

Making Sleepers – Mike Brown

A lot of work for the new track takes place on site, but a lot of work also takes place off site and is never seen. For example, John Simcox has spent endless hours putting together sections of track before delivering them to site and fitting them to the wall (I know how tedious this job is as I have done just a couple of short sections myself.) Brian Dickinson also deserves a mention. Brian has somehow managed to fit into his busy schedule (he runs an engineering company) building our turntable and our traverser (both excellent and beautifully constructed devices). Other members also make valuable contributions “off site”. As an example I thought that I would show you what goes into making sleepers. The basic material used is recycled plastic planks (otherwise used for fences, benches, etc.). These come in 4m lengths which first have to be sawn in half to make them easier to handle. They are then sawn into blocks 200mm long (photo a). Each block has then to be sawn down to 30mm wide (photo b). The cutting has to be quite precise as each sleeper will later be fitted to a jig for drilling, and only the fit in the jig will hold the block in place.



Photo a Cutting the planks to length



Photo b Cutting the blocks into sleepers



Photo c A sleeper cut to size



Photo d A Pile of sleepers ready for thickening

When the blocks are cut they must then be thickened to achieve a uniform thickness (the plank is not even across its width). The thickener is a lash up of my old Bosch planer, as shown in *photo d* (and shown in more detail in an earlier article)

After thickening, the sleepers all have to be drilled with 7 holes, three pairs of two for the chairs and 1 extra for the centre of the block where it will be screwed down to the wall. The drilling has to be quite precise, as this alleviates the need to adjust the track width when fitted. (In fact on sleepers used on curves, the holes are set slightly further apart to provide a wider track gauge. On these sleepers an extra hole is dotted onto the sleeper to identify them). The machine used to do this is a small Roland CNC machine (see *photo f*). A jig on the bed allows 8 sleepers to be drilled in one operation. Of course, it takes much longer

to do the machining than it does to describe it. So far some 4,000 sleepers have been produced, with another 4,000 + to go.



Photo e Dustbins full of sleepers ready for drilling



Photo f Sleepers being drilled

The worst part of the process is the cleaning up, both the saw and the planer are connected to a vacuum extraction system, but the problem is static. The plastic swarf is incredibly static. It even sticks to the inside of the saw despite the vacuum. *Photo g* shows the state of the saw when in use. Unfortunately the photo does not do justice to the black plastic stuck to everything. *Photo h* shows the inside of the saw part way through the job. Again the photo does not do justice to the fact that the inside of the machine is about 2/3 full of swarf. The pipes to the vacuum extractor regularly block and the saw and extraction system have to be taken apart and purged every now and then. This is not only very time consuming but incredibly messy, not only that, the damn stuff sticks to everything in the workshop, it takes an age to clean up. After doing this job the shower tray is always full of black swarf! Finally try explaining to the guys at the tip in Mochdre what you are trying to get rid of!



Photo g The circular saw in use



Photo h The blocked up saw

Fortunately I have had some help in the form of Frank Simpson and Jim Payne who have helped with material handling and Keith Jones who has done most of the drilling. So as you can see there is more to building a railway than is seen down at the track.