

A blinding success

Hanson's Forestwood Quarry overcomes problem of excessive blinding during wet weather thanks to Metso's Trellex TFX rubber screen media

Wales is renowned for many things – but dry weather is not one of them. A combination of being close to the Atlantic and having plenty of mountains means that it rains a lot – good for growing grass to feed the country's 10 million sheep, but bad news when fine screening limestone using conventional steel wire mesh, which tends to clog and blind in damp weather.

This was the problem facing Hanson's Forestwood Quarry, in Pontyclun, Mid-Glamorgan. The blinding had led to potential size and cleanliness problems in the finished products, with the 10mm and smaller fractions in danger of being out of specification. It also meant that two or three times a day during bad weather, the screen would have to be shut down and site engineers asked to climb into it to clear the blinding using rubber mallets. Taking up to an hour each time, this unpleasant job in a confined space also resulted in a significant loss of productivity, estimated to be between 20,000 and 30,000 tonnes a year.

Forestwood production supervisor Richard Grey



Hanson's Forestwood Quarry in Pontyclun, Mid-Glamorgan

'You would be in there on your hands and knees, and it was a dirty, stinking job,' said quarry foreman Howell Bryant. 'It wasn't a

hard job, but you'd rather not do it three times a day. Since we fitted the new system, however, we've only been in twice this year – they are a million times better.'

The 'new' system that Mr Bryant refers to comprises Trellex TFX (previously branded as Trellex Superflex) rubber mats from Metso. Specified and supplied by Metso area manager Gareth Brooks, Trellex TFX is designed to excel in conditions involving up to 7% moisture, thanks to its extreme flexibility, which helps prevent the material from blinding.

Forestwood Quarry was opened in the 1950s and acquired by Hanson in 2001. The quarry's plant was installed in the late 1990s by Unifloc and consists of a BJD rotary impact crusher, a SBM rotary impactor and four Hewitt Robins screening modules. A team of 10 men extract and process 250,000 tonnes of limestone each year.

One of eight Hanson quarries in the area, products include 40mm, 28mm, 20mm, 14mm, 10mm, 6mm and dust. They are used for basecourse material, drainage material, capping and aggregate for a ready-mixed concrete plant that shares the site with the quarry. Interestingly, over 400 tonnes a month of 6mm stone is supplied for use as cat litter. ➤

Case Study

Richard Grey is production supervisor at Forestwood – and the driving force behind the quarry's switch from wire media to Trellex TFX rubber mats. 'We were having a terrible problem with the fine screen that produces 10mm, 6mm and dust. It was constantly blinding in wet weather,' he explained.

'The Trellex TFX system was more expensive but as it needs almost no unclogging – and therefore no production stoppages – the payback in terms of increased efficiency was very rapid. The lifespan of the rubber is also considerably more than the metal wire – by up to five times. Other than checking the tension and pinching up the bolts once a month, they will require almost no maintenance during their expected lifespan. This frees up our engineers for other duties, as they are no longer constantly being asked to clean the screens.'

Flexible solution

The Trellex TFX system is available in several thicknesses with molded and punched apertures. Installed on screens with longitudinal supports, the mats can be fitted on cross- and longitudinally-tensioned screening units. Their effectiveness lies in the extreme flexibility of the rubber screen 'cloth', where constant movement inhibits the material from blinding or pegging. The mats



Trellex TFX rubber mat

are reinforced with integral cords that maintain tension and provide accurate separations. No deck modifications are

needed and panels are fitted with wear strips to protect them from the camber bars.

Although particularly effective on limestone, Metso say Trellex TFX works well on a range of other material types where blinding and pegging is a problem, including clay, coal, gravel and sand.

'Metso supplied two of their own engineers to fit the new deck and ensure it was installed properly,' said Mr Grey. 'They also showed our fitters how to install and maintain them correctly. Since then the Trellex TFX mats have been largely trouble-free. No screen can cope in extremely wet conditions and even the Trellex TFX mats can blind, although this is a rare occurrence – only twice in eight months, rather than a twice daily event. This guarantees that the aggregates are clean and of the right size whatever the weather, and as they are so durable I'm not expecting to replace them for some time. In fact, I am also considering using Trellex TFX for the top deck of the screen also.'

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