

Hard-wearing conveyor belts and components

driving safe, high-capacity bulk operations



Conveyor belt disposal – a forgotten cost

In buying decisions, it is often common to focus solely on the purchase price of a product or service, writes *Jan Willems*. As a result of the dramatic impact of market saturation in the past twenty years by manufacturers in South and East Asia, predominantly China, this criterion certainly applies also to rubber conveyor belts.

However, the initial cost represents only a fraction of the total spending over the belt's lifecycle. Unmeasured or 'incidental' expenditure that does not form part of the cost calculation can turn what appears to be an economical choice into an extremely expensive one.

A QUESTION OF PERSPECTIVE

Especially for those who may not be familiar with the day-to-day practicality and technology of rubber industrial conveyor belts, the differences in selling price, performance and longevity of conveyor belts of apparently the same specification can be dramatic. Belts imported from Asia can be as much as 50% lower in price compared to leading-quality brands in Europe such as Fenner Dunlop in the Netherlands and Contitech in Germany. In Fenner Dunlop's case for example, field surveys and laboratory testing consistently confirm it is not unusual for their belts continue to run with little or no problem

for up to 500% longer than the vast majority of their competitors, especially non-European versions.

Or, to put it another way, one good-quality belt can outlast as many as five lower-quality 'competitively priced' belts. Understandably, Fenner Dunlop argues that such differences in operational lifetime more than compensate for the lower prices of its competitors when compared on the basis of TCO (total cost of ownership) methodology.

EASILY FORGOTTEN

When adding to the price paid for a replacement conveyor belt, the most



Good quality costs less – one good-quality belt can outlast as many as five lower-quality 'competitively priced' belts.

common costs of a belt's operational life cycle are the removal of the old belt and the fitting of the new one; ongoing emergency repair and maintenance costs and the hugely expensive lost production (downtime) costs caused by those unscheduled stoppages. However, even advocates of TCO often tend to forget the final outlay caused by a belt replacement, which is the disposal of the used belt. To be fair, it is not always easy to calculate the cost because of variables such as size/weight, location, handling and transportation plus the ultimate choice of recycling or waste disposal. Nevertheless, it needs to be done because market research indicates that the collection and

recycling/disposal costs of a belt with an estimated total weight of approximately 4 tons, would typically be in the range of €400 to €1,200 for processing/recycling plus transportation and loading costs, depending on location and accessibility.

LONG-TERM IMPACT.

The amount of redundant conveyor belting being recycled is extremely small. There are numerous reasons for this. Recycling the rubber covers of conveyor belts is a slow, complicated and expensive process while there is barely any demand for the inner synthetic plies or steel cords. The reality is that under foreseeable market circumstances, recycling industrial conveyor

belts is both ecologically and economically problematic. Consequently, countless thousands of tonnes of rubber, polyester, nylon and associated chemicals go to landfill.

Especially in countries such as the UK, landfill charges are extremely high, so the temptation is simply to pile them up on an unused piece of land on site. Here, the cost then moves from monetary to environmental. This is because more than 80% of conveyor belts used in Europe are not subject to EU regulations designed to protect humans, wildlife and the environment in the form of REACH (Registration, Evaluation and Authorisation of Chemical substances) regulation EC 1907/2006 and EU Regulation No 2019/1021 Persistent Organic Pollutants (POP's).

From an environmental perspective, it is also worth bearing in mind that using and disposing of three or more low-grade conveyor belts rather than one high-quality belt is a terrible waste of the Earth's oil resources because the raw materials used to manufacture rubber conveyor belts are almost exclusively synthetic materials derived from oil. Indeed, oil constitutes some 45% of a typical conveyor belt.

MULTIPLYING THE COSTS.

When measured in isolation, the incidental costs relating to a single conveyor belt, including the cost of disposal, may not seem a particularly huge but with short life 'economy' belts the costs are typically incurred three or more times compared to using a longer-lasting, high quality belt so it is certainly worthwhile making this argument in a CAPEX application to senior management to justify making TCO the primary selection criteria rather than price.



Very few rubber belts are recycled.