
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.

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.

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.

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

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

Data analysis

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.

Handling
- Disorganised back room leads to misplaced product
- Excess consumer handling
- Rough handling during final delivery by hand
- Reiver cuts of consumer products when package is opened
- Order picking, especially mixed loads
- Premature actuation of dispensing systems
- Product too heavy to lift
- Rough handling while repalletising or transferring
- Clamping equipment crushes boxes
- Push-pull equipment tears boxes or bags
- Lack of safety training
- Forklift/pallet jack driver error: product load collision
- Premature actuation of dispensing systems
- Product too heavy to lift
- Rough handling while repalletising or transferring
- Clamping equipment crushes boxes
- Push-pull equipment tears boxes or bags
- Lack of safety training
- Forklift/pallet jack driver error: product load collision

Product Load
- Contamination by leakage
- Damaged pallet top deck
- Low coefficient of friction
- Stack height exceeds box strength limit
- Product underhang on product load
- Stretch wrap too tight
- Stretch wrap too loose
- Misalignment of cases in stacks
- Product overhang on product load
- Inadequate top deck coverage
- Bottom boards of pallet on top of stack damaged
- Multi-stacked product loads too high
- Temperature control failure
- Debris on warehouse floor causing accidents
- Spoilage of slow-moving perishable product
- Product load too tall to withstand momentum shifts
- Poor road conditions
- Poor truck or trailer suspension
- Trailer resonance or excessive vibration
- Insufficient dunnage
- Misalignment of manufacturing equipment
- Misalignment of palletisers on production lines
- Malfunctioning automated guided vehicles
- Packaging too weak for specific supply chain conditions
- Reduction of packaging for cost savings or sustainability
- Contact between surfaces causing abrasion and leakage

Design & Construction
- Automation
- Packaging
- Environment
- Transportation

Manufacturing
| Transportation | Distribution | Retail |
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.

![How we’ll work together:](image)

**Learn**

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

**Analyse**

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

**Test**

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

**Recommend**

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.

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

The manufacturer switched from clamp trucks to forklifted pallets, reducing product damage and realising savings.
This is the Supply Change.

Together we can make it happen.

Product Damage Reduction.
Just 1 of 20 Consumer Goods Solutions from CHEP.

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