
TUBINGAL® HWS

Character	Hydrophilic textile softener with an excellent suitability for whites
Chemical Character	Formulation based on a functional polysiloxane with additives
Appearance	Whitish, liquid emulsion
Ionic Character	Slightly cationic
pH Value of a 10 % Solution	4.0 – 5.0
Specific Weight at 20 °C	Approx. 1.0
Stabilities	<p>TUBINGAL® HWS is stable to hard water, acids, alkalis and electrolytes in the usual concentrations.</p> <p>The product is highly sensitive to frost; after the impact of temperatures around the freezing point irreversible changes will occur.</p> <p>TUBINGAL® HWS is sensitive to heat as of 40 °C.</p>
Storage	If stored properly in closed original containers, TUBINGAL® HWS will hold for at least 12 months.

The above given values are product describing data. Please consult the 'delivery specification' for binding product specifications. Further data about product properties, toxicological, ecological data as well as data relevant to safety can be found in the safety data sheet.

Properties

TUBINGAL® HWS stands out for the following properties:

- excellent rewettability of the finished articles
- distinctly soft, sleeky handle
- highly suitable for whites and also applicable for moulding articles
- can be combined with selected optical brighteners
- suited for the use in easy care finishing liquors
- improves the sewability
- stable to shear forces and low foaming, applicable on jet dyeing machines
- applicable in exhaust and padding processes
- high stability to alkali (tested up to pH 11.0)

®= registered trade mark

Application Technique

Diluting Instructions

TUBINGAL® HWS can be diluted with cold water to any desired application concentration.

Application Fields

TUBINGAL® HWS is excellently suited for the soft handle finishing of wovens and knits made of cellulose fibres, wool and synthetic fibres as well as their blends.

TUBINGAL® HWS can be used in numerous application fields. The product is excellently suited both for terry cloth articles and for various sportswear knit types. Further application fields of this product are workwear and functional garment as well as ready-made articles such as socks and stockings.

The product can be applied in padding and exhaust processes and it can be easily used on jet dyeing machines.

Recipe Proposals

The application amounts depend on the desired effect. The following quantities serve as standard values:

Exhaust process

2 – 4 % TUBINGAL® HWS

pH value:	5.0 – 6.0
Liquor ratio:	1 : 5 – 1 : 20
Temperature:	40 °C
Time:	20 min
Drying:	under the usual conditions

Padding process

20 – 40 g/l TUBINGAL® HWS

pH value:	5.0 – 6.0
Liquor pick-up:	approx. 70 %
Drying:	under the usual conditions

Easy care finishing – CO wovens

40	-	60	g/l	REAKNITT FF
15	-	20	g/l	REAKNITT CAT FS
10	-	30	g/l	POLYAVIN PEN
20	-	40	g/l	TUBINGAL® HWS
5	-	20	g/l	TUBOBLANC HV (for whites)
1	-	2	g/l	KOLLASOL HV

Liquor pick-up:	approx. 70 - 80 %
Drying:	under the usual conditions
Curing:	3 min at 150 °C
	or
	30 - 40 sec at 170 °C

Easy care finishing – CO knits

40	-	60	g/l	REAKNITT TIO
10	-	30	g/l	POLYAVIN PEN
20	-	40	g/l	TUBINGAL® HWS
1	-	2	g/l	KOLLASOL HV

Liquor pick-up:	approx. 70 - 80 %
Drying:	under the usual conditions
Curing:	3 min at 150 °C
	or
	30 - 40 sec at 170 °C

We reserve the right to modify the product and technical leaflet.

Our department for applied technique is always at your service for further information and advice.

Our technical advice and recommendations given verbally, in writing or by trials are believed to be correct. They are neither binding with regard to possible rights of third parties nor do they exempt you from your task of examining the suitability of our products for the intended use. We cannot accept any responsibility for application and processing methods which are beyond our control.

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