

Biochar from Nutshell and Wood Waste

Price 100 € / CORC



ITEM

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DEALER

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DESCRIPTION

Our location in South East Queensland, Australia is surrounded by an abundant supply of the following organic feedstocks from which high-quality biochar is produced using Pyrocal's CCT systems. These feedstocks would otherwise go to a less beneficial use, landfill or be incinerated:

Macadamia, pecan and walnut nutshells that are a by-product of the nut processing industry. Used, heat treated, pine wood pallets.

For each metric ton of pecan shell, macadamia shell, walnut shell and pine pallet processed, the CCT system produces 270, 250, 260 and 250 kg of biochar, with carbon contents of 83, 85, 81 and 88 percent, respectively.

The feedstock is reduced in volume by approximately 75 percent when transformed into biochar, with the sequestered carbon locked away for 100's of years. We sell the biochar as a soil amendment and stock feed additive which means 100 percent of the nutshells and used pine wood is diverted from waste disposal.

Biochar from Pyrocal's Continuous Carbonisation Technology (CCT) system complies with stringent government emissions regulations and meets the International Biochar Initiative (IBI) standards.

Pyrocal CCT Systems

We design and manufacture Pyrocal CCT systems for business and government customers worldwide. Pyrocal systems can also be configured to transform more challenging residual waste streams such as Municipal Solid Waste, car tyres and industrial by-products into carbon-stabilised char.

Pyrocal is Australian owned and has been implementing CCT systems here in Australia and internationally since 2014.

CARBON REMOVAL INFORMATION

Carbon removal method :	Biochar
Capture of CO2:	Photosynthesis
Stabilization of CO2:	Pyrolysis
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Permanence:	Over 100 years
Status of production:	Audited
Unit of product volume:	tonne
Embodied carbon in product:	2,979
Year of first issuance:	2022

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Minimum amount to negotiate:

50

Examples of usage:

Soil Amendment

Pyrocal's biochar is a valuable soil amendment for cropping, home gardening and amenity horticulture. Two key benefits are as follows:

There is a significant increase in water holding capacity when biochar is added to soil and other growing media. This means reduced watering and improved tolerance to drought conditions.

Biochar provides a habitat that encourages beneficial organisms, thereby boosting soil health and diversity.

Pyrocal's biochar is sold as a soil amendment under the brand name "Terix" to:

- Agricultural supply companies
- Landscape and gardening supply companies
- Local councils for use in amenity horticulture
- Retail garden centres

In addition, a local company that produces granular composted cow manure will soon be including Pyrocal's biochar into a new range of granules. This innovation will enable biochar, incorporated into a hard granule, to be used in broadacre cropping with application via conventional spreading equipment.

Stockfeed Additive

There is growing evidence that incorporating biochar into stockfeed can provide the following benefits:

- Improved animal health including live weight gain
- Decreased methane emissions from animals
- Improved soil health from the animal dung containing biochar

Pyrocal's nutshell biochar is sold to a stockfeed manufacturer.

Co-benefits:

Pyrocal is not simply a biochar producer. We are an advocate for transforming waste that cannot be otherwise reused or recycled. Our vision is to empower social and environmental responsibility, backed by proven technology and practical solutions. We see our biochar production as a demonstration of the successful transformation of a waste into a valuable product with the associated removal of CO₂

Biochar production using a Pyrocal CCT system also creates thermal energy that can offset fossil fuels. This is achieved by recovering the hot flue gas to provide process heat or for conversion to electrical energy. Although this thermal energy is not covered in this CORC, it illustrates a potential co benefit of biochar production using Pyrocal CCT systems.

Biochar as a soil amendment contributes to water conservation. This is especially important during drought conditions where crops may otherwise fail, or water must be purchased to keep urban landscapes alive. Biochar also improves soil health for better crop yields and soil conservation.

Biochar as a stockfeed additive contributes to better animal health and a reduction in the methane emitted by animals.

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Explanation of avoided emissions:

The carbon emissions for processing 1 metric ton of pecan shell, macadamia shell and pine pallet using Pyrocal's CCT system at the Wellcamp facility are 469 kg CO₂ equivalent, 529 kg CO₂ equivalent and 382 kg CO₂ equivalent, respectively.

Economic acceleration impact:

Businesses that purchase Pyrocal CORCs are making a direct investment in atmospheric carbon dioxide removal thereby having an immediate and positive impact on the health and well-being of our planet.

In addition, proceeds from biomass CORC sales are used to fund ongoing research and development (R&D) into Pyrocal CCT systems to treat non-biomass, complex waste residues. Pyrocal is currently conducting R&D into the treatment of the following waste residues:

- Domestic household waste
- Industrial waste
- Hospital waste
- Car tyres

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AUDIT INFORMATION

Audit statement :

https://static.puro.earth/live/uploads/tinymce/Suppliers/Pyrocal/20220218_Pyrocal_Audit_Statement

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