



## Ocloc: Providing a long-life, recyclable alternative to treated timber posts

A case study for using procurement practices to transition to a circular economy.

Ocvitti, a horticultural supply company based in South Australia, is committed to promoting sustainable practices in vineyards. Ocvitti's services include replacing non-recyclable and hazardous vineyard trellis support systems with durable and recyclable steel alternatives through its Ocloc product range.

### The transition

The majority of vineyard posts in Australia have been traditionally made from pine and treated using harmful substances like copper, chrome, and arsenic (CCA), or creosote. These posts aren't recyclable at the end of use and can have environmental and health hazards when handled, stored, or disposed of. They can also leach heavy metals and other substances into soil.

A more sustainable alternative is steel posts. These are long-lasting [30+ years]<sup>2</sup>, non-leaching, and recyclable. Vineyards can transition to steel posts when installing new trellises, or when replacing existing timber posts when damaged or at the end of use.

Ocvitti's Ocloc steel vineyard posts, designed and manufactured in Edwardstown SA, are made

from high-tensile steel coated with Galfan<sup>TM3</sup>, and supplied as 100% carbon offset products. Various lengths and profiles are available to meet individual needs. The range includes a steel-based timber post repair system to extend the life of an existing trellis.

### Benefits and outcomes

The adoption of steel vineyard posts has many benefits. Compared to treated timber posts, steel posts:

- are lighter and less prone to breakage (lifetime CCA timber post breakage can be up to 12%<sup>4</sup>)
- are cost-competitive when considering whole-of-life costs, including stockpiling and disposal<sup>5</sup>
- have a similar lifespan embodied energy<sup>6</sup>, but are recyclable at the end use, reducing disposal costs<sup>7</sup>
- are non-flammable, reducing stockpile fire and vine damage risk during bushfires
- don't require stapling or plastic clips, reducing installation and maintenance needs and costs
- are not susceptible to fungal decay or insect damage, and are less likely to harbour diseases.

## Treated timber posts and bushfire risk

During the 2020 bushfires in SA, thousands of CCA timber posts were burned across more than 400 properties. Many of these were in legacy stockpiles [see image below]. The heavy metals in CCA timber ash present risks to groundwater and surface water quality, human and animal health, and soil quality. The buildup of these heavy metals might render the land unsuitable for agriculture. The resulting CCA timber ash required careful and expensive clean-up by the state and federal governments and landholders.



## Comparison to other alternatives

Other alternatives to treated timber posts, include:

- concrete posts – these non-flammable, long-lasting posts don't rot, splinter, or succumb to pests. However, installation can be more costly due to their weight
- plastic or plastic-coated timber posts – these posts can be made from, or coated with, 100% post-consumer recycled plastic. They don't rot, splinter, or succumb to pests. However, they are flammable, and plastic-coated timber posts can be vulnerable to issues if the coating is compromised.

Both can cost more than treated timber and steel posts<sup>5</sup>.

## Working with vineyards

Since 2017, Ovcitti has worked with GH Sharpe Vineyards in the McLaren Vale Region to create 28 hectares of new vineyards using more than 15,500 Ocloc steel posts. The steel posts were selected due to their:

- compatibility with, and performance during, barrel pruning and machine harvest
- ability to place lift wires in multiple locations.

GH Sharpe Vineyards found that:

***“The ease of installation and no requirement for staples and foliage clips saved substantial development time”.***

Use of the Ocloc V post-repair system [image below] has also extended the life of roughly 4,500 broken posts, which has:

- kept the existing posts in use for longer, in line with circular economy principles
- saved a significant amount of time and resources compared to replacing the posts.

Overall, for GH Sharpe Vineyards:

***“The use of steel goes a long way to reduce the inevitable waste impact broken CCA posts has on the environment, and steel provides a more sustainable avenue for future vineyard operations”.***



## Next steps for Ocvitti

Ocvitti plans to continue to advocate for and supply sustainable trellis support systems for vineyards. The company has also invested in providing durable and recyclable steel alternatives for many other horticultural products, such as stock fencing, tree stakes, vegetable growing trellises, and netting supports.

## Conclusion

Although steel vineyard posts can have a higher upfront cost compared to treated timber posts, depending on individual circumstances this difference is typically no more than a 10% when factoring in the added costs for clips and staples, and so of. The long lifespan, reduced disposal costs [through recycling] and lower installation

maintenance needs with steel posts can result in long-term savings<sup>5</sup>. Steel posts offer a more sustainable choice for vineyard development, post replacement, or extending the lifespan of existing trellises.

## About this case study

This case study was prepared by Rawtec for Green Industries SA. It is part of a series of case studies aimed at empowering businesses and organisations to make changes to their procurement practices to transition to a circular economy.

## Acknowledgements

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<sup>1</sup> Environment Protection Authority South Australia 2016, 'Copper chromated arsenate [CCA] timber waste—storage and management', [link](#).

<sup>2</sup> Zhao Y et al. 2023, 'Corrosion Fatigue Degradation Characteristics of Galvanized and Galfan High-Strength Steel Wire'. Materials 2023, 16, 708, [link](#).

<sup>3</sup> GaltanTM is hot-dip coating containing a 5% Zinc and 95% aluminium alloy, combined with a rare earth mischmetal, [link](#).

<sup>4</sup> Environment Protection Authority South Australia 2008, 'Report on CCA Treated Timber in South Australia', [link](#).

<sup>5</sup> AgriFutures Australia 2022, 'Options for improved waste management in agriculture, fisheries and forestry: Current practices and opportunities for improved pre-farm gate waste management', ISBN: 9781760533472, [link](#).

<sup>6</sup> Renew 2017, Sanctuary Magazine: 'Pushing the boundaries: fence materials and design', [link](#).

<sup>7</sup> Green Industries SA 2023, CCA post disposal can costs as much as post purchase, when handling, transport, labour, and landfilling costs are factored in, [link](#).