

Industrial Waxes

Textile & Leather

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Natural fibers contain wax-like substances as a protective agent against atmospheric and biological influences. The removal of these substances during processing alters the frictional and absorbency characteristics of the fibres, resulting in a loss of softness, pliability and elasticity, making it necessary to reapply a suitable finish. It is also necessary to lubricate synthetic fibres for high speed processing.

Wax Performance in Textiles

Wax emulsions are used by the textile industry in four main areas:

- Waterproofing of textile substrates
- Modifying the frictional properties of fibres, yarns and sewing threads to enhance processability
- Enhancing the performance of finishing compounds such as softeners, silicones and resins
- Providing superior fabric properties such as improved flex abrasion resistance, tear strength and sewability

A number of different types of white oils, petroleum jellies and waxes are used in the textile industry to improve the fabric tear strength, flex abrasion resistance, sewability, yarn knitability and the feel of the fabric.

The treatment with Hywax paraffin waxes improves the processing of yarns, for example during warp sizing. It reduces fibre-to-fibre friction or fibre-to-metal friction in fast moving weaving machines, with the result that processing problems during the weaving process are reduced and the production output is optimised. The paraffin wax treatment often remains on the textile and improves the “feel” of fabric. Hywax has developed a specialised range of oxidised and saponified Fischer-Tropsch waxes for use in the textile industry. These grades have been specifically developed to enhance processability, from easier emulsification and application through to final fabric performance in such areas as sewability, knitability, flex abrasion resistance and tear strength. The excellent performance of the Hywax products enables lower application levels than with Polyethylene waxes, providing the opportunity to reduce raw material costs. In areas where the use of wax may impair the fabric handle or drape the lower application levels using Hywax may be advantageous.

Leather and Fabric Impregnation

Hywax paraffin waxes are ideally suited for fabric impregnation in order to improve the water repellence of the fabric. In conjunction with zirconic salt, wash resistant impregnation effects are achieved. For formulations with petroleum jellies served as fat components and white oils, paraffin waxes in their pure or chemically modified form, are used for the greasing and waxing of leather following tanning, in order to achieve phaseisolating lubrication and water repellence. Incorporated in emulsions paraffin waxes have the advantage that small particles are able to penetrate the leather capillaries more effectively (Licker greasing). Licker greasing plays an important role in leather which is used for the production of shoes, luggage, overcoats and for technical functions.

Leather and Fabric Impregnation

Technical grade Petroleum Jelly

	Colour ASTM	Congealing Point [°C]	Cone Penetration at 25°C [1/10 mm]	Viscosity at 100 °C [mm ² /s]
MERKUR 500	0 - 0.5	50 - 56	140 - 160	5.0 - 9.0
VARA AB	0 - 0.7	50 - 55	165 - 185	7.5 - 10

Hywax Paraffin Waxes

	Congealing Point °C	Penetration at 25 °C [1/10 mm]	Oil Content [%]
HYWAX 5403	54 - 56	16 - 20	0 - 0.5
HYWAX 5413	54 - 56	25 - 32	0 - 1.5
HYWAX 5603	56 - 58	15 - 19	0 - 0.5
HYWAX 4110	60 - 62	13 - 16	0 - 0.5

Finishing and Sewability

In a number of processing steps in the textile and leather industries, Hywax Fischer-Tropsch waxes are used either directly, or as important components of textile auxiliary chemicals. These waxes improve the ease of textile processing, as well as the finish and performance of the final article. Our products, designed for these applications, are emulsifiable under pressure or atmospheric conditions and are easy to incorporate into various process steps during textile and leather processing. Hywax Fischer-Tropsch waxes are preferred ingredients for manufacturing of cationic and non-ionic sewing auxiliaries.

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