

Description

RUCO®-FIL DFF is a high performance water repellent yarn lubricant, based on hyperbranched polymers in a hydrocarbon matrix and additives, cationic. RUCO®-FIL DFF is suitable as water repellent and anti-wicking lubricant for yarns and ropes made of PES, PA and their blends for exhaust process or force application.

Performance highlights

- highly water repellent and excellent anti-wicking effect
- good gliding properties and surface smoothness of treated yarns
- free of organic halogen compound incl. of fluorocarbon compounds
- no high curing temperatures necessary
- resistant to yellowing at drying and curing temperatures indicated
- excellent abrasion resistance

Product characteristics

Ionic character: cationic

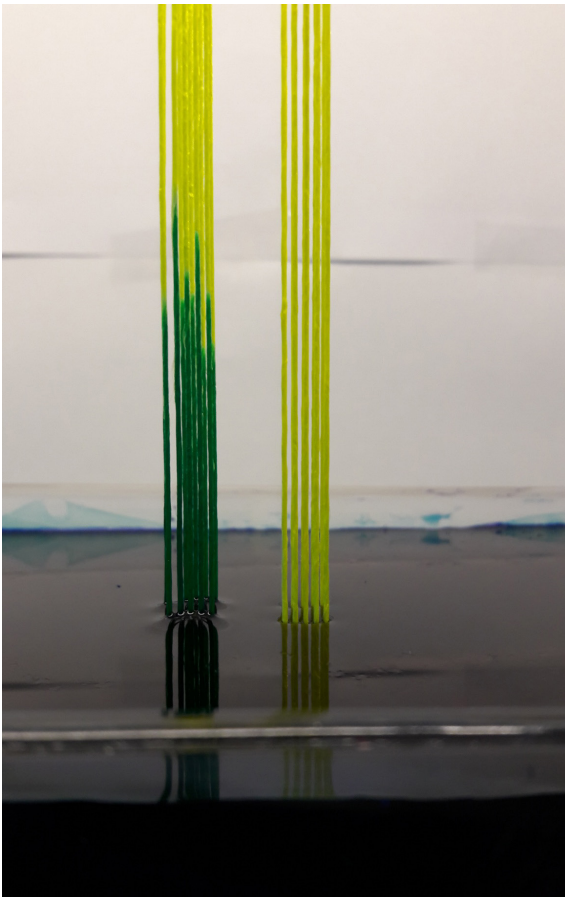
Appearance: white aqueous emulsion

Technology: hyperbranched polymers in a hydrocarbon matrix and additives

pH: 4.0 - 7.0

Density: 1.0 g/cm³

Performance overview



Anti-wicking test- Rudolf method - 100% PA

8 % RUCO®-FIL DFF

Anti-wicking I + II after 240 min, 0 mm

Untreated

Anti-wicking I + II after 240 min, >10 mm

UIAA Water repellency test - 100% PA

8 % RUCO®-FIL DFF

Anti-wicking I + II after 240 min, 0 mm
<5% water absorption

Untreated

Anti-wicking I + II after 240 min, >10 mm
<5% water absorption

**An untreated rope absorbs around 50% of water in this test.*

Guideline application and recipe

As even small quantities of surface-active substances (surfactants, detergents) may cause deterioration in effect, the material to be finished has to be thoroughly pre-washed and free of surface-active residues and residual alkali.

Prewashing recommendation

Liquor flow cycle only inside to outside

Prescouring: Rinse thoroughly with cold water

First step

2 g/l **RUCOGEN® FWK**

1 g/l **VEROLAN® NEW**

1 g/l Soda ash

80 °C / 30 min,

Rinse thoroughly with cold water

Second step

1-2 g/l **RUCO®-TEX NKS 150**

80 °C / 30 min

Rinse thoroughly with cold water

The add-on quantities depend on numerous factors, eg. yarn type, yarn quality, machine type, winding speed, roller speed and application temperatures.

The target add-on depends on the requirements and has to be determined individually.

Continuous method at a running thread or rope

1 - 2 % **RUCO®-FIL DFF**

-related to the solid matter-

RUCO®-FIL DFF is applied undiluted in lick roller systems.

Exhaust method

The use follows bleaching or colouring processes in a fresh bath.

The recommended amount to be used is

5 - 10 % **RUCO®-FIL DFF**

- of weight of fabric -

Following the alkaline treatment processes, the fabrics should be washed well with acid because residual alkali can interfere with the lubrication process. In this case, our product **RUCO®-ACID ABS** is particularly suitable.

Application pH-value 6.5 – 7.0 for synthetic yarns

Final temperature 60 – 70 °C for synthetic yarns

Procedure To achieve an even product distribution we recommend to pump only outside to inside

Heat gradient 1.5 °C/minutes

When **RUCO®-FIL DFF** has completely exhausted, which is indicated by a water clear exhaustion of the bath, drain the bath and **do not** rinse.

A static pressure (2 - 4 bar) and uniform heating optimise the process.

The differential pressure during lubrication should not exceed 0.8 bar.

Afterwards, we recommend to dry the fabrics thoroughly at 100 – 110 °C.

Cabinet dryer: 4 – 8 hours for cones, up to 24 hours for bobbins, depending on their size. Pressure drier: at least 60 – 120 min

After all washing processes a heat treatment above 65 °C (tumble dryer "extra dry") is necessary to restore the full effect level of the finish.

Certifications

bluesign® approved

GOTS approved

ZDHC MRSL compliant

Standard 100 by OEKO-TEX® (suitable for class I-IV)

Contact us

www.rudolf-group.com