Tailor-made Polymers and Silicones for Waterproofing Products

Dr. Edward Bohres^{1*} Peter Danisch² Lionel Champanhet³ Dr. Gerhard Wolf⁴

- 1. BASF SE, edward.bohres@basf.com
- 2. BASF SE, peter.danisch@basf.com
- 3. BASF Company (China), lionel.chempanhet@basf.com
- 4. BASF SE, gerhard.g.wolf@basf.com

Abstract: Emulsified synthetic fats like paraffins and oils have been the basic components of most hydrophobic products since the 1970's.

Disadvantages of these products were uneven dyeing and waxy surfaces, caused by sensitivity of the emulsions to hard water, float-pH, etc., were the greatest. Therefore, to replace these synthetic fats, different polymers were tested as new basic components for waterproofing products. Additionally silicones were introduced as further components. They improve not only the waterproofing effect but also the leather's haptic properties like softness, fullness, grip etc.

Early developments of tailor-made polymers and silicones were not always successful however now there are excellent results regarding waterproofing performance and dye levelness. Even the sometimes insufficient fatliquoring-effect of polymer based products has been solved. In addition to the better technical results the environmental performance has also been improved.

The replacement of synthetic fat by newly developed polymers allows more stable waterproofing products with high waterproofing level. At the same time the leather technical properties have been improved so that a easier finish of the crust is achieved.

Keywords: waterproofing; silicones