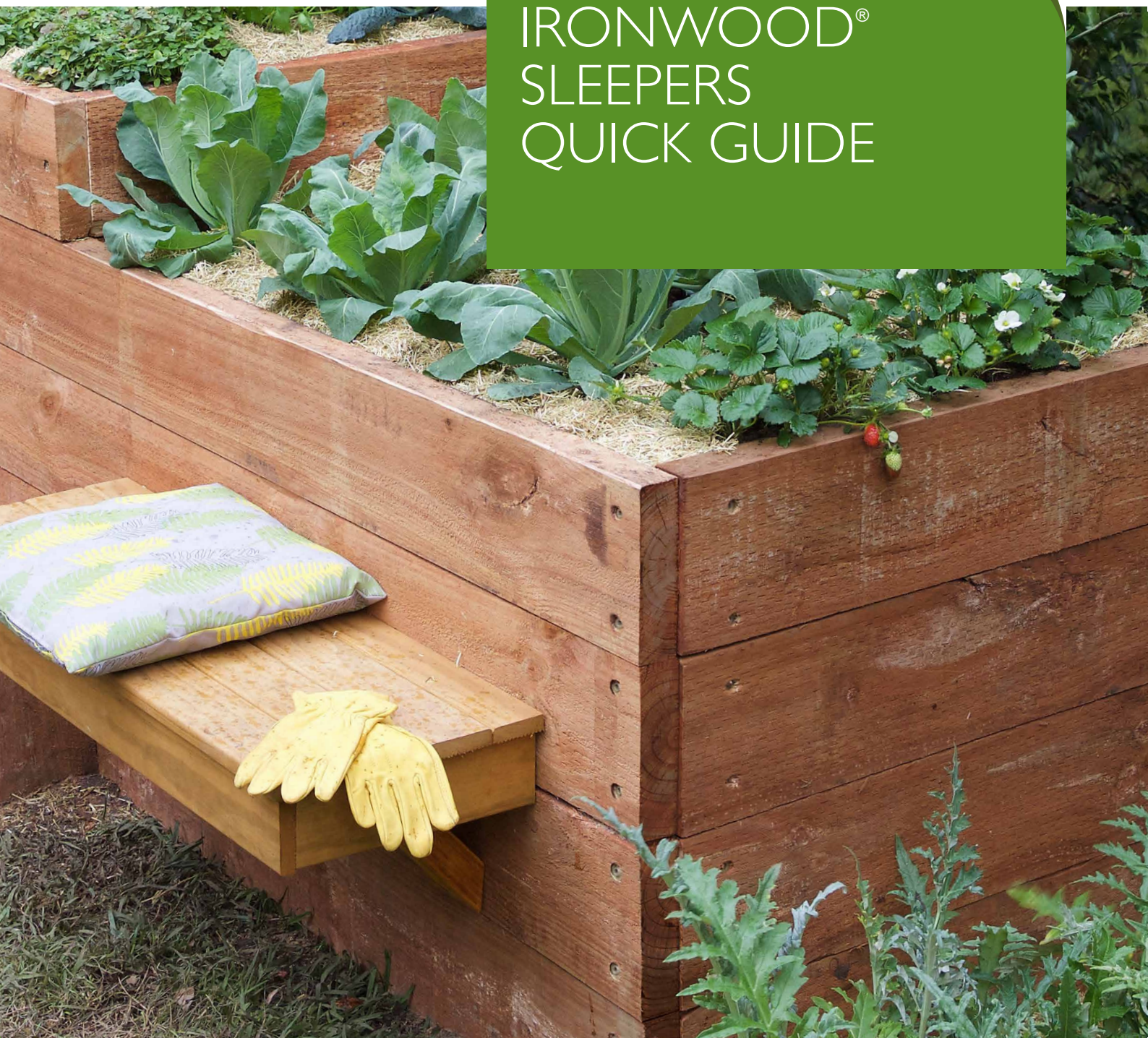
A green rectangular box with a white, stylized leaf graphic on the right side. Inside the box, the text "IRONWOOD® SLEEPERS QUICK GUIDE" is written in white, uppercase, sans-serif font.



THE NATURAL CHOICE FOR TIMBER SLEEPERS

Ironwood® Sleepers are ideal for building modern, yet cost effective landscaping projects that will last for many years to come.

Features & Benefits

- Ideal for garden beds and retaining walls below 1.0 m
- Kiln-dried prior to treatment for enhanced treatment absorption
- Low maintenance, no need to paint or stain on installation
- H4 Treated for in-ground use
- Protected against termite and fungal attack
- Sleepers must be supported at both ends and at 1200mm (max) intervals
- Produced in Australia from sustainably-grown Australian Plantation pine



1.0 INTRODUCTION

Ironwood® has been a trusted name in wood products for many years. Today, many good garden designers, landscapers, builders and DIY enthusiasts use Ironwood Sleepers.

They offer you the natural beauty and warmth of real timber and are the ideal building material for modern, cost effective landscaping projects that will last for many years to come.

Ironwood Sleepers are available in a range of treatments expressly designed for the harsh Australian climate.

With their aesthetic warmth and practical versatility, Ironwood Sleepers are the ideal choice for your next landscaping project.

1.1 PRODUCT DESCRIPTION

Stringently tested to comply with the H4 Class, our Sleepers are suitable for above ground or in-ground use. The incised timber technology used on Ironwood Sleepers assists the penetration and retention of preservative chemicals into the timber. This ensures a better treated Sleeper for longer life and protection against fungal decay and termite attack.

Precision-machined to ensure a consistent finish, our Sleepers are naturally beautiful and can either blend into the environment or be painted or stained to stand out.

Ironwood Sleepers are made from a renewable resource produced in Australia from sustainably-grown Australian plantation pine.

Ironwood Sleepers are available in two treatment types – Classic (CCA) and Sienna (MicroPro) and are ideal for residential and commercial non-structural applications.



Ironwood Classic Sleepers (CCA)

Ironwood Sienna Sleepers (MicroPro)

Ironwood Sienna Sleepers utilise a new colour and treatment technology, a unique combination of micronized copper-based preservative and iron oxide pigment which is pressure treated into the wood to give it a rich red brown finish look similar to some hardwoods. This is a non-arsenic based preservative, making Ironwood Sienna Sleepers suitable for sensitive applications such as playgrounds, vegetable gardens and sandpits.

1.2 PRODUCT RANGE

Table 1: Ironwood Classic Sleepers

| Size (mm) | Treatment Type & Hazard Class | Lengths Available (m) | | | | | |
|-----------|-------------------------------|-----------------------|-----|-----|-----|-----|-----|
| | | 1.2 | 1.8 | 2.4 | 2.7 | 3.0 | 3.6 |
| 150 x 50 | H4 CCA | | ■ | ■ | | ■ | |
| 150 x 75 | H4 CCA | | | ■ | | ■ | |
| 150 x 100 | H4 CCA | | | ■ | | ■ | |
| 200 x 50 | H4 CCA | ■ | ■ | ■ | ■ | ■ | ■ |
| 200 x 75 | H4 CCA | ■ | ■ | ■ | ■ | ■ | ■ |
| 200 x 100 | H4 CCA | | ■ | ■ | | ■ | ■ |

Table 2: Ironwood Sienna Sleepers

| Size (mm) | Treatment Type & Hazard Class | Lengths Available (m) | |
|-----------|-------------------------------|-----------------------|-----|
| | | 2.4 | 3.0 |
| 200 x 50 | H4 MicroPro | ■ | ■ |
| 200 x 75 | H4 MicroPro | ■ | ■ |

I.3 TREATMENTS & GUARANTEE

Ironwood Sienna Sleepers are treated with a non-arsenic based preservative, making them suitable for use in both residential and commercial environments including sensitive applications such as playgrounds, vegetable gardens and sandpits. Ironwood Classic Sleepers are CCA treated and are not suited for sensitive applications.

The treatments protect the timber from fungal decay and insect attack, but not from weathering (i.e. exposure to sun and rain).

Ironwood Sleepers are not suitable for submerged applications in fresh or salt water as a higher level of treatment is required, refer to Table 3.

This product comes with a guarantee from Koppers Performance Chemicals. Conditions apply.

See www.kopperspc.com.au for details

Table 3: Hazard Class Guide

| Hazard Class | Exposure | Specific Service Conditions | Biological Hazard | Typical Use |
|--------------|--------------------|----------------------------------------|-----------------------------------|------------------------------------------------------------------------|
| H4 | Outside, In-ground | Subject to severe wetting and leaching | Severe decay, borers and termites | Retaining walls (less than 1m high) and landscaping timber (in-ground) |

I.4 INTENDED USE

Ironwood Sleepers are typically used in external landscape applications such as low retaining walls and garden edging or borders.

The Ironwood Sleeper range is not structurally graded and when used in applications that require local authority building approval or engineer certification, we recommend that users consult an independent engineer or landscape architect.

Local building authorities generally do not require building approval or engineer certification for retaining walls up to a height of one metre, however walls greater than one metre as well as those of any height which are within 1.5 metres of a building or dwelling will, in the majority of cases, require building approval and/or certification from an engineer:

- Sleepers must be supported at both ends and at 1200mm (max) intervals along the length of the board, and for retaining walls, posts should be placed in front of sleepers for increased support.
- Sleepers should only be installed on the narrow edge (i.e. 50mm or 75mm side). They are not recommended for use in horizontal applications where sleepers are positioned on the wide edge (i.e. 200mm side) e.g. capping, stair treads or boardwalks.
- Sleepers should be tightly constrained when used in conjunction with H section galvanised steel posts. It is recommended to chock either treated timber or plastic wedges between the sleepers and the steel channel on the backside of the wall for a more finished look. This should ensure that sleepers are tightly aligned to the front of the steel channel and reduce potential twisting, as well as limiting movement once installation is complete.
- Post holes should have a 100mm layer of coarse gravel at the base to assist with drainage.
- A drainage pipe should be installed at the base of retaining or garden walls and extend to a free draining outlet (not a stormwater drain).
- Geotextile fabric may be used on the inside face of the wall to prevent backfill soil from flowing through spaces in wall and to assist with drainage. The use of plastic sheeting for a retaining wall is not recommended as it can lead to water build up, resulting in wall collapse.
- Ironwood Sienna Sleepers are preferred for use in vegetable gardens due to the non-arsenic treatment. If CCA treated sleepers are used in a garden bed we highly recommend using a plastic film to prevent the soil from coming into contact with the sleepers.
- Adequate drainage is recommended for environments that contain high levels of ground water in order to prolong the service life of the sleepers.





1.5 RESEALING REQUIREMENTS

In any application where Ironwood Sleepers have been cut, notched, rebated or drilled the exposed area should be resealed with an appropriate reseal product, such as Protim® Solignum® CN Timber Oil. This is a copper-based solvent/oil formulation that is green in colour. This will ensure the treatment envelope remains intact and provides the best long-term protection.

If a paint system is to be applied after resealing, allow time for the CN Timber Oil to be absorbed into the timber and then follow paint manufacturers recommendations.

For more information about Protim Solignum Timber Care please refer to the Technical Data Sheet available from Koppers Performance Chemicals. See www.kopperspc.com.au for details.

1.6 IDENTIFICATION

Ironwood Classic Sleepers are coloured green while the Ironwood Sienna are coloured a rich red brown.



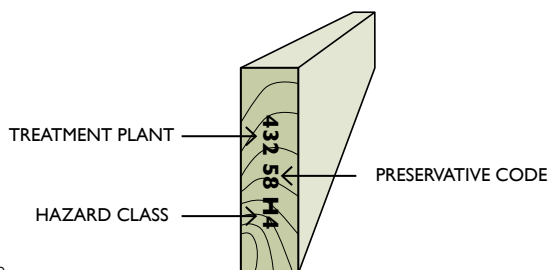
Ironwood Classic Sleepers (CCA)



Ironwood Sienna Sleepers (MicroPro)

All Ironwood products have identification marks by way of an end tag or inkjet stamp along the face or edge of the product. These markings include:

- Registered treatment plant number
- Preservative number
- Hazard class number



This is for illustration purposes only

1.7 FIXINGS & FASTENERS

For normal applications all fasteners and fixings that will be in contact with preservative treated pine should be hot-dip galvanised.

In harsh environments, such as those close to salt water, stainless steel or similar fixings should be used.

1.8 CARE & HANDLING

Please refer to Safety Data Sheet (MSDS) for full details.



Do not use treated pine shavings or sawdust for animal litter



Do not use treated pine to cook food



Do not burn treated pine



Do not allow treated pine to come in contact with drinking water



Always wear dust mask, ear protection and goggles



Always wear gloves when working with timber



Wash work clothes separately



Dispose of waste in an approved landfill



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IMPORTANT NOTICE AND WARNING

While the products in this document possess the characteristics described, no representation is made that the products will be effective in all locations and circumstances. Much depends upon building design, construction practices and the environment in which the products are used. Statements about the attributes and performance characteristics of the products are made on the assumption that the products are properly stored, handled, installed, used and maintained in their relevant application.

You should not rely solely on this document when using the products. Carter Holt Harvey recommends obtaining professional building advice which takes into account your particular circumstances and site conditions. Carter Holt Harvey is not involved in, and does not assume responsibility for, the selection, installation or maintenance of our products in situ.

Failure to install Carter Holt Harvey products in accordance with applicable building regulation requirements and instructions may lead to personal injury, loss or damage, and may adversely affect the performance of the products.

Image courtesy Handyman Magazine