

# The Vital Link

Ainsley Fraser gets 'hooked up' on some of the important technical and safety issues around chains

Skip loader operations would be pretty difficult, if not impossible without them – and yet the four lengths of chain essential for lifting and handling are, for the most part, almost taken for granted. Actually, that they are used specifically in a 'lifting application' means that there is a range of operating requirements and safety regulations with which they need to comply – and some fairly chunky obligations for the manufacturer, the supplier, the operator ... and drivers too.

Let's start with the chain assembly itself. It is made up of a number of individual components, starting with a suspension plate or transmission fork at the top. Then comes a length of standard chain – typically 10 or 13mm Grade 8, depending on the type, weight and application. The lower end of the chain is usually mechanically joined onto a 'hammerlock' component... then another length of chain and finally, a single, double or dual keep plate, to attach over the lugs on the side of the skip. There are a number of variations on the theme of course, including end plates with safety bars and even lockable versions.

All these components will (certainly should) be supplied with a Certificate of Examination and Conformity, generally all under BS EN818-4 1997. During the assembly process, an identification plate should be attached to the chain, which will normally give a serial number, other key specification data – and the all important CE mark. All components are supposed to have a four in one safety factor.

Importantly, once made up and completed, the whole assembly should be tested and certified accordingly – it is a lifting chain after all. However, in these days of Whole Vehicle Type Approval (WVTA), manufacturers will argue that their quality assurance and sign-off procedures inspect and test 'the whole' equipment in a holistic way – and therefore the new vehicle complete is fully tested and certified as 'compliant'. A potential grey area? We shall see ... but what is clear is that after the first year in service, testing the chains in-line with the LOLER (Lifting Operations and Lifting Equipment Regulations 1998)



requirements is a given anyway.

Although it might seem obvious, it is a requirement that all four chains are matched – and if a replacement is installed, then that must be identical (and tested) to the same compliance standard as the other chains. Test procedures vary, but the most typical is a strong ground anchor to which one end is attached – and then a hydraulic device, say a boom fitted with a clock or gauge, will be used to lift and test the assembly to meet its required specification and performance. Once completed, a test certificate should be issued and kept as a record throughout the life of the assembly.

Visual inspection of the chains in situ on >

Chains are made up with a range of components and end fitting options



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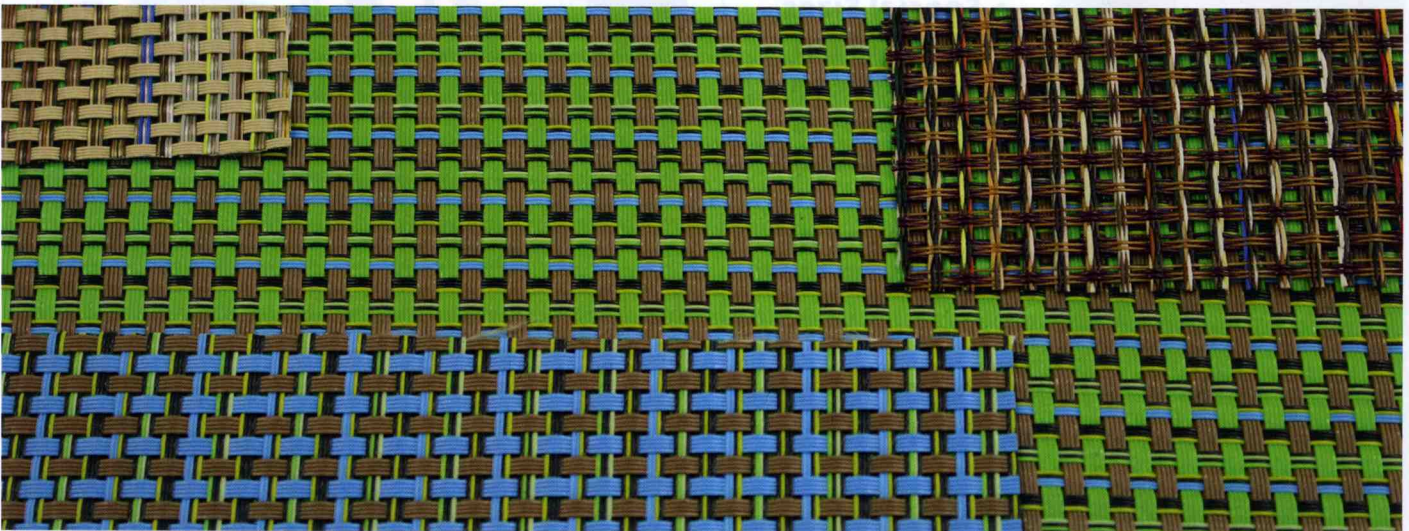


An identification plate should include rating and a CE mark

the vehicle, including for damage or twists, should be included as part of the driver's daily vehicle checks before he starts work. Defect reports should be completed in exactly the same way as they are for any other issues on the vehicle. Ignoring a problem is not an option and could lead to a potential accident, or even prosecution.

Chain specifications also need carefully checking... as 13mm Grade 8 or Grade 10 might look pretty similar, but the higher grade, whilst more expensive, is rated at a 25% increased safe lifting capacity. Another component to watch for is the quality of the keep plate – where most will be made of hardened and tempered material – and identified accordingly by a forging mark. However, there are some mild steel replacements around and they will not perform in the same way and they are

Mighty Mesh ... fearsomely strong and durable



unlikely to be certified.

If this all sounds a bit onerous, it is! Operating skip loaders is correctly defined as a lifting application – and therefore, all the equipment and associated assemblies have to comply with the regulations, test and certification requirements and safe operating procedures ... and operators ignore them at their peril.

## Choose net quality ... don't be nine sheets to the wind!

Large numbers of skip loaders, particularly later ones, are fitted with auto-sheet systems – and we looked at those in some detail in a previous Issue of SHM. This time though, let's just look at the sheets and the materials they are made from.

Researching this piece started with an internet search – and there is plenty out there at what might look like 'deal of the week' prices. But be warned, there are some horror stories about the poor quality and performance of these cheap sheets in service. There are even some where the material is not properly protectively coated and starts to degrade and split ... and that's when it just gets wet!

Strength is also an issue where sheets tear easily when being pulled over the load. Running with a badly damaged sheet, which is not properly protecting the load, is dangerous and could be a potential offence. We picked up one story about police and enforcement officers mounting a campaign near a waste depot, because of the amount of debris from incorrectly sheeted loads being deposited on the approach road.

Doing the job properly is not actually that difficult – and the best material we have found on the market is called Mighty Mesh. Believe it or not, it is made from a recycled material (good credentials for the waste industry) and it is fearsomely strong and durable.

We caught up with Shur-Co's Peter Cranmer, industry alias 'Pete the Sheet', who describes his job as a 'tarpologist' (love it!). But he makes a very valid point that of all the ancillary equipment requirements that go with skips and bins, nets really are an area where you get what you pay for.

Finally – and most importantly... always remember that if you have to sheet the skip, do it before you load it, so that there is never a reason to climb onto the vehicle unless it's absolutely necessary.