TECHNICAL SPECIAL INFORMATION 22

Surface treatment and laying of smoked oak

Surface treatment
Smoked oak can be lacquered or oiled. It is important that excess ammonia has escaped as far as possible from the wood. If a clear smell perception of ammonia should show up with the fine grinding, then an insufficient outgassing is to be assumed. In this case it is advisable to continue only after a sufficient ventilation phase. Residual ammonia content is particularly critical with acid hardener lacquers that are no longer usual in Germany today.
(L62 Eurotop) and in individual cases with SOLVSEAL UNOSIEGEL

Water-based coatings generally contain ammonia or related amines themselves. These evaporate during drying and the subsequent curing phase. Ammonia repelled from the substrate causes in particular a slower build-up of the water and chemical resistance of the water seal, which, however, is basically applicable.

Direct application on the smoked oak is problematic and therefore not recommended for water-based paints. On the one hand, the low level of fire must be emphasised. One does not achieve the strong colour image which is generally associated with smoked oak. In addition, the water dissolves the tannins, which are particularly dark after smoking, even better than in normal oak. The result is, on the one hand, cloudiness and, on the other hand, a greatly increased risk of flag formation in wood species of different brightness that are laid together, meaning a local transition of the colouring agents. If these effects are reduced by a low print run and thus faster drying, there is a risk of inhomogeneous varnish application, which can become noticeable in roller runners, varnish beads and poster formation.

This is prevented by a suitable primer with sealing-effect, such as CLASSIC BASEOIL or AQUASEAL® EXOBLOC (international also SOLVSEAL UNIQUICKPRIMER or SOLVSEAL LT-EXPORT EXTRA). Due to the sealing action, the tanning agents are not activated and the desired strong colouring is achieved. Particular attention should be paid to the homogeneous application of the primer. A simple way to achieve this is to apply the primer more evenly during processing, which gives the processor more time for even sizing. The first coat can also be oiled with CLASSIC BASEOIL as a low-emission primer alternative. After very good drying of the primer, the paint build-up can be continued with water-based paints (AQUASEAL® 2KPU, AQUASEAL® ECOGOLD). When varnishing with water-based varnishes, the stretching over joints in the course of swelling/shrinkage must be observed overall. In individual cases, this can lead to a whitish joint appearance with dark wood species such as smoked oak.

The oxidative drying of oils and oil synthetic resin varnishes is slowed down by the ammonia, but is not prevented. In this respect, well fumigated smoked oak can generally be easily and very well refined with these agents with a longer drying time. Since smoking has increased the absorbency of the oak, this wood can be particularly well impregnated with oils (CLASSIC BASEOIL, CLASSIC 100PROOIL). Care must be taken to ensure uniform impregnation. 2K oils are generally unproblematic as long as the main curing mechanism is oxidative drying (CLASSIC BASEOIL with CLASSIC PLUS). Care must be taken with oil-water lacquer combination structures, it is absolutely necessary to carry out a drying control of the oil before sealing.

In the case of oils containing matting agents (CLASSIC HARDOIL) or oil synthetic resin varnishes (SOLVSEAL LT EXPORT EXTRA) for roller application, it may be advantageous to apply the first coat on the raw wood for saturation with a glossy variant in order to avoid inhomogeneous enrichment of the matting agents on the surface.

The colouring is visually very interesting, for example with a white oil (CLASSIC BASEOIL WHITE). The pore structure of the oak allows attractive rustic effects to be achieved. The optical effect of smoked oak can also be achieved with a dark colouring of normal oak. In this way, restrictions on use (e.g. building inspectorate approval) are avoided.

It is advisable to produce an original sample for all surface treatment variants and to submit this to the end customer for evaluation and approval.

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