



**WAITES**

CASE STUDY



Predictive Maintenance Success

# HOW OWENS CORNING PREVENTED AN \$11 MILLION LOSS WITH WAITES

# EXECUTIVE SUMMARY

When Owens Corning's decades-old ball mill began showing signs of failure at its Tessengerlo Plant, **Waites' AI-powered preventive maintenance system detected the issue before a catastrophic breakdown.** The system **saved over \$11 million** in potential production losses, repair costs, and downtime by preventing an unplanned shutdown.

This success underscores the power of **AI-driven predictive maintenance** in **safeguarding critical manufacturing assets.** With 24 global facilities now equipped with **Waites' monitoring solution,** Owens Corning has transformed its maintenance strategy into **proactive, data-driven decision-making.**

# CUSTOMER BACKGROUND

**Owens Corning** is a **global leader** in **building and construction materials**. It provides high-quality products for residential, commercial, and industrial applications worldwide. Founded in 1938 and headquartered in Toledo, Ohio, the company's unwavering commitment to innovation and operational excellence has fueled its growth to approximately 18,000 employees across more than 30 countries. This expansive presence supported **\$9.7 billion in sales for 2023**, underscoring its dedication to **sustainability, innovation, and operational excellence**.

## CHALLENGES AND PAIN POINTS

In an effort to transition from reactive to proactive maintenance, Owens Corning sought a partner for wireless condition monitoring of critical assets. The company required a **standardized, scalable solution** that could be rapidly deployed across its older plants **without the need for extensive cabling or IT infrastructure**.

As part of its journey to predictive maintenance, Owens Corning evaluated 40 condition monitoring solutions before shortlisting a select few. A **90-day proof of concept** at a South Carolina plant **solidified Waites as the optimal choice** due to its actionable alerts, rapid ROI, and scalable coverage.

During the trial, **Waites identified critical lubrication and alignment issues — particularly at motors' non-drive ends (NDE)** — that had previously gone unnoticed but represented a significant share of anomalies. Over 70% of flagged action items focused on cleaning, alignment, and extending equipment life. This demonstrated the value of **proactive maintenance in reducing downtime, increasing throughput, and enhancing equipment reliability**.

"Instead of reacting to a crisis, we integrate repairs into our existing maintenance schedule — **often preventing a complete shutdown.**"

"Before using Waites, we relied on periodic inspections and manual lubrication. Unplanned downtime caught us off guard far too often, especially with older equipment where the original manufacturer's lead times can be months."

**Jelle Willems**

RELIABILITY ENGINEER AT OWENS CORNING

Recognizing the need for a standardized, proactive approach, Owens Corning sought a solution capable of delivering real-time data and immediate insights, enabling **targeted repairs before serious failures occurred.**

## SOLUTION & IMPLEMENTATION

Owens Corning selected Waites as its corporate solution and has expanded the program to **24 facilities worldwide**. Wireless Waites sensors were installed to track **vibration and temperature** on critical equipment, such as fans, conveyors, and large ball mills.



### KEY FEATURES

- **Wireless Sensors:**  
Installed on critical assets to capture real-time operational data.
- **AI-Driven Data Analysis:**  
The system analyzed sensor readings to detect early signs of bearing wear, misalignment, and lubrication issues.
- **Proactive Alerts:**  
Maintenance teams received immediate notifications when anomalies were detected, allowing them to investigate promptly.
- **Expert Support from Waites' Analysts:**  
Waites' analysts review system data, interpret complex findings, and provide specific, actionable recommendations.

A Waites wireless vibration sensor installed near the non-drive end of Ball Mill #5, continuously monitoring temperature and vibration in a difficult-to-access area.

By replacing multiple local systems and route-based checks with Waites' wireless sensors, Owens Corning gained **real-time data collection, enterprise-wide visibility, and instant alerts**, enabling a decisive shift toward proactive maintenance.

Owens Corning **significantly reduced unexpected downtime** by moving away from breakdown-driven repairs and toward a data-centric model, increasing equipment reliability across multiple divisions.

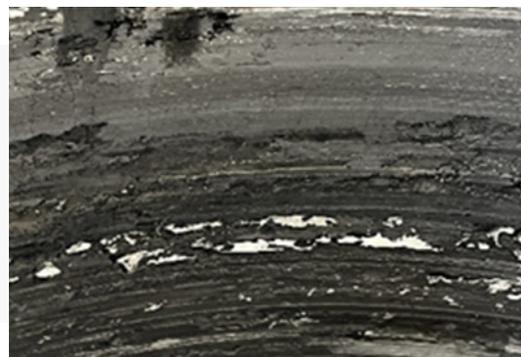
**TESSENDERLO BALL MILL INCIDENT:**

# AN \$11M SUCCESS

On February 26, 2024, Owens Corning's Tessenderlo Plant in Belgium received an alert on Ball Mill #5 — a critical "A Equipment" asset operating for over 40 years. Real-time Waites data showed a **significant temperature spike** at the non-drive-end (NDE) main bearing, prompting an **immediate inspection**.

**TECHNICIANS DISCOVERED**

- A cracked NDE shaft and excessive run-in
- A damaged white metal bearing shell
- Inadequate lubrication in the older oil-bath system



A close-up view of the damaged white metal bearing shell, revealing heavy wear and scoring — evidence of inadequate lubrication and metal-to-metal contact.

**WITH A 17-WEEK LEAD TIME  
FOR A REPLACEMENT END SHAFT,  
PROACTIVE DETECTION PROVED ESSENTIAL.**

Otherwise, the facility would have risked an unplanned, prolonged shutdown with severe production losses. The maintenance team replaced the end shaft and bearing shell, ordered a second shaft to keep in stock, and installed an automatic lubrication system to maintain consistent oil levels — critical for preventing repeat issues.

**KEY RESULTS**

Investment in Waites System

**\$51,730**

Avoided Downtime

**5,376 hours**

Total Avoided Costs

**\$11,241,395.20**

Production Losses Prevented

**\$9,281,395.20**

Repair/Labor Savings

**\$1,960,000**

Owens Corning's \$51,730 investment avoided over \$11 million in potential costs — resulting in an ROI of approximately 21,600%. Every dollar the company spent on Waites' predictive maintenance system saved more than two hundred dollars in losses that would otherwise have been incurred through production downtime, repairs, and labor.

"From an ROI standpoint, **installing the Waites system was one of the easiest decisions we've made.** It's a small investment compared to the \$11 million we saved."

**Jelle Willems**

# CONCLUSION

Owens Corning's experience with **Waites** illustrates how **early detection and proactive intervention** can shift a reactive maintenance model into one that **prevents major failures** in advance. By identifying the **cracked ball mill shaft** before it failed, the company **saved over \$11 million** in potential losses and **sustained critical production lines**.

Moreover, lessons learned at Tessengerlo prompted Owens Corning to install automatic lubrication systems on ball mills throughout its operations. Combined with Waites' **AI-driven analytics** and **real-time monitoring**, these changes continue to **standardize best practices, reduce unplanned downtime**, and drive a significant **enterprise-wide ROI**.

With **corporate buy-in**, Owens Corning expanded Waites' system well beyond its initial pilot, embracing a **global rollout**. The company now stands at the forefront of **manufacturing innovation** — leveraging **full-spectrum data, expert analyst insights**, and **progressive maintenance practices** to secure a more resilient and sustainable future.

## LEARN MORE

Waites **spotted one fault early** and **helped** Owens Corning **avoid more than \$11 million** in losses. Imagine what similar insight could do for your plant.

Book a conversation with team and see how **fast predictive maintenance can pay for itself**.

[info@waites.net](mailto:info@waites.net)

Prefer to talk by phone?  
**(800) 574-WAITES (924837)**