Dunlop re-launch range of industrial rubber sheeting

Industrial rubber sheeting may not sound very exciting but in actual fact it is used extensively across mines and quarries for a wide variety of purposes. This includes chute lining, conveyor skirting, screening and wear and corrosion protection amongst others. For a great many years the market in Europe has been dominated by unregulated rubber sheeting imported from Asia, mostly China. But thanks to growing health & safety concerns together with an increasing market demand for higher quality sheeting, Netherlands-based Dunlop Conveyor Belting believe that the situation is about to change. Leslie David explains:

GREAT PRODUCT, WRONG SUPPLY SYSTEM

When Dunlop originally launched their new range of Dunlop Ultima rubber sheeting and pulley lagging in 2016 the product itself proved extremely successful and lived up to Dunlop's long-held reputation for quality. However, their decision to use an on-line 'webshop' ordering and payment system proved unpopular with customers. Dunlop have therefore decided to return to conventional ordering and payment methods.

Another important change concerns roll lengths. Dunlop had applied a 10 meter roll length rule. This was perfectly fine for most but for larger users such as vulcanisers and conveyor service providers it meant an unacceptable amount of waste. So with the move back to a straightforward order and supply method they have also introduced the option of roll lengths of up to 100 meters. This, in combination with a standard roll width of 2000mm, means that waste can now be kept to an absolute minimum.

Dunlop's sales and marketing strategy for Ultima is based on offering high quality sheeting that is surprisingly competitive on price, safe to handle, has a much longer working lifetime and is 100% European manufactured. As with all of their conveyor belting, Dunlop believe that this combination is more attractive to users in the UK and Europe compared to imported rubber sheeting from Asia with all its associated quality, logistical and safety concerns.

FIRE RESISTANT RUBBER SHEETING

The increasing market demand for a better standard of rubber sheeting has also been accompanied by a growing interest in rubber sheeting that is fire resistant. Dunlop have therefore added this option to the Ultima range. Because of the many different fire resistant grades, Dunlop supply

fire resistant sheeting to order rather than from stock. This is still an important new development which will surely be of interest to those concerned with fire safety. Dunlop's senior application engineers have asked me to point out that no rubber sheeting can be made fire proof. As with fire resistant conveyor belts, what actually happens is that the rubber self-extinguishes when the source of ignition is no longer present.

WHY IS IT SUDDENLY MORE PRICE COMPETITIVE?

Dunlop Conveyor Belting technical director, Dr. Michiel Eijpe, explains why they are able to manufacture and sell their rubber sheeting much more competitively than before. *"The quality of any rubber product, especially its durability, wear resistance and strength is largely determined by the quality of the raw materials that are used. We have not changed from those quality principles. Far from it. The real reason behind the improved competitive edge is that we can now achieve greater economy thanks to our investing in brand-new equipment and developing even more efficient production processes".*

SO WHAT IS THE DIFFERENCE?

The harsh reality is that rubber sheeting, up until now at least, is widely seen as a commodity. Lowest price generally wins the day. But the signs are that more and more end-users are looking for better value for money in terms of improved performance and longer working life. So what are the key differences to look for?

In the case of rubber sheeting there are no reinforcing inner plies to take into consideration so the difference between one rubber sheet and another lies entirely in the quality of the rubber and the way that the rubber is cured (vulcanised). To provide the necessary strength and durability the ingredients used to make the rubber (it is almost entirely synthetic) need to be top quality. At the same time, the exact speed of the vulcanizing process needs to be very precise. In their efforts to minimise costs, manufacturers resort to using low grade ingredients (including reject tyre rubber and recycled rubber) as well as accelerating the vulcanisation process.

The end product may look very similar but in reality its physical properties are very different indeed. Interestingly, there are two other highly important but very rarely mentioned factors that differentiate the good from the bad. One relates to safety and the other concerns an invisible destroyer of rubber.

SAFE TO HANDLE? THE HIDDEN RISKS

Rubber technology is a surprisingly complex subject. Most of the 'rubber' used for commercial and industrial purposes is in fact synthetic. The primary reason is that a highly scientific combination of chemicals and additives is needed in order to create the physical properties that allow the rubber to serve a specific purpose. A wide variety of additives are used for important positive purposes such as anti-degradants and anti-ozonants, which form part of the rubber compound. This makes a huge difference to the working life of the sheeting because without these additives the rubber will harden and start to crack and degrade prematurely. But more of that later. Unfortunately for those who come into physical contact with the rubber sheeting,

many of the chemical additives and artificial substitutes that it contains can be potentially dangerous.

Because most rubber sheeting and lagging is imported from the Far East it is not regulated by European manufacturing standards and practices. Potentially hazardous chemicals such as short-chlorinated paraffin's are regularly used to accelerate the vulcanisation process, thereby reducing production costs and creating a cost saving. This can then be reflected in the low price strategy used to dominate the market. The use of such chemicals can usually be identified by the unpleasant smell of the finished product. Good quality rubber that is safe to handle usually has very little smell whereas low quality often has a highly pungent aroma. In other words, you can literally smell the difference!

For this reason, REACH (Registration, Evaluation and Authorisation of Chemical substances) regulation EC 1907/2006 was introduced in June 2007. These regulations control the use of hazardous chemicals used in the manufacture of rubber products including those with category 3 carcinogenic classification. All European manufacturers are legally obliged to comply with the regulations relating to chemicals, preparations (mixtures) and substances used to create finished products. Rather worryingly, most European manufacturers seem to have chosen to ignore this legal requirement, either completely or at least partially, because of the impact on production costs and the ongoing price war with Asian manufacturers. Dunlop are quick to point out that without exception, all of their products are manufactured in compliance with the REACH regulations.

THE INVISIBLE DESTROYER. OZONE & UV RESISTANCE

It is a little known fact that all rubber sheeting, without exception, needs to have first class resistance to the effects of ozone and ultra violet. Ozone (O3) occurs naturally in the upper atmosphere, where it is formed continuously by the action of solar ultraviolet radiation on

molecular oxygen (O2). At high altitude, ozone acts as a protective shield by absorbing harmful ultraviolet rays. At low altitude, ozone becomes a pollutant. Ground level or "bad" ozone is not emitted directly into the air, but is created by the photolysis of nitrogen dioxide (NO2) from automobile exhaust and industrial discharges. The effects are known as ozonolysis.

Exposure to ozone increases the acidity of carbon black surfaces and causes reactions to take place within the molecular structure of the rubber. This can have several consequences such as a surface cracking. As the rubber becomes increasingly brittle it loses strength and its ability to resist abrasive wear and consequently a much shorter working life.

To make matters worse, 'bad' ozone has a partner in crime that also has a seriously detrimental effect on rubber sheeting. Ultraviolet light from sunlight and fluorescent lighting accelerates rubber deterioration because it produces photochemical reactions that promote the oxidation of the rubber surface resulting in a loss in mechanical strength. This is known as 'UV degradation'. As with ozone, UV exposure is virtually unavoidable.

You will hardly ever find a manufacturer that mentions ozone and UV. This is because it requires quite expensive special additives in the compound to create the resistance.

Dunlop advise users of rubber sheeting (and conveyor belts) to always insist on a certification confirming that the sheeting or lagging they are thinking of ordering has successfully passed the EN/ISO 1431 test.

GENUINE DUNLOP?

Dunlop and its instantly recognisable 'Flying D' is one of the most famous brands in the world. However, when the original Dunlop company was broken up many years ago it led to a confusing number of entirely separate companies being legally able to use the Dunlop name. Sadly, in some cases, the Dunlop brand has been used illegally by some unscrupulous suppliers. Dunlop management repeatedly point out that Ultima sheeting is only manufactured in the Netherlands. They do not make Ultima in any other location.

LOOKING FORWARD

Sales & Marketing Director Andries Smilda is particularly excited by the re-launch of Ultima and its potential for growth within the sheeting and pulley lagging market. "*We have developed a product that has several unique advantages over our competitors. The fact is that we have always competed on quality but now, thanks to a lot of hard work by a lot of people behind the scenes, we have added competitive pricing to the customary Dunlop quality advantage and that can only be a positive thing for all concerned".*