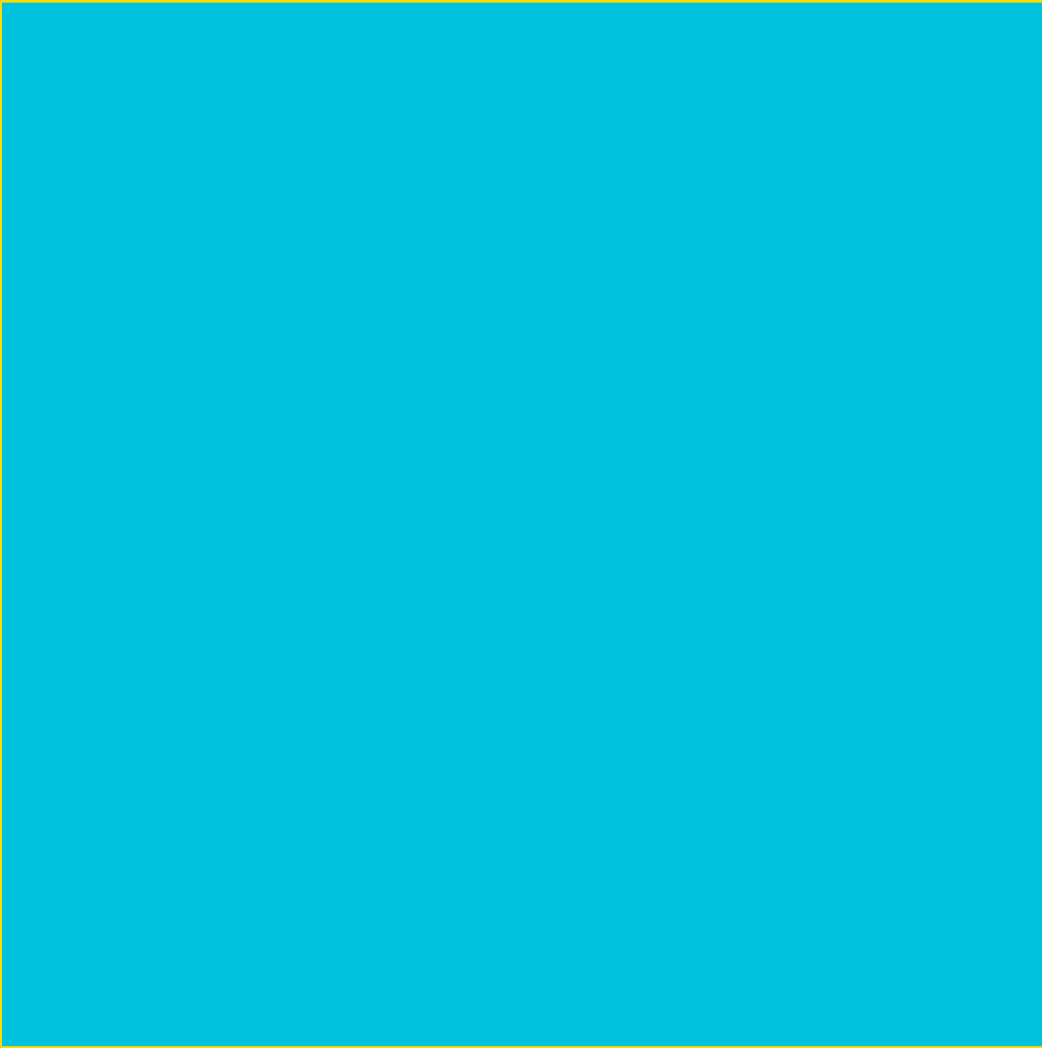


**Product  
Damage  
Reduction**

**CHEP**  
A Brambles Company



Reducing damage.  
Reducing waste.  
Reducing costs.

This is the  
Supply Change.™

#### The opportunity:

Product damage happens.

The key to handling it is finding the root causes—zeroing in on the when, where and why damage happens.

Does it happen due to routine movements through your network and supply chain? Is it caused by environmental factors? Or is it automated systems and material-handling equipment? Yours or even your customers'?

Product damage costs manufacturers in South Africa nearly R2.1 billion every year—that's more than R5 million a day. More than that, product damage can hurt your reputation and your profitability. It can even mean the difference between being in the black and being in the red.

Reducing product damage can be done efficiently and cost-effectively. CHEP has the knowledge and tools to help you get it done. We have visibility into all segments of the supply chain, accredited testing labs, Value Chain Analysis tools and an extensive product damage database that will allow us to get to the root causes of your damage.

Product damage happens. But when you find the root causes, it can be reduced or eliminated.

**Global Good:** Damaged products are a waste of raw materials and a waste of energy, and they add waste to landfills. We'll work with you to eliminate the root causes of product damage to both save you money and lessen your environmental impact. It's all part of CHEP's Better Planet initiative, as we work to minimise the impact of the supply chain on the environment.

#### What we do:

The best way to get to the root causes of your product damage is our two-pronged approach.

First, we'll look inside your facilities and transportation network. If it's warranted, and your customers will allow it, we'll also look inside their supply chain. We'll systematically evaluate distribution platforms, manual-handling processes and material-handling equipment. We'll examine automated systems, environmental influences and transportation conditions. We'll track product flow through your entire supply chain and identify hot spots where damage is most likely to occur. Along the way, we'll consider product type, package type, handling equipment, product load configurations, geographic locations and seasonal fluctuations.

Next, we'll conduct extensive testing inside SABS-certified testing facilities or our ISTA-certified Innovation Center. Here, we'll simulate the impact of handling processes, transportation segments, and atmospheric conditions on your product's primary and secondary packaging, stretch wrap and product conveyance platforms.

In a controlled laboratory environment, we'll replicate and simulate real-world materials handling, shipping and environmental conditions to determine the supply chain's impact on a product load. Specifically, the testing will simulate the impact of trucking, rail, air transportation, forklifts, clamp trucks, automated systems, manual handling, humidity and temperature extremes on product and packaging.

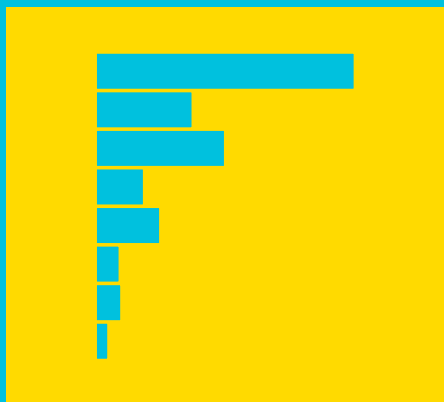
Our unique position in the supply chain helps eliminate product damage more efficiently and cost-effectively.

### 3 things we do to help you reduce product damage

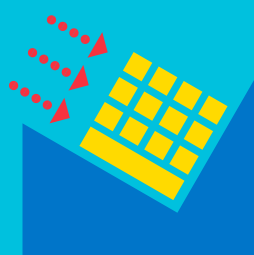
#### On-site analysis



#### Data analysis



Testing conducted in SABS-certified labs or our ISTA-certified Innovation Center



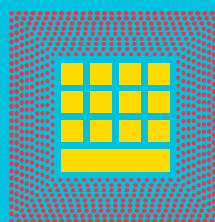
#### Impact

Simulation of impact in handling operations of the product load. Repeatable impact tests with speeds up to seven miles per hour.



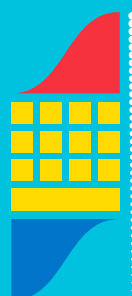
#### Compression

Simulation of up to 22 680 kgs of compressive force in loading and racking of product loads.



#### Vibration

Simulation of product load vibration from all transportation modes, including truck, rail, air and sea shipments.



#### Environmental

Simulation of a -30°C to 85°C temperature range and relative humidity range of 20% to 95% on product performance, pallets and containers.

# Finding and eliminating the causes of product damage.

Product damage happens. We know where to find it and how to eliminate it.



### How we'll work together:

Based on our experience, we've designed our Product Damage Reduction solution to be simple and actionable. From start to finish, we can help you see its benefits in as few as 10 weeks. Our time-tested process works like this:

## Manufacturers in South Africa lose more than R5 million a day to product damage.



Our Product Damage Reduction solutions team will meet with you to review your current data and pain points.

We'll make site visits and document relevant data to understand how your product flows.

We'll discuss the need for simulation testing in our Innovation Center, and conduct testing.

We'll present a final report, including recommendations and a cost analysis of process improvements.

### How you'll benefit:

We have experience and visibility into all segments of the supply chain. We can help you:

- + Gain a holistic view of your supply chain
- + Learn about specific conditions causing product damage
- + Identify hot spots where product damage is happening
- + Get detailed information on the performance of product loads
- + Receive customised data on the impact of the supply chain on a new product, primary packaging, secondary packaging or transit packaging
- + Find solutions to damage by simulating problem areas in our local labs or our ISTA-certified Innovation Center

### Only CHEP:

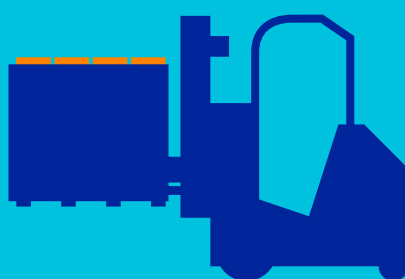
Our breadth of visibility into the supply chain, our understanding of every nuance and our comprehensive product damage database make us uniquely positioned to solve your product damage challenges. We also bring to bear the experience, rigor and testing standards of CHEP's ISTA-certified Innovation Center, which allows us to simulate real-world conditions—a vital asset when it comes to reducing product damage. We look forward to working with you.

Our local test-lab partners are certified by the South African Bureau of Standards. Our Innovation Center is certified by ISTA, representing manufacturers, packaging suppliers, testing labs and carriers working together to ensure responsible packaging.



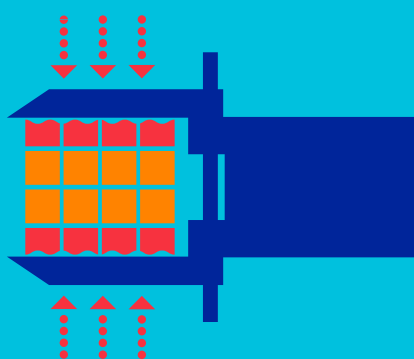
# How a paper manufacturer saved R8 million and reduced product damage by 75%.

4% of the manufacturer's product was crushed during handling and distribution.



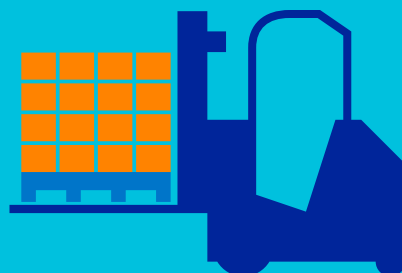
Clamp Loader: Side View

A collaborative analysis revealed the damage was caused by the clamp loader.



Clamp Loader: Top View

The manufacturer switched from clamp trucks to forklifted pallets, reducing product damage and realising savings.



Forklift: Side View

**This is the  
Supply Change.**

**Together we can  
make it happen.™**

**CHEP**  
A Brambles Company

Product Damage Reduction.  
Just 1 of 19 Agriculture  
Solutions from CHEP.

If you're looking to improve  
your supply chain, let's talk.

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