

# Behind closed doors at the Dunlop laboratory



## An inside view of Dunlop's secret weapon

When the going gets tough, many companies resort to cutting back on sales staff or research and development. Sometimes they do both. Netherlands-based Dunlop Conveyor Belting is doing neither and judging by its order books, it seems to be working. Dry Cargo International decided to take a closer look at what Dunlop describes as its 'secret weapon' — its laboratory! *Leslie David reports.*

### TESTING TO THE LIMITS

The huge laboratory housed in its manufacturing plant in the Netherlands is clearly at the very heart of Dunlop's renowned quality process. It is here that every single batch of rubber compound is checked and tested to the limit before being allowed to be used to produce conveyor belts that are guaranteed to perform exactly as they are designed to do. Dunlop fully admits that it can be a painstaking process but insists that it creates a consistency in the quality of every belt it makes.

Exceeding the highest international standards rather than just simply complying with them is a long-established part of the quality culture that exists within the company and Dunlop insists that this can only be achieved by having the most highly skilled technicians using the most sophisticated testing equipment available.

"We are very fortunate to have a very experienced and dedicated team of laboratory technicians and engineers here in Dunlop," maintains Sytze Brouwers, Dunlop's chief application engineer. "Most of them have worked for Dunlop for many years and they are very passionate about what they do. They need to be, because conveyor belt technology is far more complex than some people might believe."

Brouwers points out that there are literally dozens of international standards relating to almost every conceivable aspect of a conveyor belt. He should know because he also happens to be the chairman of the international standards committee for conveyor belts!

### STANDING STILL IS LIKE GOING BACKWARDS

Dunlop maintains that, because of the growing demand for longer belt life economy — as well as rapidly evolving technology — failing to move forward is the equivalent of going backwards. So, despite increasing market austerity, especially in terms of research and development, the company has taken the bold step of expanding its laboratory and investing huge amounts in the very latest technology.

Technical director Dr. Michiel Eijpe has been charged with the task of heading up a new wave of R&D. “Our competitors seem determined to try every trick in the book to cut costs so that they can offer lower prices but the old saying that you only get what you pay for has never been truer,” says Eijpe, “so we are sticking to the principle of greater economy for our customers through longer belt life.”

Thanks to the groundbreaking developments that take place in the laboratory, Dunlop is creating 'new generation' conveyor belts that are increasingly able to withstand just about anything that can be thrown at them. From highly abrasive, razor sharp materials to ozone pollution. From extreme heat to extreme cold, Dunlop belts can handle it, they say, because the wizards of the laboratory make sure that they can. But simply maintaining Dunlop's reputation for producing the best conveyor belts in the world is only part of the story.

### NEW DEMANDS, NEW TESTS

The world of conveyor belts is changing in other ways just as quickly and none more so than the awareness of health and safety and the environment. For example, Dunlop Conveyor Belting claims to be the very first conveyor belt manufacturer to achieve full compliance with REACH (Registration, Evaluation and Authorisation of Chemical substances) regulation EC 1907/2006, which came into force in 2007. And once again, it was the Dunlop laboratory boffins who made it happen. All European manufacturers (not just those who make conveyor belts) are legally obliged to comply with the regulations relating to chemicals, preparations (mixtures) and substances used to create finished products. Perhaps not unsurprisingly, many European manufacturers have chosen to ignore this legal requirement because of the impact on production costs.

Due to the increasing importance of ozone resistance, Dunlop also invested in the latest, testing equipment so that they



*Conveyor belt fire.*

could introduce mandatory testing to EN/ISO 1431 international standards. Although the damaging effects of exposure to ozone are now internationally recognized, what is less well recognized are the extremely harmful effects on the cover surfaces of rubber conveyor belts. Belts that do not operate under shelter are prone to surface cracking, which has serious consequences in terms of the performance of the belt and its working life as well as significant environmental and health and safety issues, especially where fine particles penetrate the cracks and are then discharged (shaken out) on the return (underside) run of the belt.

To combat this problem, Dunlop's technicians successfully focused on providing increased protection by using special additives in all rubber compound recipes, thereby extending the operational life of Dunlop belts further still. The same 'we can do it' approach resulted in not just some but all of Dunlop's belts exceeding EN ISO 284/DIN 22104 electrical conductivity standards so that they can be used within ATEX regulated areas. And where ISO or DIN standards do not exist, such as resistance to oil and grease, Dunlop promptly applies a suitably tough alternative, in this case the ultra-demanding American ASTM D 1460 standard. The company does seem to love a challenge!

### PROVING THE DIFFERENCE

When not testing Dunlop's own belts to destruction, the lab technicians also have a constant stream of competitors' belts to test in order to produce scientifically based performance comparison datasheets that their colleagues in sales use to prove the difference between Dunlop and 'normal' belts. Sales and marketing director Andries Smilda is naturally a big supporter of this work. “In any business, you always need to keep one eye on the quality of the competition and from our point of view, the results are invariably motivating. One recent example was a so-called fire resistant belt that burned like paper!” said Smilda with a twinkle in his eye.

So if you thought that all conveyor belts were just long pieces of black rubber and that there is not much to choose between them then think again. Think of men and women in long white coats working quietly behind closed doors!

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