

# THE AUSTRALIAN MINING REVIEW

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**P24** MORE COAL AT MT PLEASANT



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**AWWELD**

New Laser Cladding Technology Arrives **P62**

## Wearing it Well

**P90** | Wear parts are on the front line at mine sites to extract, excavate and move material. **Tutt Bryant Equipment** has chosen to distribute Combi Wear Parts above other products on the market for optimum wear protection.

**TUTT BRYANT**

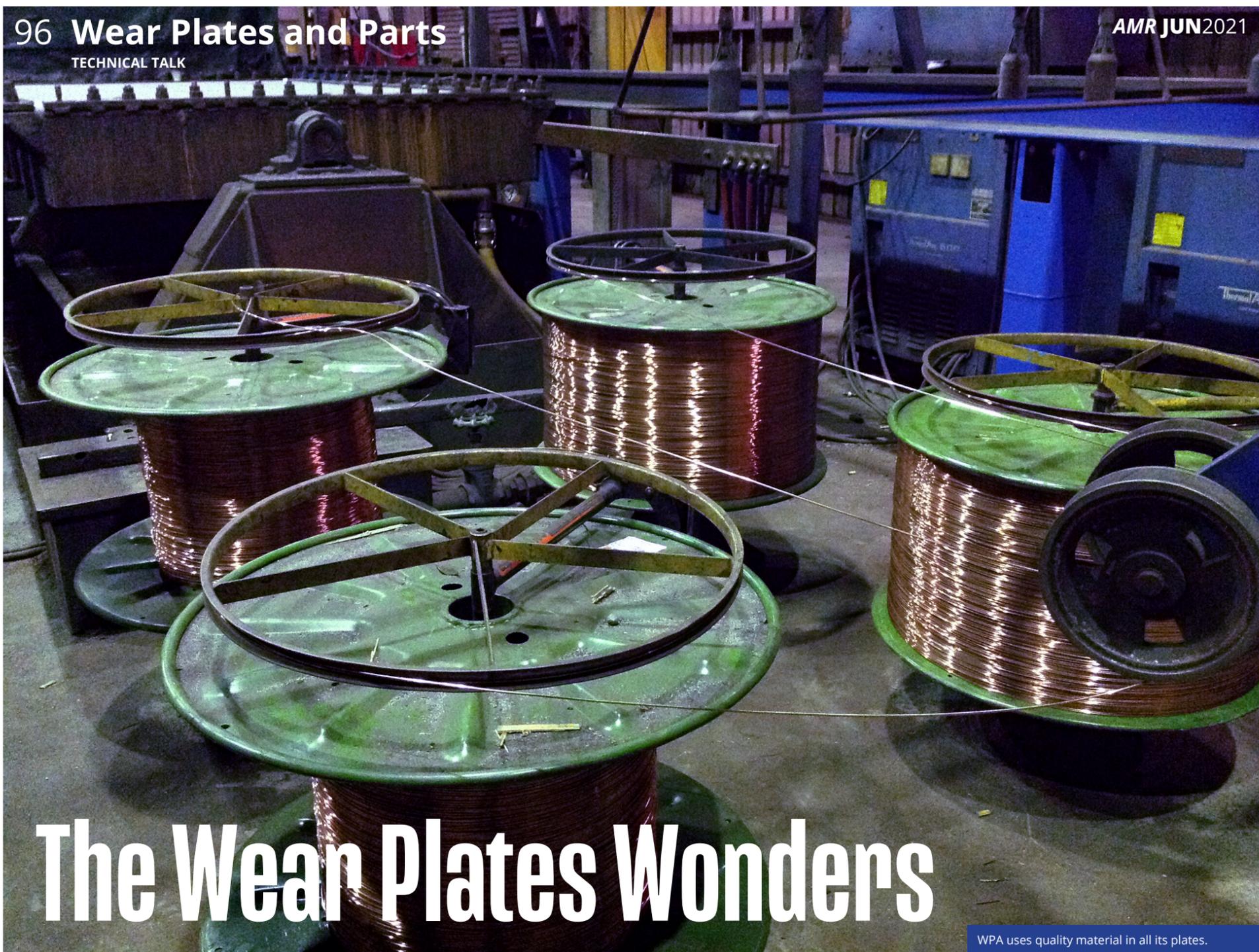


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# The Wear Plates Wonders

WPA uses quality material in all its plates.

As the leader in the highly specialised design, manufacture, production and fabrication of wear plates, Wear Plate Australasia owes its success in the mining industry to the benefits of its in-house knowledge, imbued with its successful combination of resilience and formability.

Established in 1988, Wear Plate Australasia is the leading manufacturer of high-tensile and abrasion-resistant wear plates.

With its heritage firmly grounded in the critical mining and manufacturing sectors, the company has provided its highly sought-after wear plate products to a range of markets including mining, energy, mineral processing, and transport for over 40 years.

AMR met with the director and owner of

Wear Plate Australasia, Gerry van Uum, and its Head of Business and IT, Kyra van Dyk, to learn more.

### 100 Years of Experience

Located in Port Kembla Steelworks, NSW, Wear Plate Australasia is a true part of the Australian small business industrial network.

With over 100 years of collective experience, the team are true wear plate specialists.

With the company's focussed commitment to ongoing research and development and improving product quality, they can manufacture and deliver wear plate solutions to suit their customer's unique requirements.

"We conduct quality and control programs on each product we manufacture to ensure our products are of the highest quality and consistency," Gerry said.

### Fabricated wear plates

Wear Plate Australasia can manufacture custom wear plates of varied grade for use in a range of highly abrasive environments such as high temperature, fine particle dust abrasion and physical impact.

With its expertise and plant and equipment, Wear Plate Australasia can meet customers' requirements by providing the following services and more:

- Blueprint and design
- CAD and CAM drawing
- CNC programming
- Geometrical cutting

- Design, cut, weld, stud, bend, hole and fabrication
- Total start to finish local design and manufacturing

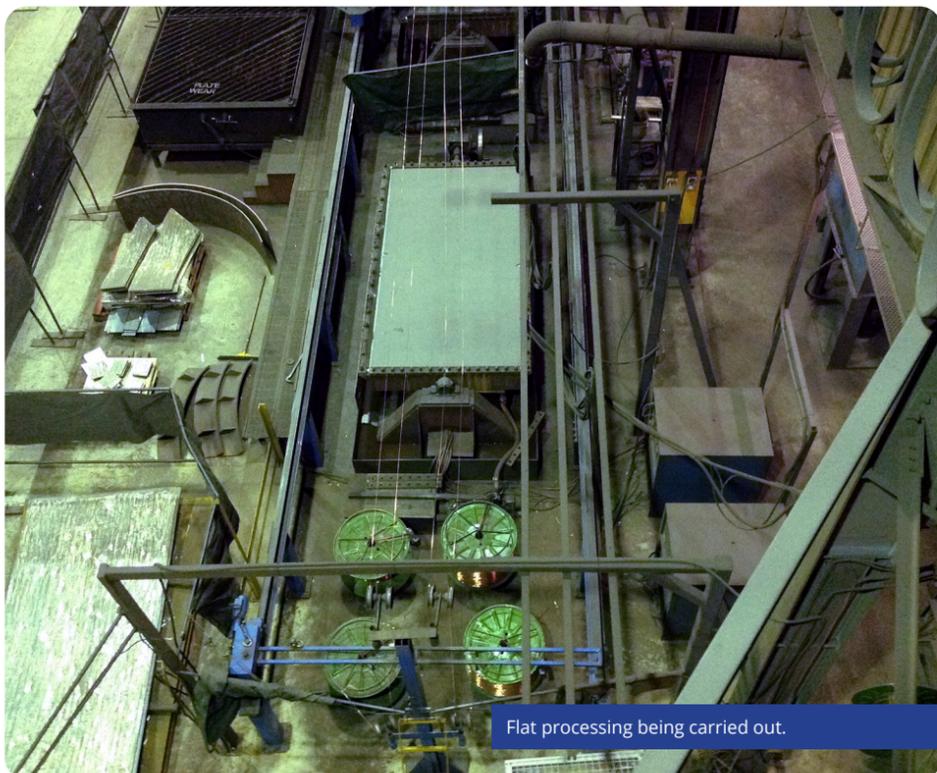
"We are proud to be an Australian owned manufacturer servicing a global industry," Kyra said.

"We use local suppliers and complete total manufacturing of our wear plates at our Unanderra factory."

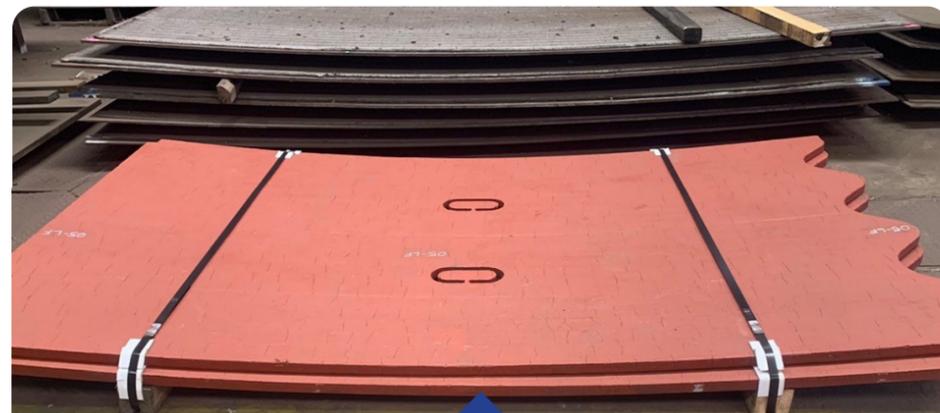
### Wear plate Applications

Wear Plate Australasia manufacture wear plates for the following industrial applications:

- Agricultural conveyors and ploughs
- Brick pathways and pan scrapers
- Cement chutes, cyclones and



Flat processing being carried out.



### Bucket, dipper and loader wear kits.

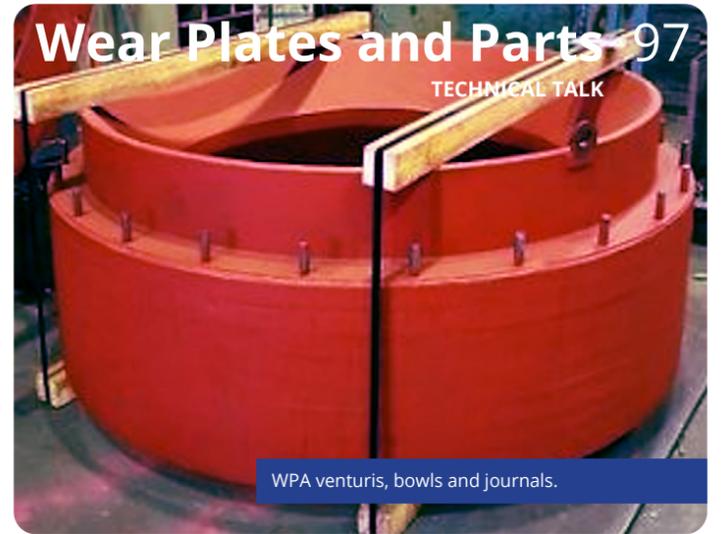
Unique flat configuration manufacture used by Wear Plate Australasia has the least processing stress, resulting in higher quality and consistency wear plates.



WPA vane wheel, deflector and impeller.



WPA separators, cones and transitions.



WPA venturis, bowls and journals.



A range of pipes, elbows and branches made by WPA.



Other services include steel, aluminium, cutting, bending, fabrication and welding.

A wear plate should always be formed to fit where it needs to go. Wear Plate Australasia are specialists in customisation as well as high quality industry standard wear plates.

- mixer blades
- Coal preparation bins, chutes and hoppers
- Dredging buckets and conveyors
- Earthmoving blades, buckets and scrapers
- Mining bins, buckets and truck bodies
- Ore handling and processing bins, chutes and hoppers
- Power station chutes, conveyors and fan blades
- Quarrying chutes, deflectors and impact blades
- Steel making bars, chutes and screens
- Waste collection and removal bins and truck bodies

As well, it supplies doors, impact curtains, shot blast cabinets, pipes and lobster backs.

**Advantages of our Wear Plates**

"It's impossible to list all the benefits and advantages of wear plates," Gerry said.

"Each wear plate project is unique and will deliver different value but generally wear plates can increase production efficiency by increasing the wear life of parts or equipment and in turn, reduce downtime and save cost.

"Our wearplates are shown to have a wear rating nine and a half times greater than mild steel!"

**True Cost of Wear**

Wear plates bring great advantages and cost savings to companies across many industries, but the true cost is not always realised upfront.

Companies often favour lower upfront capex and do not factor in the cost benefit of long-term downtime, maintenance activities and repair of equipment which can come at considerable cost further down the track.

Often, imported products are not manufactured with the same stringent

controls, legislative requirement, and quality assurance as those manufactured Australia.

Australia sets a high standard for product quality and local manufacturers know that poor quality assurance leads to poor quality products that do not stand the test of time, even more so in harsh, abrasive environments.

AMR asked Gerry and Kyra to shine some light on the true cost of wear and tear in industry.

"Australia sets a high standard for manufacturing processes and are world leading in their wear plate fabrication processes," Kyra said.

"The consistency in our product delivers great cost savings to our customers looking to extend the life of their equipment.

"Products imported from overseas are subject to additional administration, shipping, tax and tariff cost and often need to be replaced more frequently as they haven't been manufactured to Australian Standards.

"Imported products may be viewed as cheaper, upfront, than their Australia counterparts, but that reduced cost has a direct effect on product quality.

"An imported product may appear cheaper to buy initially but the longevity of the product in some of the harshest environments in the world is often compromised by poor quality control and assurance during fabrication and manufacturing."

"Being Australian made, our quality control and assurance programs provide our customers with certainty in the performance of our products," Gerry said.

"We have a very good, consistent product with an average hardness of 59 to 62 across

the entire plate."

**Wear Plate Fabrication**

AMR asked Gerry to tell us more about how the wear plates are fabricated.

"In simple terms, wear plate manufacturing involves the application of highly abrasive resistant overlays to a mild steel-based plate," Gerry said.

"Wear plate is very different to other steel fabrication techniques in that it increases durability without potentially compromising the structural integrity of existing steel.

"Traditionally wear plate manufacture was driven by the need to create a barrier through a protective layer to combat wear.

"While that is still its most common purpose today, overtime specific grade overlays have emerged to target specific types of ware such as high temperature or fine particle dust abrasion.

"Manufacture of wear plate is a precise and complex process and achieving quality finished products requires specific knowledge with 'outside' the box thinking to meet unique requirements."

**CrC60 wear plate**

The CrC-60 wear plate is standard manufactured by Wear Plate Australasia.

The CrC-60 wear plate is made of chromium and a variety of other alloys such as molybdenum, vanadium, boron, nickel and tungsten to suit high heat resistance, fine particle abrasion and increased impact resistance applications.

The CrC60 range also includes CrC60B (boron), CrC60NB (niobium), CrC60X (Cross hatch), and other custom application grades.

NATA approved and certified procedures for abrasion and impact have shown that the

CrC60 wear plates have the second highest wear rating when compared to mild steel and a range of other metal alloys.

The standard CrC60 wear plate has achieved results as high as 30:1 ratio over Mild Steel, representing a significant saving in costs for operators.

The hardness of the CrC60 Standard Grade Wear Plate ranges from 59-62 on the Rockwell C Hardness scale.

Although hardness in isolation is not a true indication of wear resistance, it is a good guide to the quality and effectiveness of the wear plate.

Deposition method and carbide structure are also highly important, and the manufacturing processes employed by Wear Plate Australia are exemplary.

This chromium wear plate produces the most consistent and uniform wear plate available for analysis, microstructure, hardness, flatness and bonding and can be manufactured by Wear Plate Australia here in Australia.

**In a Nutshell**

"What has never changed and stayed true in our 40 years of business is that what we stand for is pretty simple," Gerry said.

"We make wear plates, we've been at it a long time, we know our stuff and we're really good at it!" AMR

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