

TonerPlas® Engineered Asphalt Additive

As seen
on



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Manningham City Council — ongoing road maintenance program

Full Program: City of Darebin — Recent



City of Darebin — full road program incorporating TonerPlas

Recent — City of Darebin

Darebin has recently confirmed a full program of road works incorporating TonerPlas — not a single trial street, but a systematic rollout across multiple roads as part of their standard maintenance and renewal program. This is what scaled adoption looks like: measurable recycled content, carbon reduction, and performance benefits delivered across an entire road asset base.

Growing Network: Brimbank City Council

Build Stronger, Greener Roads with Recycled Materials

TonerPlas® is Close the Loop's award-winning asphalt additive made from recovered soft plastics and toner powder. It improves the performance of roads while helping councils and governments deliver measurable sustainability outcomes.

BOOK A CONSULTATION



What is TonerPlas®?

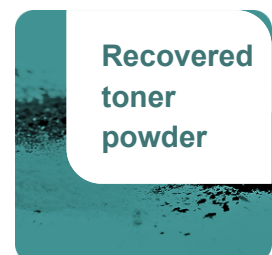
TonerPlas® is a high-performance recycled asphalt additive, developed over more than a decade and now adopted by more than 30 councils across Australia, with numbers continuing to grow. It blends seamlessly into standard asphalt production, enhancing flexibility and durability while giving hard-to-recycle plastics and toner a valuable second life.



What It's Made From

Made from a unique blend of:

- Mixed soft plastic packaging (post-consumer and post-industrial plastic streams)
- Recovered toner powder
- Recycled oil



Every kilometre of two-lane road paved with TonerPlas® diverts the equivalent of:

- 530,000 soft plastic bags
- Waste toner from approx. 12,500 toner cartridges

Since inception, Close the Loop® has recovered more than 100 million printer cartridges, the waste toner from many of which contribute to TonerPlas® production.



Why using TonerPlas® is Better Than Traditional Asphalt

The development of TonerPlas® began with the challenge of finding high-value markets for waste materials from our toner cartridge recycling programs, a core part of our Zero Waste to Landfill brand promise. Today, TonerPlas® is not only made from 100% recycled content, but it is also proven to deliver stronger, longer-lasting roads and measurable sustainability outcomes.

Performance Benefits

Improved deformation resistance (roads hold their shape under heavy loads)

Improved fatigue life, roads last longer, require fewer repairs

Reduced carbon footprint over the life of the asset

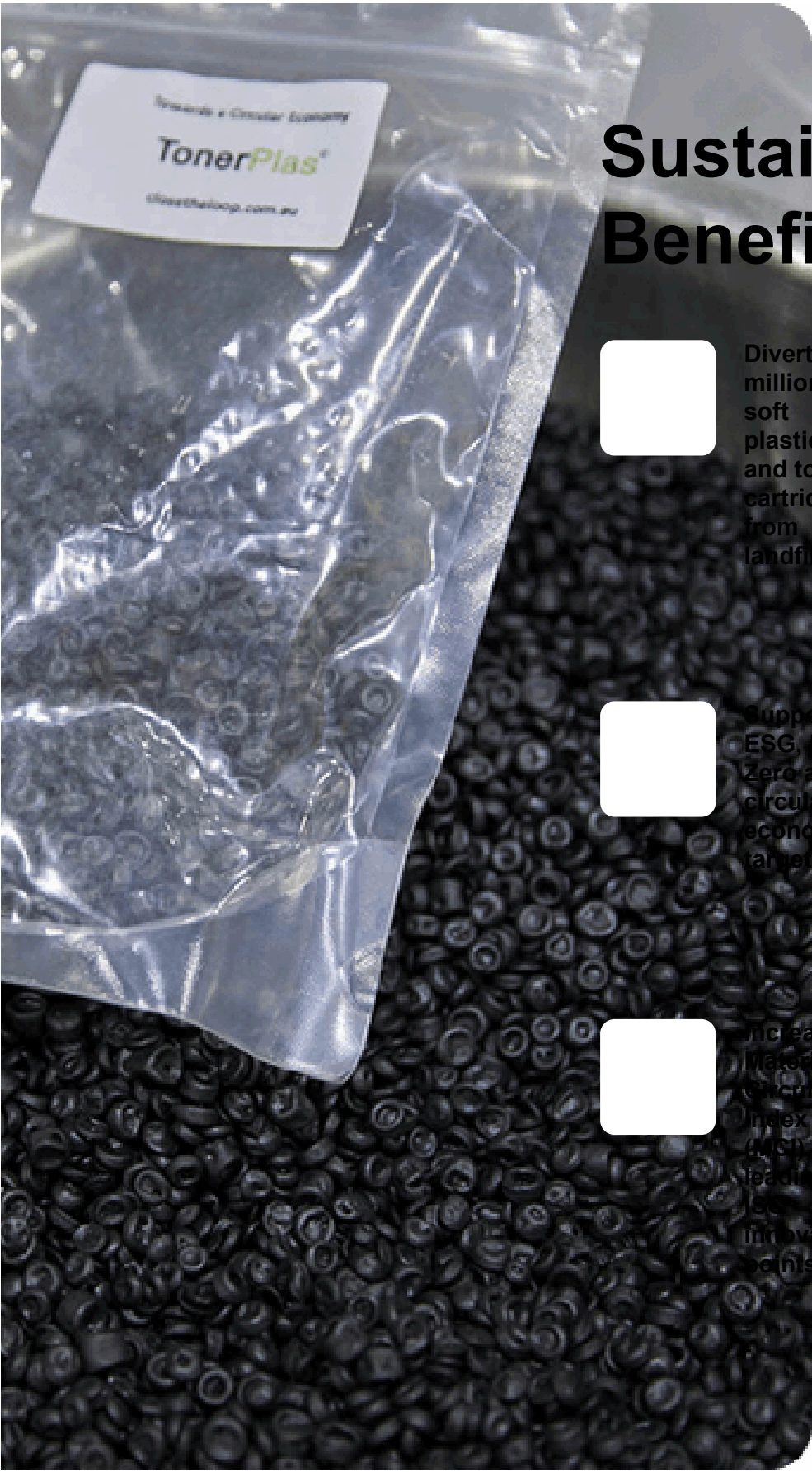
C170 asphalt with TonerPlas® shows:

- 3x increase in modulus (better performance)
- 80% decrease in rut depth
- Significant improvement in elasticity and fatigue

Reduced whole-of-life cost for councils and governments

Superior rut resistance and durability in high-traffic conditions





Sustainability Benefits



Diverts millions of soft plastics and toner cartridges from landfill

Provides an essential end market for complex mixed soft plastic waste



Supports ESG, Net Zero and circular economy targets

100% recycled content by weight, and 100% recyclable at end of life



Increased Materials Circularity Index (MCI) leading to SC Innovation points

Compliance & Safety



- Tested and certified to meet asphalt performance specifications
- First additive approved under Austroads ATM 465 standards
- Manufactured in Australia under Close the Loop's Zero Waste to Landfill certification
- Demonstrated in hundreds of projects, from municipal roads to major freeways
- Reclaimed Asphalt Pavement (RAP) with TonerPlas® is fully recyclable
- No increased risk of microplastics or leachate compared to standard asphalt
- No change to workability of asphalt
- No odours during asphalt production or laying

Practical Use

**Designed
as a dry
mix
additive
for bulk
bag
storage**

**Suitable
for hot and
warm mix
asphalt**

**Easy to
handle,
mixed
directly
into
asphalt
plants**

**Up to 1%
by weight
of total
mix design**



REQUEST TECHNICAL SPECS



Proven Applications

TonerPlas® has been successfully deployed across hundreds of projects in Australia, including:



High-traffic municipal roads and council resurfacing initiatives



Carpark surfaces



Council roads



State and regional infrastructure projects



Major freeway upgrades (e.g., Monash and M80 freeways in Victoria)

Project Highlights

M80 Ring Road Upgrade



Carrying more than 165,000 drivers daily, the M80 Ring Road became the first freeway in Australia with recycled content embedded in every pavement layer. Delivered ahead of schedule and under budget, it went on to win the 2023 Australian Construction Achievement Award, setting a benchmark for sustainable infrastructure nationwide.



City of Greater Bendigo - First Regional Circular Contract

Bendigo led the way as the first council in Australia to commit to a circular contract with Close the Loop®. By incorporating TonerPlas® into local road projects, Bendigo has already helped divert waste equivalent to waste toner from over 210,000 toner cartridges and 2.9 million soft plastic bags from landfill. This proves that regional councils can close the loop on their community's waste while building stronger, longer-lasting roads.



Brimbank City Council – Victoria's First Metro Circular Contract (Sept 2025)

Brimbank became the first metropolitan council in Victoria to adopt a circular procurement contract for road construction. Alongside embedding TonerPlas® into local projects, Brimbank introduced public drop-off points for soft plastics at its waste transfer station, with all material processed by Close the Loop®. By buying back what they recycle and enabling community participation, Brimbank is setting a powerful precedent for metro councils across the state.

Your Council Could Be Next

These projects demonstrate the future of local government leadership: councils that not only collect waste, but also commit to buying back recycled content. This principle is critical to making the circular economy work, ensuring that plastics and toner collected in communities are transformed into valuable new infrastructure rather than being wasted.



Why Circular Agreements Matter

Most recycling programs stop at collection. Ours doesn't.

A Circular Agreement is a two-way commitment:

- Councils, government, and industry supply their waste
- In return, they buy back recycled products like TonerPlas® for road construction or rFlex™ resin for durable goods

This model ensures that:

- Waste collected in your community is returned as valuable, tangible infrastructure in the same community
- Recycling outcomes are real and measurable, not just percentages on a report
- Councils can show ratepayers they're truly closing the loop, not outsourcing the problem



Why It Matters

Circular Agreements create guaranteed demand for recycled content, making the system both commercially sustainable and environmentally credible. Without buy-back, even the best recycling systems fall short.

BOOK A COUNCIL CONSULTATION



Who We Work With

**Road
authorities**

**Civil
contractors
and private
infrastructure
partners**

**Local and
State
Governments**

**Asphalt
manufacturers**



LEARN ABOUT THE TAKE-BACK
PROGRAM



Our Partners

“Increasing the amount of recycled content in asphalt doesn’t reduce performance in fact it improves durability and rut resistance.”

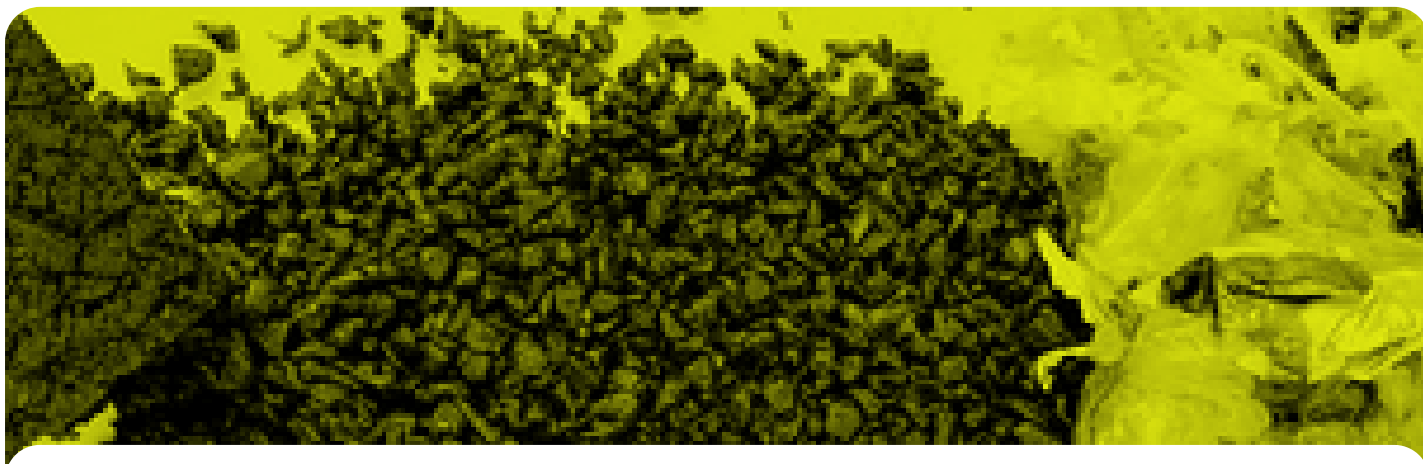
Steve Smith
Technical Officer – Adelaide Hills Council



Certifications & Performance

TonerPlas® is tested and certified to meet asphalt performance specifications.

[VIEW CERTIFICATIONS HERE](#)



Build Better Roads with TonerPlas®

Let's create stronger, more sustainable roads together.

[REQUEST A SAMPLE](#)



[DISCUSS YOUR APPLICATION](#)



FAQ's - TonerPlas®

What is TonerPlas® made from?

A unique blend of recycled toner powder, mixed soft plastic and recycled oil, plus a few secret ingredients to make it work so well.

How long has TonerPlas® been in use?

TonerPlas® builds on more than a decade of R&D. The first TonerPave® road was laid in 2013, with the first TonerPlas® road using mixed soft plastics completed in 2018 in the City of Hume.

Is TonerPlas® certified for road use?

Yes. TonerPlas® meets formal industry standards, including:

- **Austroads ATM 458** – Test methods for recycled plastic in roads. TonerPlas is the very first additive to be approved by DTP under these standards.

What about microplastics or leachate risks?

Independent testing by the NSW EPA found **no increased risk of microplastics or leachate** compared to standard asphalt. TonerPlas® melts into the asphalt binder and fully bonds with the bitumen matrix.

Is asphalt with TonerPlas® recyclable at end-of-life?

Yes. Roads made with TonerPlas® are 100% recyclable as **Reclaimed Asphalt Pavement (RAP)**.

What is the expected lifespan of TonerPlas® roads?

Testing and field data show roads with TonerPlas® last **10–15% longer** than conventional asphalt, reducing maintenance needs and whole-of-life costs.

How is TonerPlas® added to asphalt?

TonerPlas is fed directly into existing asphalt production processes and melts at a lower temperature than asphalt, becoming part of the binder with no need for specialised equipment.

Does TonerPlas® affect asphalt performance?

Yes — positively. Independent testing shows improved fatigue life, rut resistance, and durability compared to conventional asphalt.

Does TonerPlas® replace Polymer Modified Binders (Binder / Bitumen)?

No. TonerPlas® is designed to enhance conventional bitumen (C170, C320). In some cases, it can offset a small portion of PMB in state road applications.

What dosage of TonerPlas® is used?

Typically **0.5–1.0% by weight of asphalt**. At this dosage, every kilometre of road paved diverts the equivalent of **hundreds of thousands of plastic bags and toner from thousands of toner cartridges** from landfill.

Does it change asphalt workability or odour?

No. TonerPlas® does not alter workability at the plant or on-site and produces no additional odour during production or laying.

How is product consistency ensured?

All raw materials are characterised and homogenised from known sources. TonerPlas® undergoes batch quality control checks to ensure consistent performance in asphalt.

Where does the toner powder come from?

Close the Loop is the world's largest printer cartridge recycler. Toner powder is recovered from cartridges

collected through tens of thousands of sites across Australia and repurposed into TonerPlas®.

Who is already using TonerPlas®?



More than **40 councils nationwide**, along with major contractors such as Downer, Alex Fraser, and Asphalttec. TonerPlas® has been proven in municipal roads, commercial access roads, carparks, state infrastructure projects, and freeways including the Monash and M80 freeways in Melbourne.



Explore More Circular Innovations

From roads to packaging and electronics, see how Close the Loop® gives materials a second life.

[EXPLORE ALL CIRCULAR SOLUTIONS](#)



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