



SUPER SLEEPER

Composite Retaining Wall

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ABOUT SUPERSLEEPER



Stronger and more durable than anything on the market, SuperSleeper is the perfect addition to your next retaining wall or landscaping project. Designed by registered and international certified Chartered Engineers, the composite sleepers are in high demand for their modern and seamless aesthetic to instantly enhance any garden structure.

Composite sleepers withstand long term deflection at a much higher rate than alternative materials, making them more resistant to bows and deterioration over time. The materials of SuperSleeper have a lifespan of over 100 years!

The lightweight material makes for a quick and easy DIY installation, with each sleeper weighing under 6kg, in turn saving you both time and money. SuperSleeper products are not only superior in their composition, but composite is a more sustainable alternative, accounting for up to 75% less Co2 emissions in the manufacturing process than typical materials. A more durable, sustainable and easy solution for any composite retaining wall, SuperSleeper is bettering the construction industry as a whole.

Stronger, faster and easier. Try it today!

AUSTRALIAN STANDARDS

Sleepers should be designed to the Australian Standards in which deflection of the sleeper should be limited to ensure cracking does not compromise aesthetics. SuperSleeper prioritises this imperative aspect of functionality, which unfortunately isn't always the case in competitive materials.

In order to meet these requirements, many corporations face pressures and costs to the production process, and consequently, the standard and longevity of the sleepers are impacted. Failing to meet this criterion simply means over time, natural forces will exacerbate the bow of the sleepers and result in a significantly costly experience for consumers.

SuperSleeper is manufactured and designed in accordance with the below standards.

Legislation

AS3600-2018 (A2-2021)

AS4678-2002

AS1170.0

AS1170.1

AS1170.2

AS1170.4

Description

Concrete Structures

Earth Retaining Structures

General Principles

Permanent, imposed and other actions

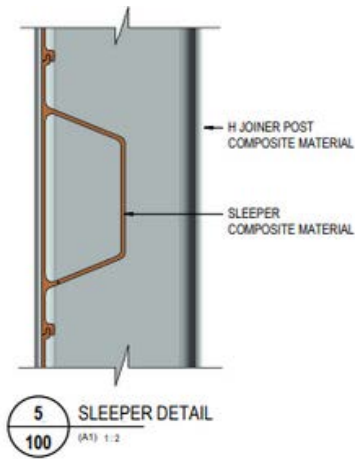
Wind Actions

Earthquake Actions in Australia

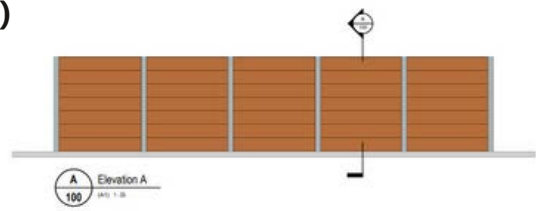


PROFILE DRAWINGS

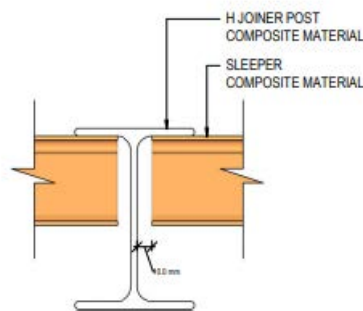
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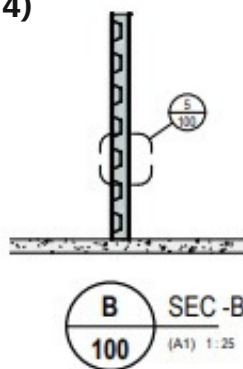
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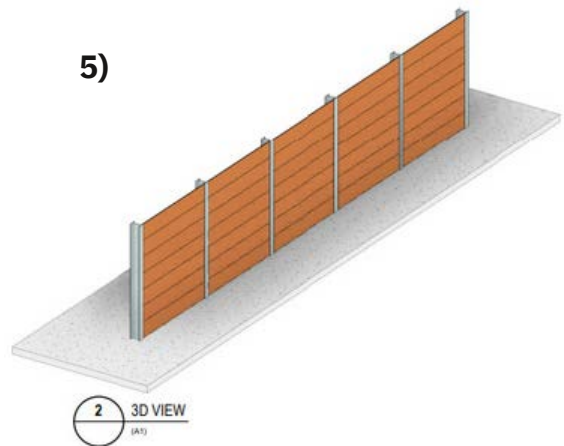
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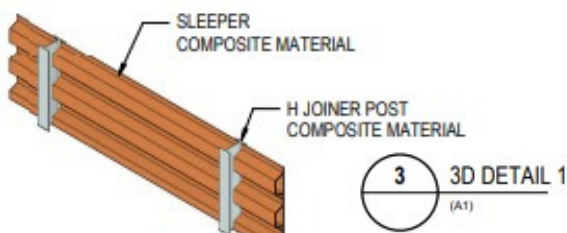
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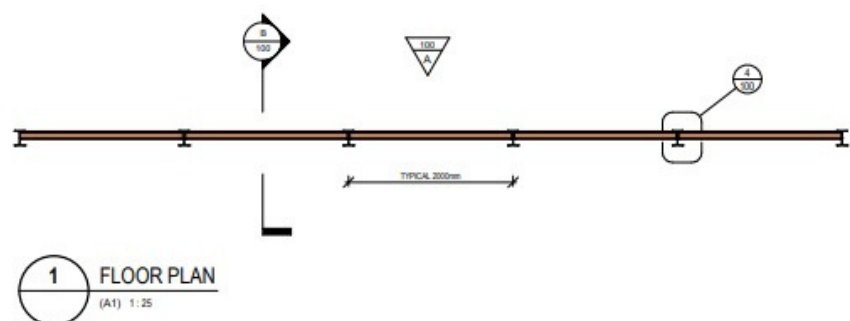
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6)



7)





**Sleek
Composite
Retaining
Wall
Solutions**



SUPER SLEEPER
Composite Retaining Wall

TECHNICAL DATA & MATERIAL COMPOSITION

DEFLECTION

Why is deflection so important?

Compared to alternative materials, composite materials withstand long-term deflection from external forces more successfully. Concrete sleepers are generally 200x75mm wide and include two N12 reinforcement bars that run longitudinally along the member. Over time they are subject to long term deflections, bowing to approximately 25mm to 30mm.

Manufacturing robust concrete sleepers is extremely costly. As a result suppliers, reduce the N12 to N10 bars, consequently causing even worse deflection, and far below the Australian Standards of 40mm to 60mm.

Supersleeper's ethos is founded on manufacturing materials with longevity and strength to go the distance. In order to meet the Australian standard requirements, resource and manufacturing costs can be exacerbated, leading to many suppliers to compromise functionality for aesthetics.



Sleepers should meet the Australian Standards of withstanding bows of 40mm to 60mm



STRESS ANALYSIS

We believe the costs incurred are no valid exception for non-compliance, as it increases probability of deterioration over a short period of time, at the expense of the consumer. Particularly in the unpredictable Australian weather conditions, durability and lifespan are key criteria in choosing an appropriate material for landscaping.

Railway and infrastructural projects. Tested and certified by chartered structural & Geotechnical engineers, the composition of Supersleeper is significantly more resistant to deflection and bows (Figure 1). The stress analysis graph (Figure 2) depicts a strong resistance to bows under stress from forced pressure. Consequentially, Supersleeper will outperform and outlast all other sleeper competition.

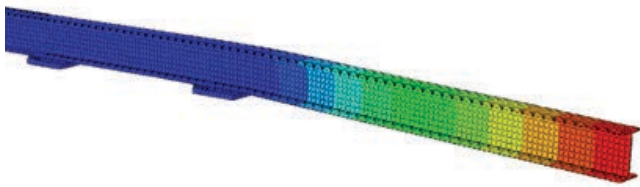


FIGURE 1: SS Composite Sleepers under stress of 21Kn force.

*Insights:
Supersleeper materials
evidence 1/6 of the
deflection under double
the load to its competitors.*

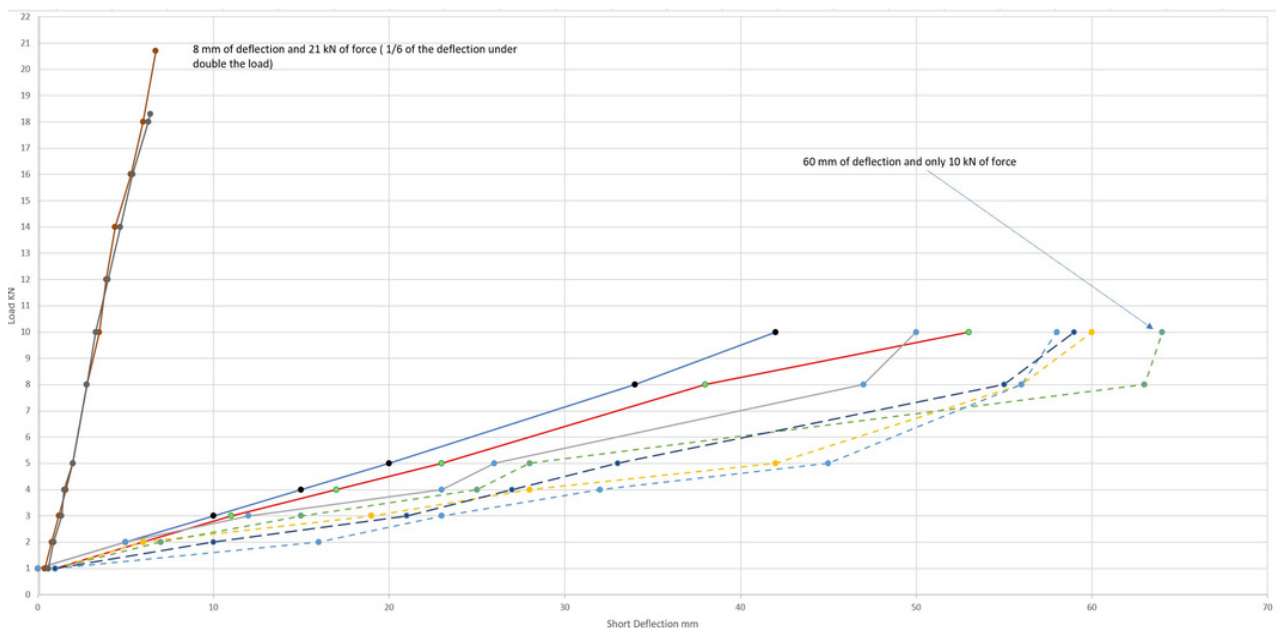


FIGURE 2: This graph depicts SS as demonstrating 8mm of deflection from 21kN of force, in contrast to 60mm of deflection from a 10kN of force from competing materials.

INSTALLATION GUIDE (ONLY) *



MATERIALS REQUIRED

Below is a guided list of the minimum tools required for the installation of a SuperSleeper retaining wall.

1. Personal Protective Equipment:-
(safety glasses, protective gear, work boots, mask)
2. Measuring tape
3. Hole excavation tools (e.g. auger or post hole shovels)
4. Drainage (geofabric, agg line, free draining aggregate)
5. Concrete
6. Lighting (optional)
7. Sleepers + posts

SAFETY PRECAUTIONS

Always ensure you use protective wear prior and during the installation of sleepers. Caution should be taken while operating any machinery. This includes but is not limited to; dust masks & dust compression cutting tool, safety glasses, steel cap boots and ear protection.

HEIGHT ALLOWANCE

Supersleeper is designed to cater for 90% of your typical retaining walls and landscaping heights. Supersleeper can span 2.4 m post to post and 600mm high, reducing the project's cost to the client. Supersleeper then reduces the post-to-post spacing to 2.0 m and will retain heights up to 1.6m.

INSTALLATION

Step 1: Gather your tools and materials

See previously listed tools and materials you'll need to complete this project.

Step 2: Make a plan

Before you start, plan out the location, length and height of your retaining wall. Plan where the foundation/ joiner holes will be and how deep they will need to be, depending on the size of your wall and location of your wall. Ensure you leave space at the back for drainage.



Step 3: Clear your worksite

Clear all topsoil and ensure the proposed landscape is clear and level prior to installation of the retaining wall.

Step 4: Foundation/joiner holes

Mark and dig the holes as planned in step 2. You can use methods including excavation and augers if available. Place posts in the foundations' holes ready for placement of concrete. Ensure the posts are level.

Step 5: Concrete

Place the bottom sleeper onto the correct level. Make and pour concrete into foundation/joiner holes, ensuring concrete covers the entirety of the post, including the bottom of the sleeper. Leave concrete to cure.

Step 6: Sleepers

Slot in the sleepers and ensure you have allocated material to leave space for the drainage.

Step 7: Geofabric

Drainage:- Install the agg line to the correct gradients. Install free drainage aggregate which is to be wrapped in geofabric material.

Step 8: Enjoy

Enjoy your Supersleeper wall and personalise it to make it your own. Our suggestion to bring some light to your life is to install recessed lights into the sleeper and run a cable along the sleeper.





**Weighing
only**

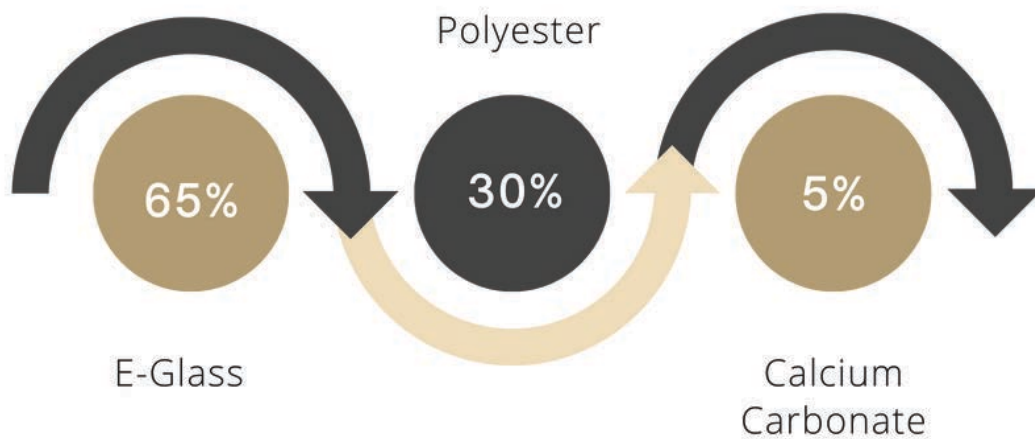
5.4kg ea;

**There is
no need
for heavy
machinery!**

SUPERSLEEPER SUSTAINABILITY

MATERIAL COMPOSITION

Product	%
E-Glass	65%
Polyester	30%
Calcium Carbonate	5%



SUSTAINABILITY & LIFESPAN

Choosing Supersleeper reduces deforestation and uses between 42% to 75% less Co2 emissions than other sleepers. This reduction in Co2 emissions occurs during the production process and the lightweight material incurs a significantly reduced carbon imprint in the transportation industry. Supersleeper is a more environmentally safe option than other alternatives due to a reduction in deforestation from being made of composite materials.

A sleek and seamless addition to enhance any garden structure

Supersleeper does not absorb water and thus will not rot. This allows it to withstand the harsh Australian conditions and resist decaying over time. Composite sleepers will not crack or rust over time. Protected by a UV coat, the Supersleeper is able to provide a longer lasting product, with higher resistance to degradation. As well as this Supersleeper is fire resistant, giving our customers the peace of mind that Supersleeper can perform in the toughest conditions.

LANDSCAPING & MAINTENANCE

Composite sleepers provide an eco-friendly, engineered product suitable for many different garden or landscape designs. Low maintenance and with superior sustainability to timber, the composite retaining wall will not bow, warp or twist.

Supersleeper resists mould, water and sun damage, with the strength and durability required for external applications. Our sleepers are suitable for communal parks and gardens, residential and commercial settings, hospitality and multi-residential facilities such as aged-care. Being both durable and fire resistant, composite sleepers offer an Eco friendly solution to your landscaping and/or garden projects.

Easy tips to retaining the full lifespan of the sleepers and optimising the appearance of your retaining wall structure:

- Use a broom to brush any dirt and residue that has accumulated on the sleepers
- An outdoor hose can assist with washing away any accumulated dirt, dust or mildew from the retaining wall
- Proper installation of the sleepers with correct drainage and piping complied too*

Available at:



NB's *

The step by step process shown in this brochure is to be used as a GUIDE ONLY.

SuperSleeper must be Installed correctly In accordance with the SuperSleeper Installation Drawings 2.0. All warranty's will be voided, If after Inspection, Installation Is deemed not In accordance with the approved processes as depicted In the SuperSleeper Installation Drawings 2.0

