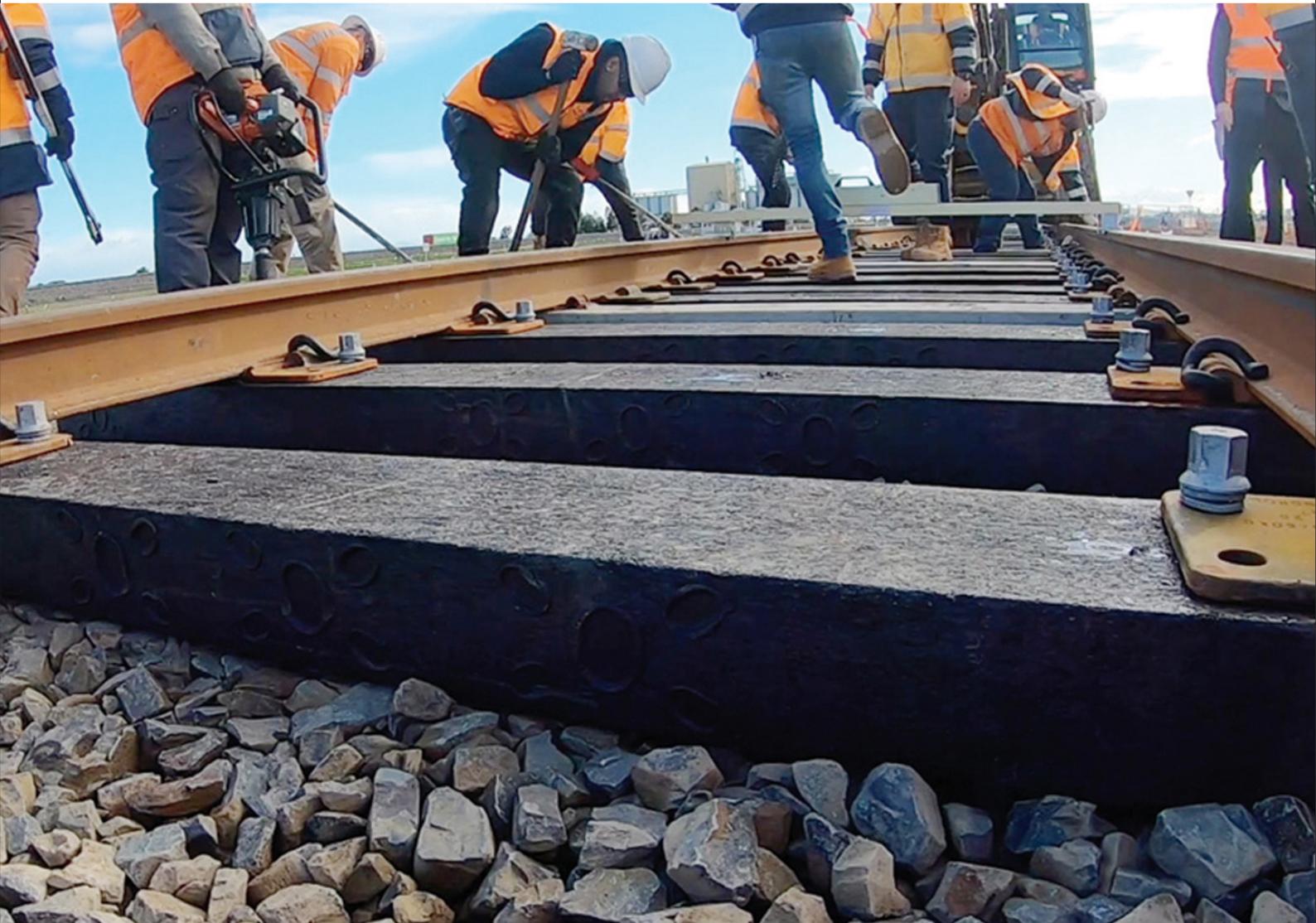




CAPABILITY STATEMENT 2023



Applying Science to Sustainability

Integrated Recycling (IR) transforms redundant Australian agricultural, industrial and consumer plastics into Polytensilate, a tough and extremely durable patented material engineered for infrastructure products where structural integrity is paramount.



POLYTENSILATE IS ONE OF THE SOLUTIONS TO THE AUSTRALIAN WASTE PLASTIC PROBLEM

DURATRACK®
RAILWAY SLEEPERS

Envire
PARKSCAPE

NOISE
BARRIER WALL

BLOX
SAFETY SUPPORTS



Recycled plastic is the next frontier of material science and a burgeoning field for those willing to lead into the future.



Polytensilate®

UPCYCLED WASTE PLASTIC

IR developed Polytensilate through its ambition to engineer products of scale for industrial applications.

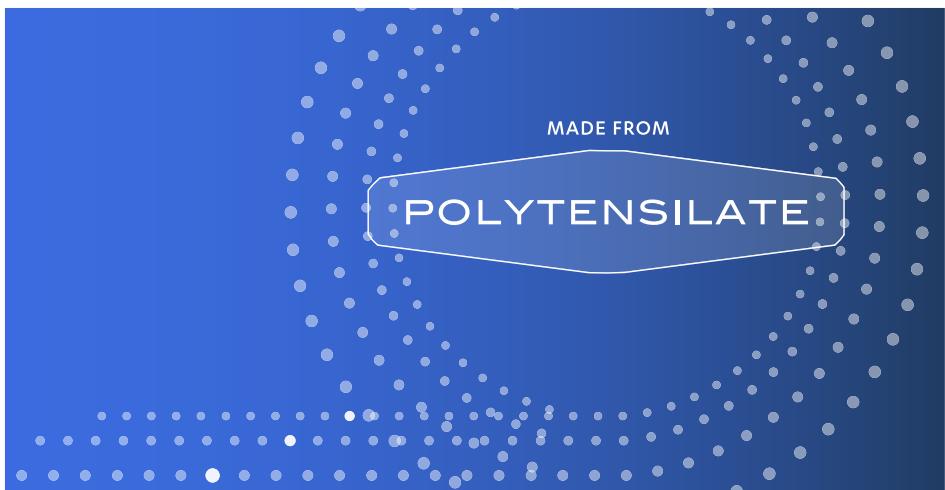
Australian recycled plastics make up approximately 85% of Polytensilate. This innovative resilient material is now a part of the solution to Australia's waste plastic problem.

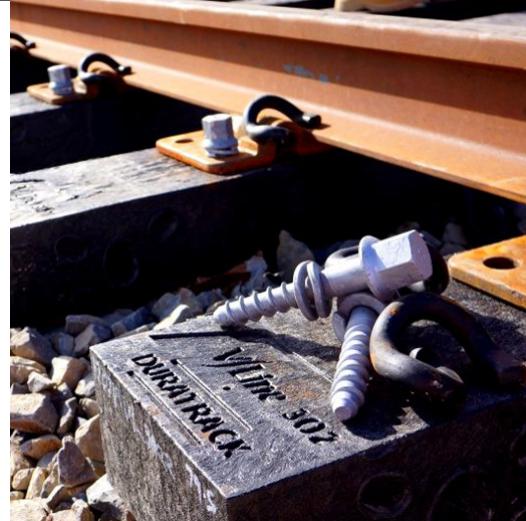
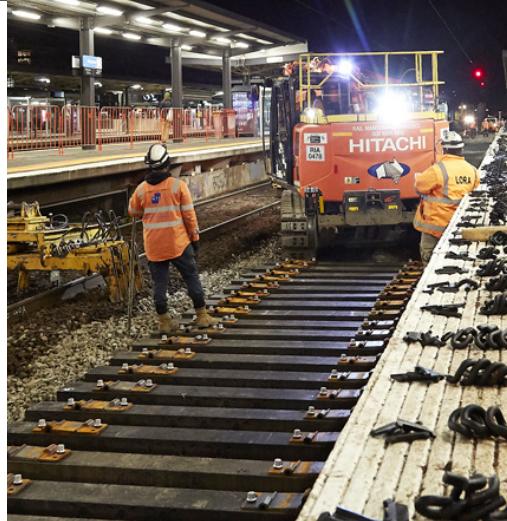
The high performance and versatility of Polytensilate enables a large variety of product applications for infrastructure, construction and landscaping.

Polytensilate doesn't degrade in the environment from rot, pests or sun damage.



IR MANUFACTURES ITS RANGE OF PRODUCTS UNDER THE ISO 9001:2015 QUALITY MANAGEMENT SYSTEM.





Duratrack is a great example of how government, industry, universities and rail authorities can work together to create a circular economy.

An Australian First

When the Duratrack railway sleeper was awarded Type Approval by mainline rail operators V/Line and Metro Trains Melbourne, it demonstrated how innovative thinking could point the way to a future for sustainable rail infrastructure.

The challenges for an innovative product in the highly regulated, safety conscious, risk-averse rail industry are substantial. But after 5 years of development, testing, collaboration and demonstrating proof of performance, the Duratrack railway sleeper became the first and only Australian recycled plastic railway sleeper approved for mainline use.

Duratrack has now been installed on mainline and freightlines throughout Australia.

DURATRACK CUSTOMERS

METRO TRAINS MELBOURNE
V/LINE
QUEENSLAND RAIL
ARTC
DOWNER
ACCIONA RAIL
TOURIST & HERITAGE RAILWAYS
IN VICTORIA & WA, INCLUDING
THE ICONIC PUFFING BILLY LINE

DURATRACK®
RAILWAY SLEEPERS



A sustainable future depends on many things, not the least is innovation.

IR continues to invest in forward thinking projects that demand high performing sustainable materials.

Innovative Solutions

IR invests in ground-breaking pursuits with engineered materials that have both market and environmental advantages.

Polytensilate's extreme durability is now attracting opportunities where traditional materials like timber, have been used through generations of purchasing habits.

The tough long life attributes of Polytensilate allow customers to benefit through whole-of-life cost savings while achieving sustainability targets.

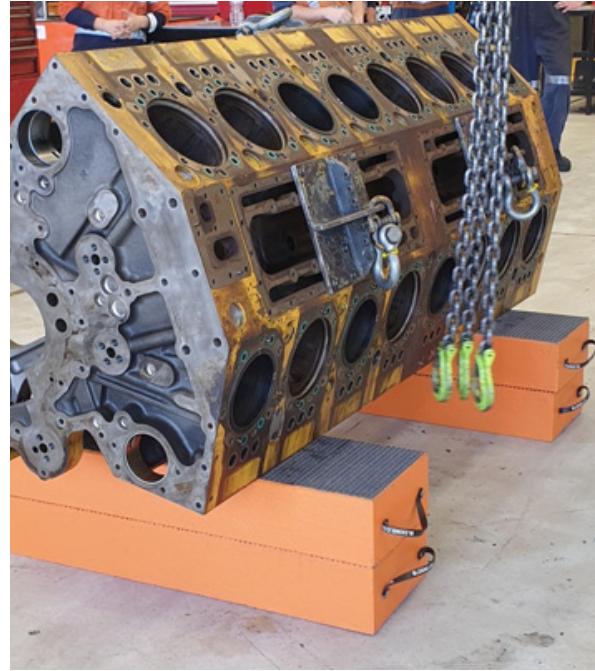
Innovative solutions developed in collaboration with customers such as Parks Victoria, CMP Engineering and Beach Energy demonstrate the versatility of Polytensilate.

POLYTENSILATE SOLUTIONS SHOWN

BLOX SAFETY SUPPORTS

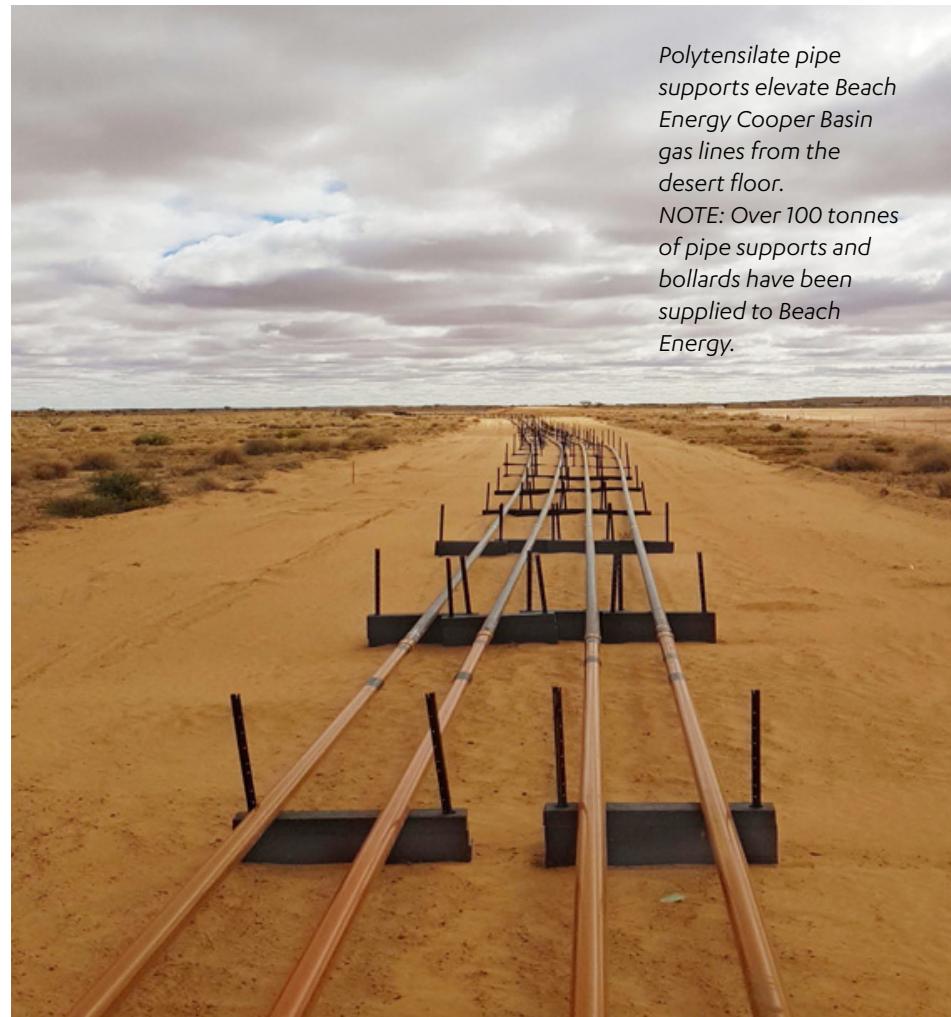
GAS PIPE SUPPORTS

LOW LOADER PROTECTIVE BOARDS



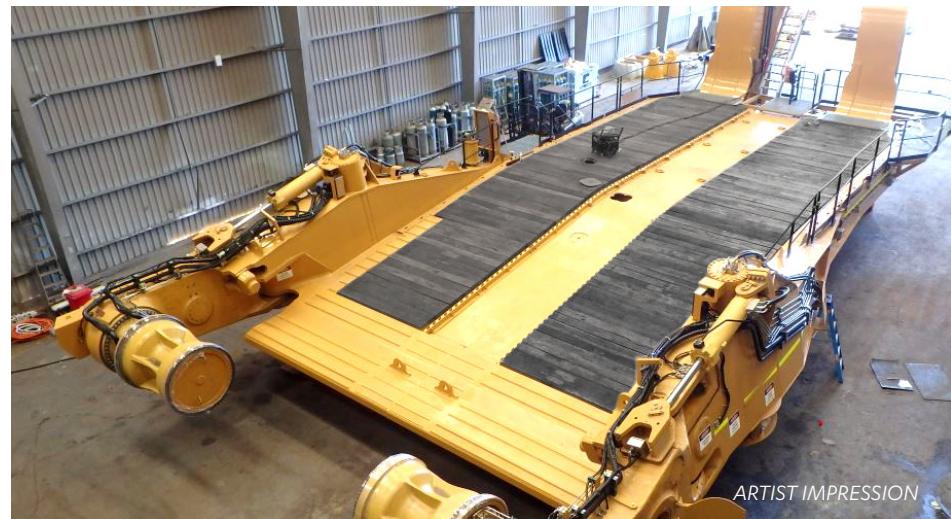
LEFT: The interlocking Blox Safety Supports being used to elevate a large Cummins 16 cylinder engine block.

BOTTOM: Polytensilate is used as durable decking on low loader trailers that transport 385tn diggers for the mining industry. Polytensilate decking replaces timber decking that deteriorates too quickly under the tank treads of the diggers.



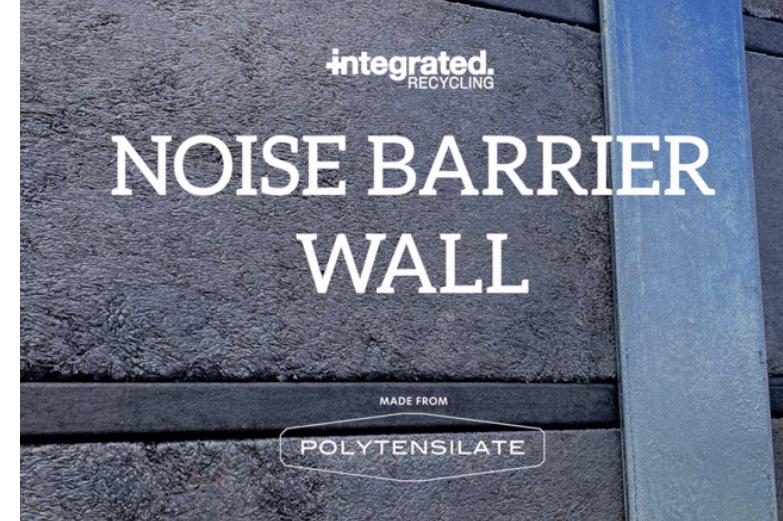
Polytensilate pipe supports elevate Beach Energy Cooper Basin gas lines from the desert floor.

NOTE: Over 100 tonnes of pipe supports and bollards have been supplied to Beach Energy.



ARTIST IMPRESSION





Noise Barrier Wall

In collaboration with the University of Melbourne's School of Engineering, IR has developed and tested a series of modular, lightweight, interlocking noise barrier panels. These scalable cost effective panels are engineered to inhibit the transmission of sound waves in urban environments and to also have structural integrity. These panels have all of the characteristics of Polytensilate: durable, long life, resistant to environmental degradation, made from Australian waste plastics and low maintenance. A feature of the project above is the use of concrete free footings to further reduce carbon emissions.

These sustainable noise barrier walls have a huge appetite for Australian waste plastic. We estimate that 1 kilometre of noise barrier wall will consume 200 tonnes of Australian waste plastic at 4m high.

INNOVATIVE SOLUTIONS

THE VERSATILITY OF POLYTENSILATE IS DEMONSTRATED BY CREATING A LIGHTWEIGHT, MODULAR, INTERLOCKING NOISE BARRIER PANEL.

**NOISE
BARRIER WALL**



Envire

PARKSCAPE



50 YEAR DESIGN LIFE



AUSTRALIAN MADE



RECYCLED PLASTIC



CIRCULAR ECONOMY



COST EFFECTIVE



TOUGH & DURABLE



PEST RESISTANT



ROT RESISTANT



FIRE RESISTANT



MAINTENANCE FREE

We drive sustainability
by upcycling redundant
Australian resources
into high performing
parkscape products.



**Thriving in Australia's
harshest climates, the
Envire range is resistant
to termites, rot, water
and sun damage, and
has three times the life
span of timber.**

Tough. Extreme long life.

Relentless sun, rain, salt and pests tested Envire products on oyster farms, the Canning stock route, State parks and in remote World Heritage areas.

Over the years, these installations have provided real validation of the toughness and durability of our innovative material, Polytensilate.

PATENTED & ENGINEERED

- > 50+ years design life
- > Resistant to termites, rot & sun
- > Maintenance free (no painting)
- > Non toxic & non leaching
- > Easy to work (drill, screw, rout)
- > Splinter free
- > Paintable, washable
- > Sustainable, recyclable
- > Made with Australian waste plastic



Envire
PARKSCAPE

BOLLARDS
PARK FURNITURE
BOARDWALKS
RETAINING WALLS
ARCHITECTURAL SCREENS
FENCING
MARINE APPLICATIONS
CUSTOM PRODUCTS





We collect a variety of waste plastics including vine covers, irrigation pipes, consumer and industrial packaging.

Repurposing Australian waste plastics

The collection of discarded vine covers is a win for the growers who have their bulk waste plastic collected. A win for IR who receive a quality resource. And importantly, it's a win for the environment with waste plastic not sent to landfill or disposed of in other environmentally damaging ways.

124,000 tonnes of plastic is used in Australian agriculture each year and only a limited amount is recycled. There is a huge upside for solutions like IR's Polytensilate products.



COLLECTED WASTE PLASTIC

TABLE GRAPES VINE COVERS
IRRIGATION PIPES
TANKS AND DRUMS
CONSUMER AND INDUSTRIAL
PACKAGING



IR's goal is to have a broad and long-lasting impact on sustainability in the infrastructure sector.



Collaboration

IR collaborates with like-minded partners who share our commitment to finding genuine solutions for the circular economy.

By collaborating with governments, businesses, research bodies, universities and other organisations, IR has resolved technical issues, received R&D support for funding and testing, conducted supervised trials and produced verifiable results.

COLLABORATORS

ecologia

Sustainability Victoria

M METRO

Queensland Rail

V/Line

Parks Victoria

IIRT

MONASH University

ARTC

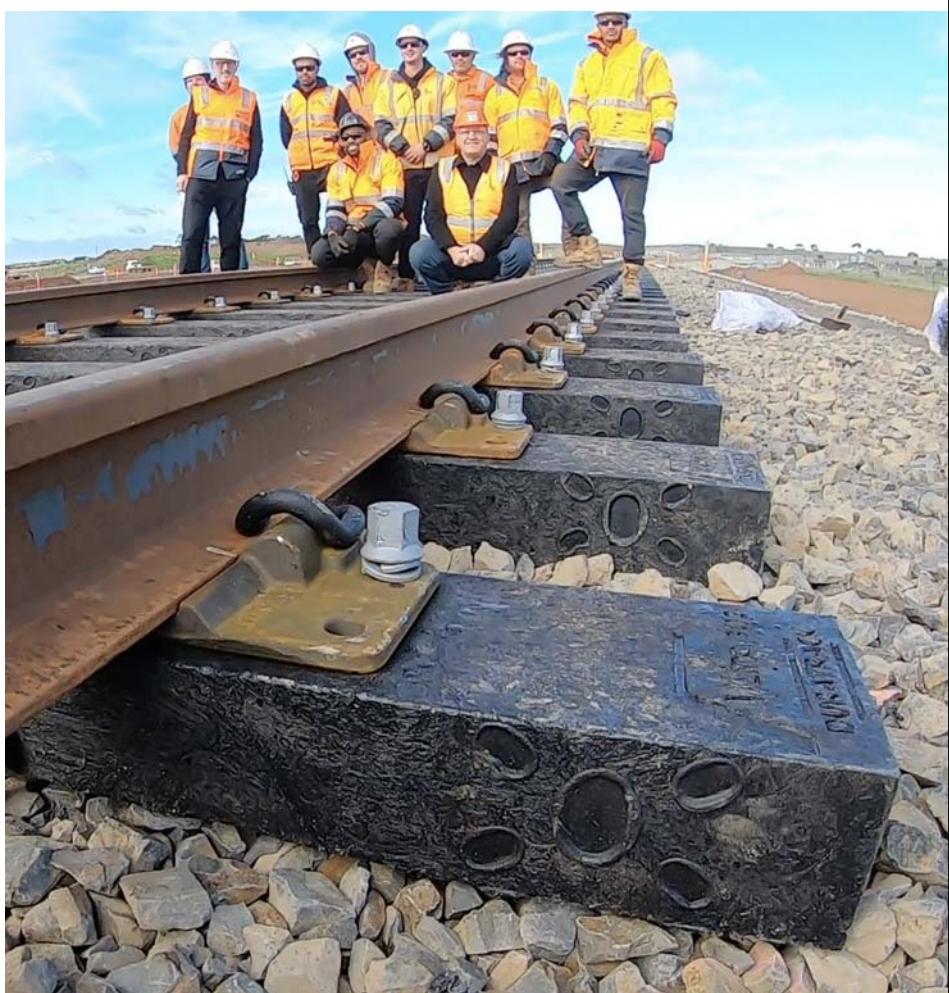
THE UNIVERSITY OF MELBOURNE

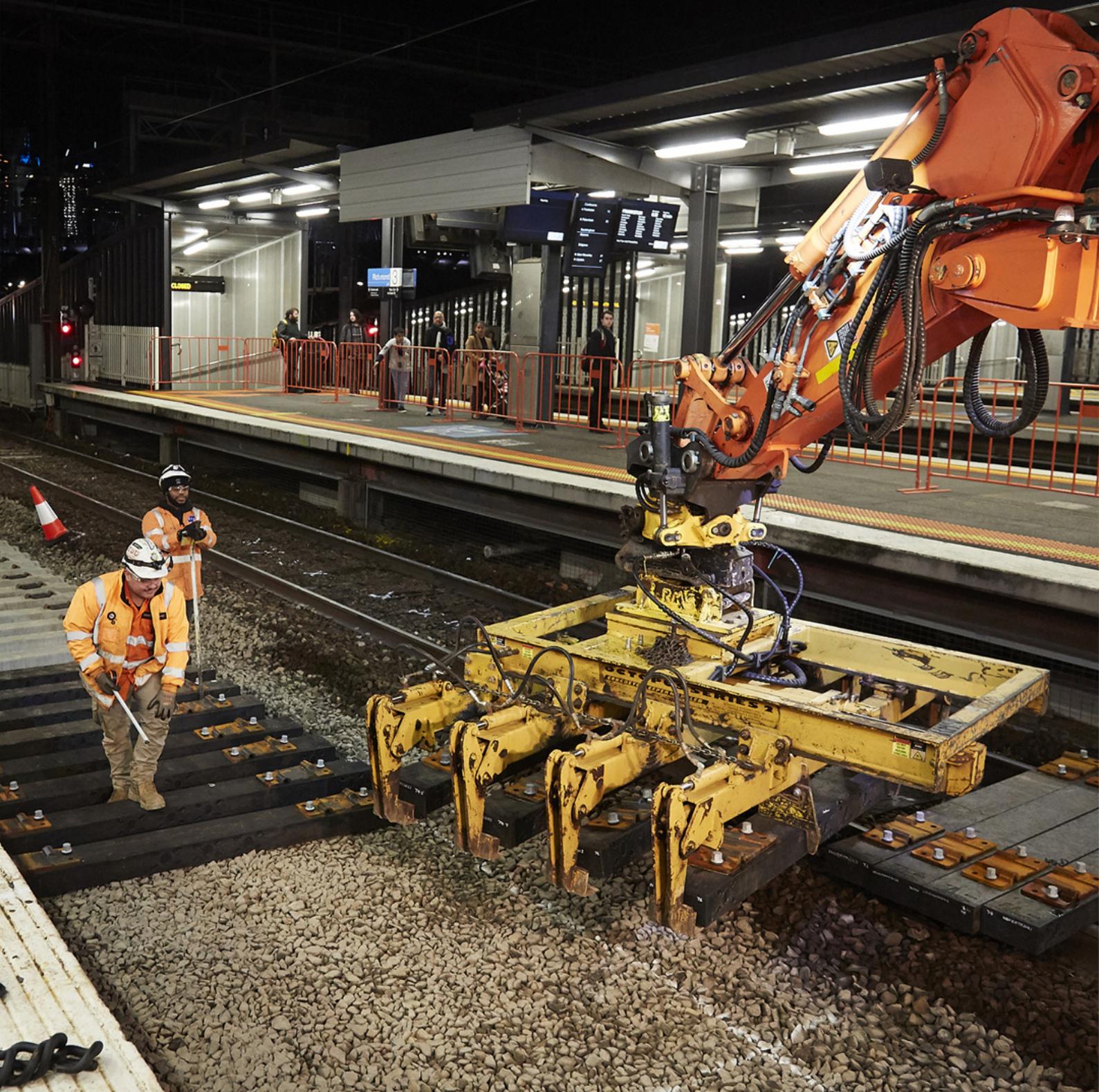
Downer

Acciona

integrated.
PACKAGING

PPG





Low Carbon

A streamlined life cycle assessment was carried out on the production of Duratrack sleepers concluding that Duratrack is a low carbon emissions product to manufacture.

IR RECOGNISES THAT ITS ACTIONS WILL AFFECT OUTCOMES IN OTHERS, AND THAT DEVELOPMENT MUST BALANCE SOCIAL, ECONOMIC AND ENVIRONMENTAL SUSTAINABILITY.

THE SUSTAINABLE DEVELOPMENT GOALS ARE A BLUEPRINT TO ACHIEVE A BETTER AND MORE SUSTAINABLE FUTURE FOR ALL.



Integrated Recycling is a member of Pro-Pac Group led by Pro-Pac Packaging Ltd, (ASX: PPG) an Australasian leader in packaging and distribution with an extensive manufacturing capability in Australia and New Zealand.

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