



Pre-cemented soles

Moulded sole units have been around for a long time and are used on most fashion footwear and a good many sports and casual shoes as well. While not as cheap as direct bottoming, they offer far greater flexibility and, where a sole is offered without exclusivity, no capital investment on moulds by the shoemaker.

The downside is that they require several operations before they can be finally attached to the lasted upper. German PU sole producer ALSA GmbH has launched a new system called AGO whereby the sole requires no preparation before attaching. Instead, the adhesive is applied to the sole during the moulding process and protected by a plastic film until ready for use, when it is peeled off, the adhesive heat-activated and the sole attached in the usual way.

POTENTIAL SAVINGS

ALSA claims this new advance can save between six and eight operations that currently have to be performed as well as providing a more even adhesive coat and less waste. PU sole units are usually treated using the following steps:

1. Washing to remove any residual mould release
2. Roughing to remove the surface skin*
3. Application of a primer coat
4. Drying the primer coat
5. Application of main adhesive
6. Drying the adhesive coat
7. Activation
8. Attaching and pressing

**Chemical pre-treatment by halogenation can be used as an alternative to roughing. Although in many ways easier, it requires special facilities to remove the poisonous fumes that are created.*

The AGO system eliminates the need for the first six operations. While this obviously produces a useful reduction in direct labour costs, further savings can also be achieved. The washing process requires storage space for the soles, contaminated washing solution must be safely disposed of and fumes removed by an extraction system.

Roughing, too, requires machinery, roughing tools that must

be replaced regularly due to wear and disposal of residual PU dust. Priming and final adhesive coating both require storage and drying facilities as well as the extraction of fumes. Wherever machines are used, energy is consumed and maintenance needed. Savings can also be made on material purchases and storage, wastage, and disposal of residual adhesive. Furthermore, there is no risk of any damaged soles due to over-roughing.

Removing the protective film



HOW DOES IT WORK?

The principle is essentially the same as that used to mould colour-printed films in clear PU sole units except that the colour is replaced by an adhesive. Coating a film using the knife over roll technique creates a perfectly even layer of adhesive which is dried off as the film passes through the oven section of the coater. The coated film can then be stored as a wide-width roll ready for cutting into shapes that can be applied inside the top of the sole mould before the PU is injected.

The film also acts as a protective barrier for the adhesive while the soles are being stored prior to use, preventing any contamination and also prolonging shelf life. When the sole is ready for use, the film is simply peeled-off and the sole activated and attached in the normal way. This is quite a significant development as the adhesive coating will never vary and, as the PU material forming the sole was directly foamed on to it, the bond will always be strong. A further plus is that ALSA says the process can usually be applied to any of its or its customers' moulds without any additional tooling requirements. 🌐