



DR. PETRY
TEXTILE AUXILIARIES

FINISHING OF SUITINGS

Suitings made of PES/WO
or PES/cellulose blends

Guiding recipes

Product
recommendations

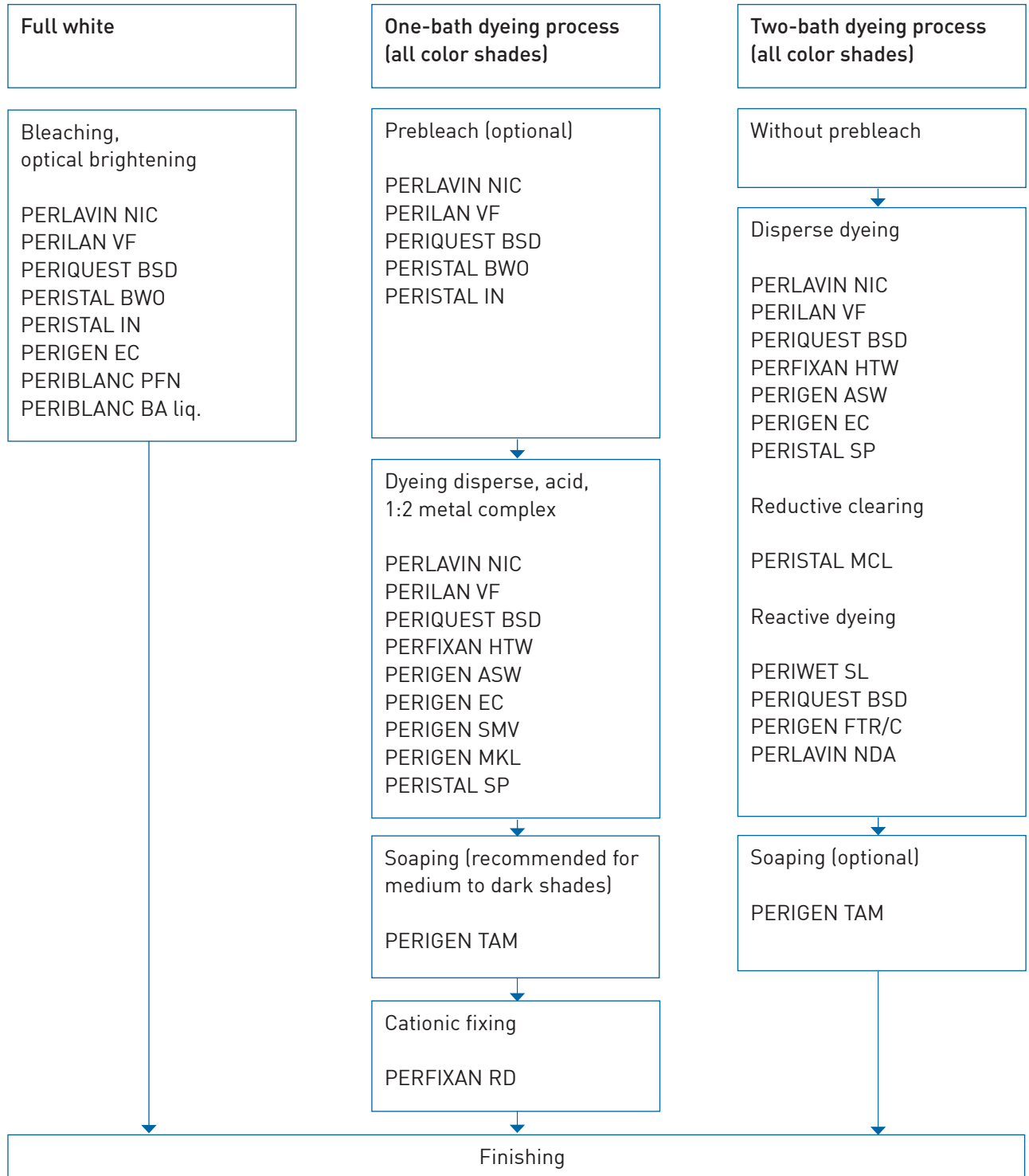




FINISHING OF SUITINGS MADE OF PES/WO OR PES/CELLULOSE BLENDS

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1. FINISHING OF SUITINGS MADE OF PES/WO BLENDS



1.1 BLEACHING

1.1.1 FULL WHITE

Highest degree of whiteness can be achieved if the woolen part is bleached with hydrogen peroxide first, followed by a reductive bleach combined with application of optical brighteners.

1.1.1.1 ACID PEROXIDE BLEACH WITH PERISTAL BWO AND OPTICAL BRIGHTENER (FOR PES)

0.5–2.0 g/l	PERLAVIN NIC (optional)
1.0–4.0 g/l	PERILAN VF
0.5–2.0 g/l	PERIQUEST BSD
2.0–6.0 g/l	PERISTAL BWO
10–30 ml/l	hydrogen peroxide 35%
1.0–2.0 g/l	PERIGEN EC
0.1–0.8 %	PERIBLANC PFN (optical brightener for PES)

- start at 50 °C
- heat up to 100 °C
- treat 15–20 min at 100 °C
- cool down to 60 °C
- drop the bath, rinse warm and cold, continue with reductive bleach

1.1.1.2 REDUCTIVE BLEACH COMBINED WITH OPTICAL BRIGHTENING (FOR WOOL)

0.5–2.0 g/l	PERLAVIN NIC (optional)
2.0–4.0 g/l	PERILAN VF
0.5–2.0 g/l	PERIQUEST BSD
0.4–1.5 %	PERIBLANC BA liq.
1.0–4.0 g/l	PERISTAL IN

- start at 50 °C
- heat up to 80 °C, then add the pre-diluted PERISTAL IN to the bath
- heat up to 100 °C
- treat 15–20 min at 100 °C
- cool down to 60 °C
- drop the bath, rinse warm and rinse cold with 1.0 ml/l hydrogen peroxide 35% to neutralize residual reductive agent

For finishing see chapter 3, page 12.

1.1.2 PREBLEACH

The prebleach can be done in the same way as the full white bleach without the use of optical brighteners and dyeing accelerator.

1.2 DYEING

1.2.1 ONE-BATH DYEING PROCESS

In the one-bath dyeing process both substrates are dyed at the same time. All color shades from pale to deep can be dyed, but it is necessary to use selected disperse with high fastness levels and less staining behavior of the wool part. A reductive clearing step is not possible. The advantage of this single process is its economic benefit and comparatively low damage of the wool fibre.

Guiding recipe with disperse dyes and acid or 1:2 metal complex dyes (HT dyeing):

0.5–2.0	g/l	PERLAVIN NIC (optional)
2.0–3.0	g/l	PERILAN VF
0.5–2.0	g/l	PERIQUEST BSD
1.0–3.0	g/l	PERIGEN ASW
3.0–5.0	%	PERFIXAN HTW (protective agent for wool under HT conditions)
0.5–2.0	g/l	PERISTAL SP (pH value 4.5–5.0)
1.0–2.0	%	PERIGEN SMV (if acid dyes are used)
1.0–2.5	%	PERIGEN MKL (if 1:2 metal complex dyes are used)
1.0–3.0	%	PERIGEN EC
x	%	disperse dyes
y	%	acid or 1:2 metal complex dyes

- start at 60 °C
- add auxiliaries
- run 5–10 minutes
- add disperse dyes
- add acid or 1:2 metal complex dyes
- heat up to 120 °C with 1 °C/min
- dye for 10–20 min at 120 °C
- cool down to 60 °C with 2 °C/min
- drop the bath
- rinse warm and cold

For medium to dark color shades it is recommended to do a soaping process to improve the fastness level of the dyeing.

1.0–3.0 g/l PERIGEN TAM

- treat 20–30 minutes at 60–80 °C
- rinse warm and cold

1.2.2 TWO-BATH DYEING PROCESS

In the two-bath dyeing process the PES part is dyed first, followed by reductive clearing in the cooled down dye bath. In the second dye bath the wool is dyed. The advantage of the two-bath dyeing process is the possibility, to use a wider range of disperse dyes.

First bath – dyeing PES part with reductive clearing in the cooled down dye bath

0.5–2.0	g/l	PERLAVIN NIC (optional)
1.0–3.0	g/l	PERILAN VF
0.5–2.0	g/l	PERIQUEST BSD
1.0–3.0	g/l	PERIGEN ASW
3.0–5.0	%	PERFIXAN HTW (protective agent for wool under HT conditions)
0.5–2.0	g/l	PERISTAL SP (pH value 4.5–5.0)
1.0–3.0	%	PERIGEN EC
x	%	disperse dyes

- start at 60 °C
- add auxiliaries
- run 5–10 minutes
- add disperse dyes
- heat up to 120 °C with 1 °C/min
- dye for 10–20 min at 120 °C
- cool down to 80 °C with 2 °C/min
- adjust pH value to 3.5–4.5, e.g. with acetic acid, then add

2.0–4.0 g/l PERISTAL MC liq.

- run 15–20 minutes at 70–80 °C
- drop the bath
- rinse two times warm and continue with dyeing the woolen part

Second bath – dyeing WO part

0.5–2.0	g/l	PERLAVIN NIC
1.0–3.0	g/l	PERILAN VF
3.0–5.0	%	PERFIXAN HTW (protective agent for wool under HT conditions)
0.5–2.0	g/l	PERISTAL SP (pH value 4.5–5.0)
1.0–2.0	%	PERIGEN SMV (if acid dyes are used)
1.0–2.5	%	PERIGEN MKL (if 1:2 metal complex dyes are used)
x	%	acid or 1:2 metal complex dyes

- start at 60 °C
- add auxiliaries
- run 5–10 minutes
- add acid or 1:2 metal complex dyes
- heat up to 120 °C with 1 °C/min
- dye for 10–20 min at 120 °C
- cool down to 60 °C with 2 °C/min
- drop the bath
- rinse warm and cold

1.3 CATIONIC FIXING

If a cationic fixing is needed to improve the wet fastness level of dyed fabric (woolen part), the following procedure is recommended:

- start at 20–40 °C and set the pH value to 5.0–7.0, then add

1.0–3.0 % PERFIXAN RD (related to the weight of woolen part)

- treat 20–30 min
- drop the bath and continue with finishing

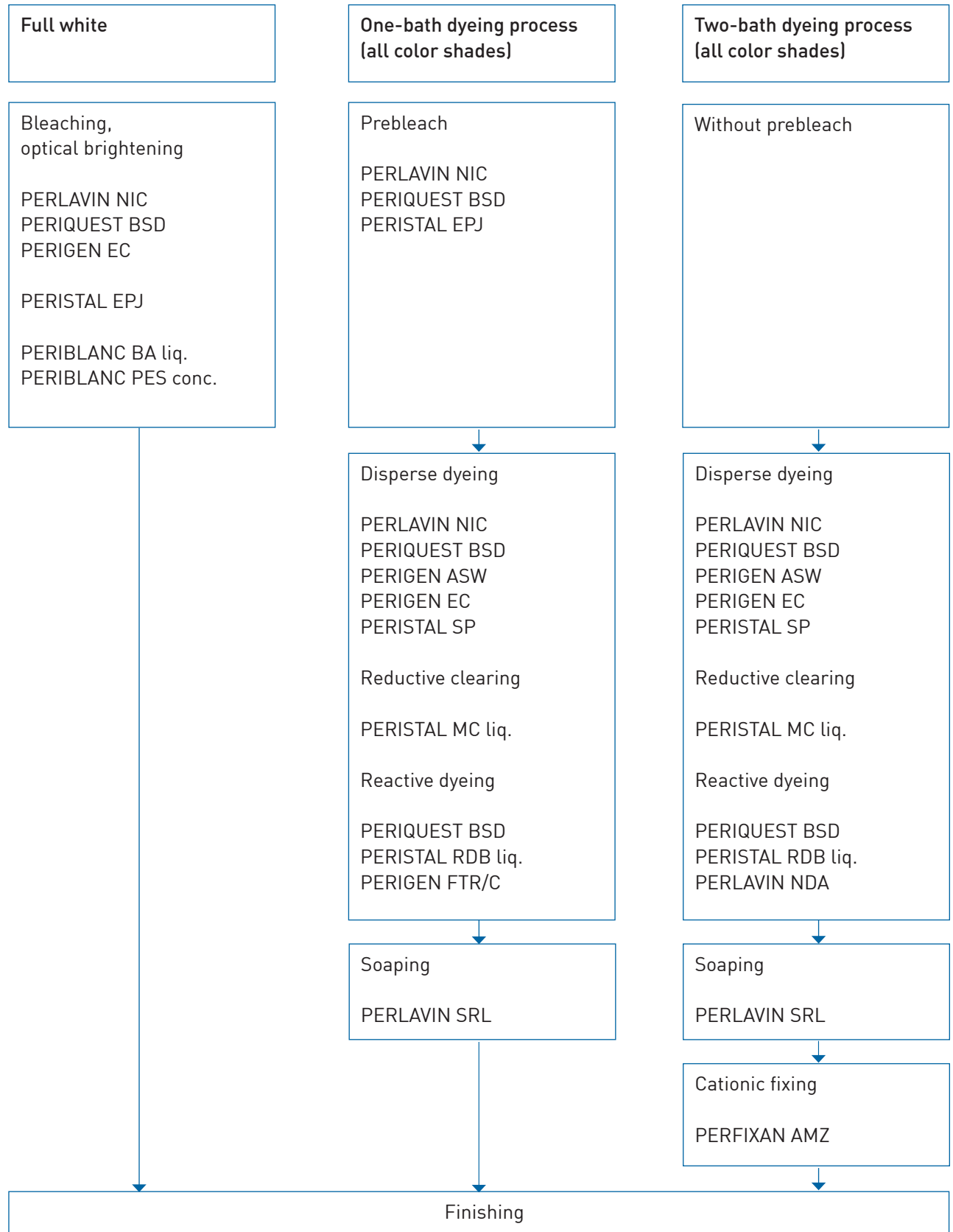
If dyeings have to be re-dyed or levelled out PERFIXAN RD has to be removed first. The following procedure is recommended:

- start at 40–60 °C
- set the pH value to 4.0–4.5 with acetic acid, then add

8.0–12.0 g/l PERIGEN ASW

- heat up to the boil and treat 20–30 min
- drop the bath, rinse 10 minutes warm and 5 minutes cold

2. FINISHING SUITINGS MADE OF PES/CELLULOSIC FIBRE BLENDS





2.1 BLEACHING

2.1.1 FULL WHITE

0.2–0.5	g/l	PERLAVIN NIC
1.0–3.0	g/l	PERILAN VF
1.0–2.0	g/l	PERISTAL EPJ
1.0–2.0	g/l	PERIGEN EC
5.0–8.0	ml/l	hydrogen peroxide 50%
3.0–4.0	ml/l	caustic soda 50%
0.2–0.7	%	PERIBLANC BA liq.
0.1–0.4	%	PERIBLANC PES conc.

- bleach 15 min at 130 °C
- rinse 10 min at 85 °C, optional with 1.0 g/l PERIQUEST BSD
- rinse 10 min at 50 °C
- neutralize 10 min cold with 1 ml/l acetic acid 60%
- continue with finishing

2.1.2 PREBLEACH

0.2–0.5	g/l	PERLAVIN NIC (optional)
1.0–3.0	g/l	PERILAN VF
0.5–1.5	g/l	PERISTAL EPJ
1.0–3.0	ml/l	hydrogen peroxide 50%
1.0–2.0	ml/l	caustic soda 50%

- bleach 10 min at 130 °C
- rinse 10 min at 85 °C, optional with 1 g/l PERIQUEST BSD
- rinse 10 min at 50 °C
- neutralize 10 min cold with 1 ml/l acetic acid 60%

2.2 DISPERSE DYEING, REACTIVE DYEING AND SOAPING

2.2.1 ONE-BATH-TWO- STEPS PROCESS FOR PALE SHADES

0.2–0.5	g/l	PERIWET ELB (optional)
1.0–3.0	g/l	PERILAN VF
1.0–2.0	g/l	PERIGEN ASW
2.0–4.0	g/l	PERIGEN EC
0.5–2.0	g/l	PERISTAL SP

or adjust the dyebath with acetic acid to 4.5–5.0.

- start at 60 °C and add auxiliaries, adjust pH, then add

x % disperse dyes

- heat up to 90 °C with 2 °C/min, then with 1 °C/min to 130 °C
- dye 30 min at 130 °C
- cool down to 60 or 80 °C with 1–2 °C/min depending on the used reactive dyes
- add to the cooled down dye bath

0.5–2.0 g/l soda ash

- check and if necessary adjust the pH value to 7.0–8.0, then add
x % reactive dyes
- run 20 minutes, then dose (progressive if possible) within 20 min
x g/l Glauber's salt
- run 10 minutes and dose (progressive if possible) within 20 min
x g/l soda ash or caustic soda
- dye for 30–40 minutes at 60–80 °C, then drop the bath
- rinse 10 min at 70 °C (twice)
- soap 20 min at maximum 85 °C with

0.5–1.0 g/l PERLAVIN SRL

- rinse 10 minutes at 60 °C and 5 min at 20 °C
- continue with finishing

2.2.2 TWO-BATH PROCESS FOR MEDIUM TO DARK SHADES

First bath – dyeing PES including reductive clearing in the cooled down dye bath

0.5–2.0 g/l PERLAVIN NIC (optional)

1.0–3.0 g/l PERILAN VF

0.5–1.0 g/l PERIGEN ASW

2.0–4.0 g/l PERIGEN EC

0.5–2.0 g/l PERISTAL SP

or adjust the dyebath with acetic acid to 4.5–5.0.

x % disperse dyes

- start at 60 °C and add auxiliaries, adjust pH, add disperse dyes
- heat up to 90 °C with 2 °C/min, then with 1 °C/min to 130 °C
- dye 45–60 min at 130 °C
- cool down to 80 °C with 1–2 °C/min
- adjust pH value to 3.5–4.0 with acetic acid, then add

2.0–4.0 g/l PERISTAL MC liq.

- treat 15–20 min at 80 °C
- rinse twice 10 minutes at 60 °C
- continue with reactive dyeing

Reactive dyeing in the second bath

Dyeing conditions (dyeing time, dyeing temperature, addition of salt and alkali) according to shade cards of the used dyes.

Dyeing medium to dark shades

1.0–3.0 g/l PERIWET ELB (optional)

1.0–2.0 g/l PERIGEN FTR/C

2.0–4.0 g/l PERISTAL RDB liq.

Dyeing dark shades (without prebleach)

1.0–3.0 g/l PERIWET ELB (optional)

1.5–2.5 % PERLAVIN NDA

2.3 SOAPING

- two times warm rinse 10 minutes at 70 °C
- soaping 20 minutes at maximum 85 °C with

1.0–2.0 g/l PERLAVIN SRS/N

- rinse warm 10 minutes at 50 °C and 5 minutes at 20 °C
- continue with cationic fixing (optional) and finishing (see chapter 4, page 13)

2.4 CATIONIC FIXING

Cationic fixing is done after soaping and rinsing of reactive dyeings on cellulosic fibres. The finishing is always performed on a fresh bath.

- start at 20–40 °C and set the pH value to 5.0–7.0, then add

1.0–3.0 % PERFIXAN AMZ (related to the weight of cellulosic fibre)

- treat 20–30 min
- drop the bath and continue with finishing

If dyeings have to be re-dyed or levelled out PERFIXAN AMZ has to be removed at first. The following procedure is recommended:

- start at 40–60 °C and set the pH value to 4.0–4.5 with acetic acid, then add

2.0–3.0 g/l PERIGEN ASP

- heat up to the boil and treat 20–30 min
- drop the bath, rinse 10 minutes warm and 5 minutes cold

3. FINAL FINISHING

According to customer demands suitings can be provided with a variety of final finishes, such as soft handle, water repellent, antipilling and others. For other finishes our technicians kindly assist you.

3.1 SOFTENER

Fabrics made of PES/WO and PES/CO blends can be provided with a very soft and comfortable smooth handle using PERISOFT MSS 45. The finish with PERISOFT MSS 45 improves the resilience and dimension stability of the fabric. The application is recommended by padding.

5 – 15 g/l PERISOFT MSS 45
(related to liquor pick up 100% dry-in-wet)

3.2 WATER REPELLENT FINISH

PERIGUARD CSF is a fluorocarbon product based on C6-chemistry for the water and oil repellent finishing of textiles made from synthetic and native fibres, such as cotton or wool, as well as their blends.

The finishing with PERIGUARD CSF shows good wash resistance. In combination with PERIGUARD EXT NEW (extender) the permanence can be further improved. To increase the penetration of the liquor into the fabric during the padding process, the use of PERIWET DFC liq. is recommended.

Preparation of the liquor:

- Adjust the pH value of the liquor with acetic acid to 5–6 , then add

10 – 60 g/l PERIGUARD CSF
5 – 20 g/l PERIGUARD EXT NEW (optional)
1 – 2 g/l PERIWET DFC liq. (optional)

Padding: with 100% liquor pick up dry-in-wet
Drying: as usual
Curing: 60 s at 170 °C

3.3 ANTIPILLING FINISH

The recipe for the antipilling-finishing depends on the type of fibre resp. fibre blend which has to be finished. The following recipes are possible:

- resin finishing
- resin finishing in combination with polymers
- polymers
- biofinishing

For PES/WO as well as PES/CO blends a combination of resin and polymer finish are well to very well suitable.



Recipe:

50–90 g/l	PERFIXAN PC 55 NEW
5–10 g/l	PERISOFT MSS 45
30–60 g/l	PERICOAT VA 110

Padding:	with 100 % liquor pick up dry-in-wet
Drying:	as usual
Curing:	3 min at 150 °C

More information about antipilling finishes are shown in our brochure "Antipilling Finishing".



4. SHORT INTRODUCTION OF OUR RECOMMENDED AUXILIARIES (IN ALPHABETICAL ORDER)

Auxiliary	Scope
PERIBLANC BA liq.	Fluorescent optical brightener with bluish shade for cotton, viscose, polyamide, wool and silk. Affinity: high
PERIBLANC PES conc.	Optical brightener with reddish shade for polyester and blends made of polyester and cellulosic fibres. Affinity: medium
PERIBLANC PFN	Fluorescent whitening agent for polyester with a blue-violet shade. Affinity: medium
PERICOAT VA 110	Self-crosslinking vinyl acetate for bonding, coating, pigment dyeing and pigment printing of textile surfaces. Forms transparent soft and flexible films. Ionic character: anionic
PERIGEN ASW	Dispersing agent for dyeings of cotton with vat and naphthol dyes as well as for the dyeing of polyester, polyamide and their blends with disperse dyes. Ionic character: anionic
PERIGEN EC	Biodegradable dyeing accelerator and a highly effective leveling and migration agent for disperse dyes. Increases the colour yield. Ionic character: nonionic
PERIGEN FTR/C	Multifunctional dyeing auxiliary for the dyeing of cellulose with direct, reactive and sulphur dyes. Ionic character: anionic
PERIGEN MKL	Highly effective levelling and migration agent for the dyeing of polyamide and wool with 1:2 metal complex dyes. With wool having tendency to skittery dyeing it provides superior levelling properties. Ionic Character: slightly anionic
PERIGEN SMV	Excellent levelling agent for the dyeing of wool with acid dyes and polyamide with acid, metal complex and disperse dyes. Ionic character: slightly anionic
PERIGEN TAM	Used for aftersoaping, excess dyes are removed from the fabric very effectively and a distinct improvement of the crock and washfastness is obtained. Ionic character: nonionic – pseudo cationic
PERIGUARD CSF	Fluorocarbon product based on C6-chemistry for the water and oil repellent finishing of textiles made from synthetic and native fibres, such as cotton or wool, as well as their blends. Ionic character: slightly cationic



Auxiliary	Scope
PERIGUARD EXT NEW	Extender used together with fluorocarbons for the water and oil repellent finishing of textiles. The product increases the water and oil repellence to such an extent which often could not be achieved by increasing only the quantity of fluorocarbons. Ionic character: slightly cationic
PERILAN VF	Universal, highly effective and low foaming crease preventing agent for cellulosic fibres, wool, synthetics and their blends. Ionic character: nonionic
PERIQUEST BSD	Very well biodegradable sequestering and dispersing agent with versatile use in bleaching, washing and dyeing liquors. Ionic character: anionic
PERISOFT MSS 45	Silicone micro emulsion with high resistance to sublimation and very low tendency to yellowing even at high drying temperatures. Suitable for natural as well as synthetic fibres. It is preferably used in the padding process. Ionic character: slightly cationic
PERISTAL BWO	Activator for the peroxide rapid bleaching of wool at acid pH value. No risk of alkali damage and very low felting compared to alkaline conditions. Ionic character: anionic
PERISTAL EPJ	Multifunctional product for the peroxide bleach. Combines sequestering, wetting, washing and deaerating properties in one auxiliary. Ionic character: anionic
PERISTAL IN	Reductive bleaching agent for bleaching of cellulose, polyamide, wool and silk.
PERISTAL MC liq.	Highly effective reduction agent for the clearing of dyeings with disperse dyes in the acid pH-range. Can be used advantageously in the cooled down dyebath.
PERISTAL RDB liq.	Levelling agent for the dyeing of cellulosic fibres with reactive dyes. Ionic character: anionic
PERISTAL SP	Organic buffer which controls the pH value in the range of 4–6 when dyeing polyester with disperse dyes or polyamide with acid dyes. Ionic character: anionic
PERIWET DFC liq.	Deaerating and wetting agent for fluorocarbon finishings and printing pastes. Acts as deaerator and penetration accelerator. Ionic character: nonionic
PERIFIXAN AMZ	Formaldehyde and heavy metal free fixing agent to improve the wash and wet fastnesses of natural and regenerated cellulosic fibres, dyed with direct or reactive dyes. Ionic character: cationic



Auxiliary	Scope
PERFIXAN HTW	Protective agent for wool, which is dyed at HT dyeing processes.
PERFIXAN PC 55 NEW	Self-catalyzing crosslinking system with low formaldehyde content for the finishing of cellulosic fibres and their blends with synthetic fibres.
PERFIXAN RD	Fixing agent to improve the wet fastness of wool and silk dyed with acid and metal-complex dyes. Ionic character: cationic
PERLAVIN NDA	Multifunctional auxiliary for the grey dyeing of cellulosic fibres with reactive dyes. Combines wetting, washing, dispersing and sequestering properties. Ionic character: anionic
PERLAVIN NIC	Universal detergent for all types of fibres with excellent wetting and washing effects. Versatile applicable in pretreatment, bleaching and dyeing processes. Ionic character: nonionic
PERLAVIN SRL	Very good foamless soaping agent of reactive and vat dyeings and prints. Ionic character: anionic
PERLAVIN SRS/N	Excellent soaping agent for reactive dyeings and prints. Versatile use in continuous and discontinuous processes. Most effective for low temperature soaping. Ionic character: slightly cationic



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