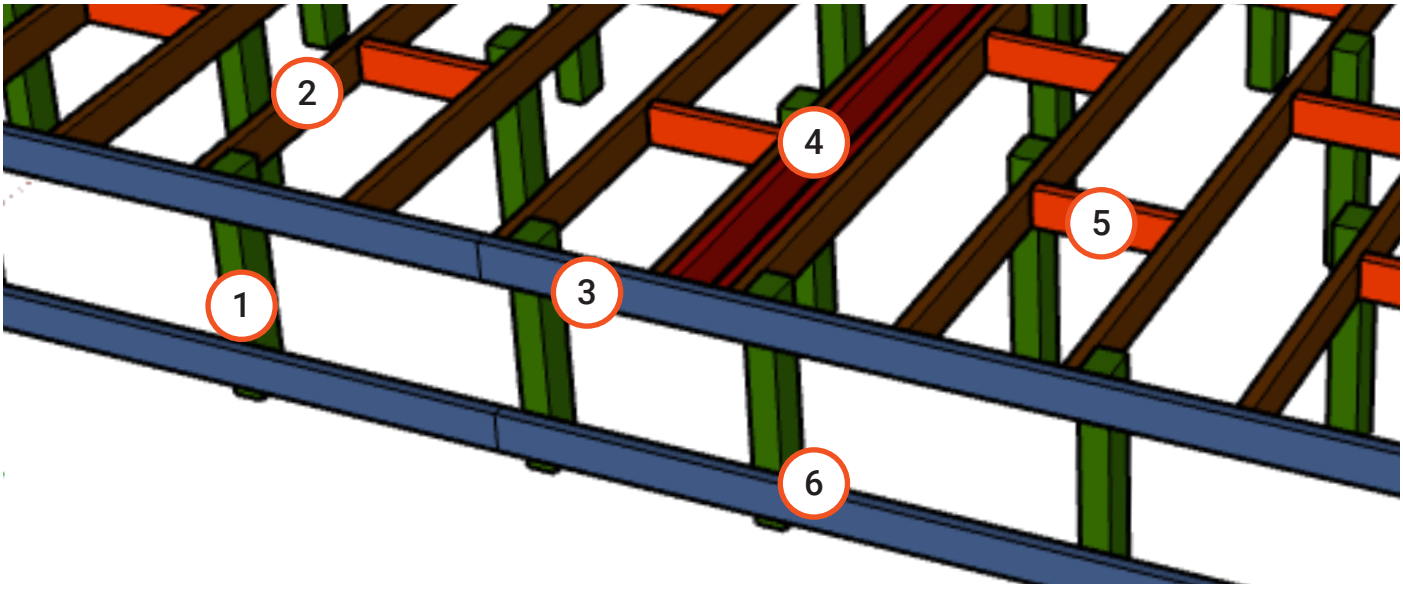
4. CLADDING
Perimeter in linear meters x height of deck
∴ 6 + 8 + 6 = 20 meters x 600mm = 12m²
(12m2 x 6.452m) / 4m = 20 (4m decking planks or fascia boards)

5. DECKING CLIPS & SCREWS
Coverage= 25 x clips/screws per m²
∴ 25 x 48 = 1200 (clips/screws)

14. NOWABATTEN MATERIAL CALCULATION

For illustration purposes, we use a deck area of 48m2 with 12m2 of vertical cladding on three sides of the deck.

EXAMPLE DECK SIZE: (L)8000mm x (W) 6000mm x (H) 600mm



1. UPRIGHT POSTS
600mm above+ 200mm below soil
= 800mm total height, spaced 750mm centres
∴ 12 x 9 = 108 uprights 100x70x800mm
108 x 2 = 216 x 100x35x800mm.
= 54 (NowaBatten13)

2. JOISTS
6000mm lengths spaced at 400mm centres.
∴ 8000mm / 400mm = 21 (6m joists)
126m / 3.5m = 35 (NowaBatten13)

3. BEARERS
Total perimeter in lineal meters
∴ 6m + 8m + 6m + 8m = 28 meters
28m / 3.5m = 8 (NowaBatten13)

4. BREAKER BOARD & CORNER PLANK SUPPORTS
Additional bearers for breaker board and corner plank detail, all profiles must start & end on their own designated support.
∴ 2 x 6000mm = 12 meters
12m / 3.5m = 4 (NowaBatten13)

5. NOGGINS
Offcuts can be used in this instance.
Noggins spaced at 800mm centres.
∴ 9 x 8 = 72 x 400mm = 28.8m.
28.8m / 3.5m = 9 (NowaBatten13)

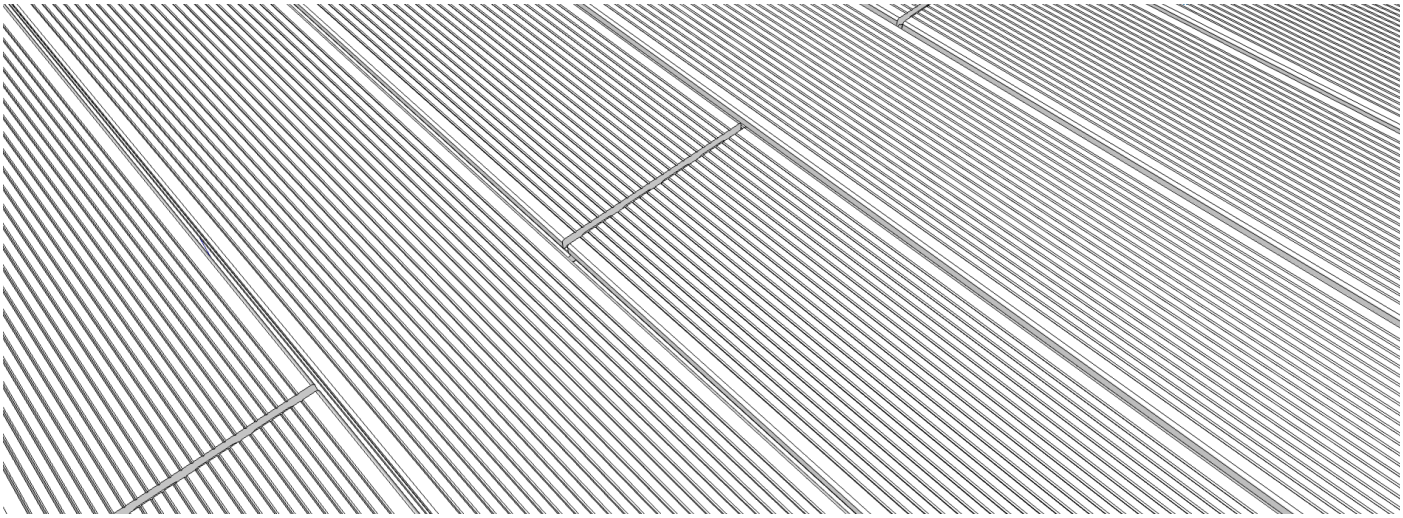
6. CLADDING SUPPORT
Bottom support for vertical cladding.
∴ 6 + 8 + 6 = 20 meters
20m / 3.5m = 6 (NowaBatten13)

15. NOWABATTEN INSTALLATION NOTES

- Nowa Batten consists of 100% recycled plastic and is therefore not weight bearing.
- After installation of the framework, allow for climatization, plastic will expand and contract.
- Once material has settled, check all levels, and add additional supports where needed.

16. NOWABATTEN INSTALLATION NOTES

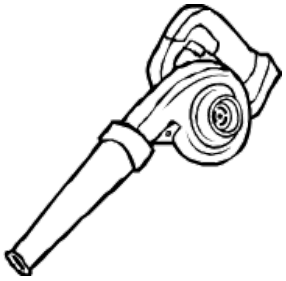
- NowaTech decking planks are attached perpendicularly to joists, using the proprietary NowaClip, which automatically creates a 5mm gap between planks.
- NowaClip is fastened to joists with screws. Consider the type of material used for the substructure and the required corrosion resistance relevant to the location of the deck when specifying the type of screws required.
- NowaTech decking planks should always end on a joist and should never be left suspended. Maximum overhang of 10mm
- Allow expansions gaps between planks and other surrounding surfaces.
- If the decking planks are not long enough to cover the entire length of the deck, it is recommended to stagger joins, which allows for a variation in pattern and distribution of weight over the entire area. Each join should butt on a double joist using two times (x) NowaClips per plank end.
- An alternative to staggered butt joins, is the use of breaker boards. Breaker boards are the same decking plank but installed perpendicularly to the rest of the decking planks.
- Breaker boards are a useful design feature and an effective control measure for expansion and contraction.



17. NOWADECK CLEANING INSTRUCTIONS

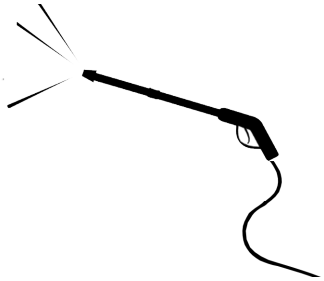
NowaTech decking planks call for a little tender love and care every so often.

Daily: Give the deck a brush, a gentle sweep will suffice.



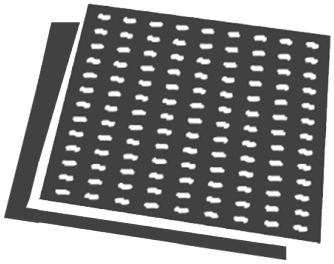
Weekly: Wash the deck down with soapy water. Use gentle, non-abrasive cleaning liquids and ensure to rinse away all residue before allowing her to sun dry.

Monthly: The deck demands a little more attention. Using a leaf blower, remove all leaf debris and dust build up that has fallen through the gaps between the decking planks. Do not allow leaves and other debris to build up below the deck. This builds up can get caught in the decking clips hindering movement during expansion and contraction. High pressure washers are highly recommended for a proper scrub down and to help wash away any build up.



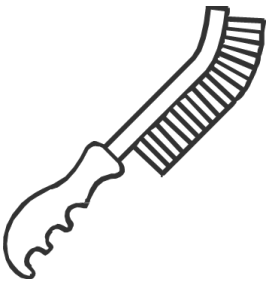
NB: Soften the blow, use equipment at low pressures to avoid damage to the decking planks and profiles, standing too close can cause damage to the surface.

18. NOWADECK CARE & REPAIR GUIDELINES



Accidents happen, it is how you manage it that counts.

Spillage: Wipe up liquids and fatty foods as quickly as possible. For light staining, scrub using a course sponge and liquid soap. Rinse soap residue and allow to dry.



Did not get to it in time? Do not worry, following the above cleaning guides will allow your decking planks to age naturally. Time and care will create a natural patina over the surface area of the deck allowing stains to blend and lighten.

Scratches or Deep Stains: Surface scratches and deeper stains can be removed by using a soft wire brush or P80 grit sandpaper. Follow the grain and direction of the decking plank in smooth continuous strokes.

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