

NECOWEL™ FLE 55 LR



WATER-BASED WOOD STAINS BASED ON NATURAL OILS

As a natural, biological material, wood is particularly susceptible to attacks by fungi, bacteria and insects especially under humid or warm conditions. In addition, natural weathering causes the wood surface to age and lose its natural appearance over time. The use of appropriate wood impregnation can improve the appearance and significantly curb weather-related change. In addition, the introduction of biocidal active ingredients into the wood body proves particularly challenging, as the pure active substance is often hydrophobic and must be dissolved in advance to penetrate deeply into the wood substrate. As an environmentally friendly solution, the aqueous emulsions based on NECOWEL™ FLE 55 can be used (Table 1).

Aqueous emulsions based on NECOWEL™ FLE 55 fully meet the requirements of an efficient and environmentally-friendly solution.

NECOWEL™ FLE 55 LR

Solid (wt%)	53-56
Oil length (%)	80
Oil type	Linseed oil
Viscosity@20°C (mPas)	400-1900
pH value	6.5-7.5
Solvent	Water



Table 1: Product specifications of NECOWEL™ FLE 55 LR.

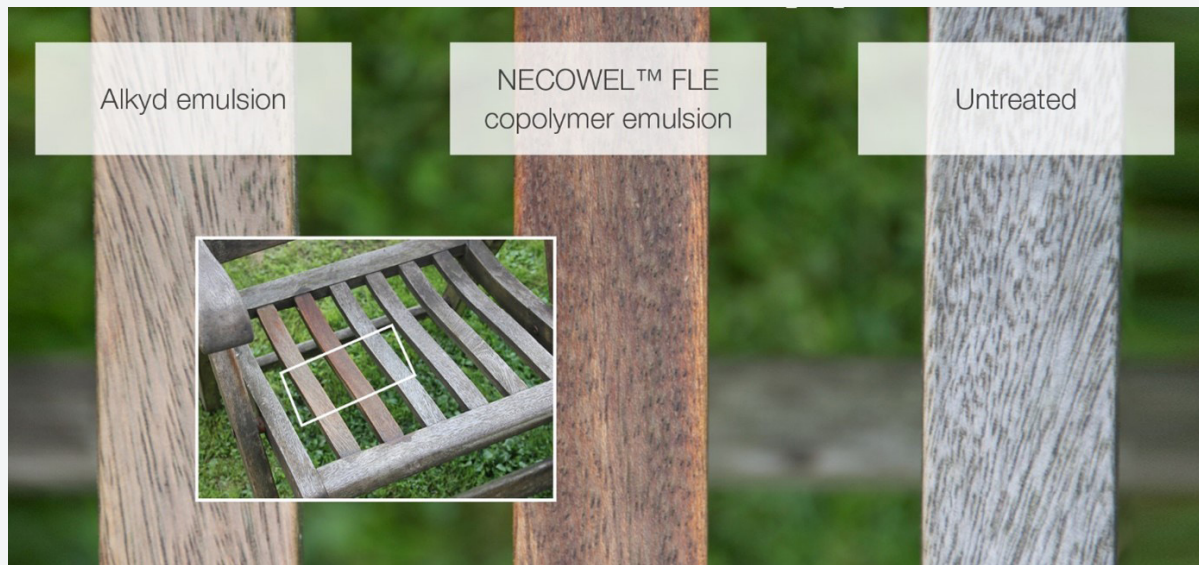


Figure 1: Wood protection and wood-warming effect of weathered wood (right) after treatment of a film-forming alkyd resin coating (left), and NECOWEL™ FLE 55 (center).

NECOWEL™ FLE 55 products are based on hydrophobically modified natural vegetable oils emulsified in water. They are characterized by a low molecular weight and low viscosity resin phase. The hydrophobic compartments created by the emulsification process are excellent reservoirs for water-insoluble active ingredients. This property makes NECOWEL™ FLE 55 LR emulsions an ideal carrier system for biocidal active ingredients and wood preservatives that can be incorporated deeply into the wood body. In general, NECOWEL™ FLE 55 products show both excellent penetration and wetting properties towards most wood species and are therefore ideally suited as base emulsions for the formulation of open-pore wood stains. The optical appearance corresponds to those of solvent-borne systems. NECOWEL™ FLE 55 - types are particularly suitable for formulating stains for exterior and interior use, teak oils and the like.

The special properties of both open-pore stains and wood protection systems based on NECOWEL™ FLE 55 are the excellent penetration capacity, weather resistance and, above all, the outstanding wood-warming properties of old and weathered wood surfaces. Figure 1 shows the result of a weathered wood surface (right) and after treatment with NECOWEL™ FLE 55 (center) and a film-forming alkyd resin coating (left). It can be clearly seen that the wood preservative impregnation based on NECOWEL™ FLE 55 reactivates the natural wood grain and protects it from further weathering.

ADVANTAGES AT A GLANCE

- Excellent wetting behavior against most open-pored wood species
- Outstanding wood-warming properties, even with weathered wood surfaces
- Improved early water resistance
- Hydrophobic modified copolymer based on renewable raw materials
- VOC-free