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## Application Profile

# Doubling Durability: How an Iron Ore Port Extended Belt Cleaner Life with Flextrex PXT Cushions

### Industry

Iron Ore

### Application

Iron Ore Port

### Product

P-Type Secondary Cleaner with Flextrex™ PXT Cushions

### Objective

- Extend belt cleaner cushion life
- Minimise maintenance downtime
- Improve cleaning efficiency

### Conveyor Detail

- Belt type: Steel Cord Belt with thick top and bottom covers
- Belt width: 1800mm
- Belt speed: 5-6m/sec



### Problem:

An iron ore port in Western Australia was continuously facing challenges as they were adopting faster, heavier, and thicker conveyor belts into their production process. Although they had intended to increase output and extend their shutdown cycle in an effort to meet customer demands, they were struggling to keep up. A major pain point for them was with their standard secondary belt cleaner cushions; they were consistently failing before reaching their scheduled 20-week maintenance interval. Consequently, the site's traditional P-type cushions were experiencing fatigue and delamination, resulting in unplanned downtime, unexpected labor costs, and potential production losses that the operation couldn't afford. As conveyor belts ran at increasing speeds with heavier material loads, the limitations of their conventional cleaning equipment became apparent, prompting the port's operations team to approach Flexco Australia in search of a more robust solution that could withstand their demanding operational schedule.

### Solution:

Recognizing the limitations of conventional equipment in increasingly demanding mining environments, Flexco Australia's engineering team developed the Flextrex™ PXT Cushion (PXTC). Specifically designed to address the escalating speeds and heavier tonnages that had become standard at modern operations like the Western Australian iron ore port, the PXTC represented a significant advancement in belt cleaner technology. The PXTC replaces traditional rubber cores with a durable polyurethane core and features a single-piece stainless steel construction in a distinctive 'J' design, making it nearly three times stiffer than previous models, while still being 15% lighter. This combination allows it to withstand significantly higher loads without compromising durability while making installation and maintenance safer and easier for maintenance teams. The PXTC is also engineered for belt speeds of up

to 7.5 meters per second, offering the perfect solution for high-demand environments where traditional cushions typically fail. After careful evaluation of the site's specific challenges, Flexco's Territory Manager and the iron ore port's management team decided to conduct a trial on-site, allowing them to assess both its longevity and ability to maintain cleaning efficiency throughout their extended shutdown cycle under real-world conditions.

### Result:

The impact of the Flextrex™ PXT Cushion exceeded all expectations for the iron ore port. When paired with the PXTC and Flexco's Australian-made 20mm tungsten carbide tips, the P-Type secondary cleaner didn't just meet their 20-week target—it doubled it. All cushions lasted a full 40 weeks without failure, allowing the operation to complete two entire shutdown cycles without replacing a single cushion, while requiring only one changeout of the 20mm tips during this extended period. This dramatic improvement in durability and cleaning efficiency had an immediate and significant impact on operations by consistently meeting production requirements while substantially decreasing both labor and downtime costs, transforming a frustrating maintenance challenge into a reliable component of their operation. Based on the trial's results, the iron ore port has now fully transitioned to using the Flextrex™ PXT Cushion with all their secondary belt cleaners, ensuring long-term operational reliability and significantly reduced maintenance disruptions. The success of this trial has not only solved a critical operational challenge for this site, but has also established a new benchmark for conveyor maintenance in high-demand mining environments, demonstrating how customer-listening and well-crafted engineering solutions can directly translate to improved productivity and cost savings.

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