



Continuous Pretreatment of Cotton



CONTINUOUS PRETREATMENT of COTTON

AMILAZ TK 200

- Solubilize starch, into glucose form.
- Workable at room and 70 °C. In case of yarn-dyed fabrics or PVA/starch sizes, cold temperature desizing may be advisable.
- Biodegradable.

AMILAZ HT

- In case of pad-steam processing, AMILAZ HT efficiently solubilize size, with subsequent hot washing.

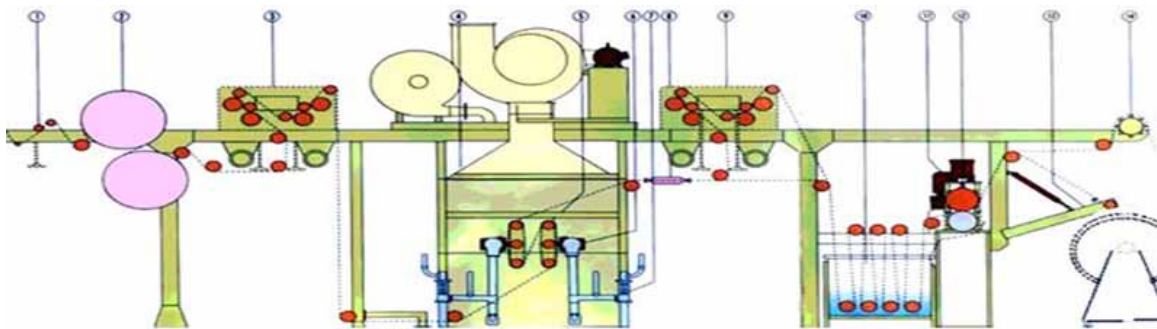
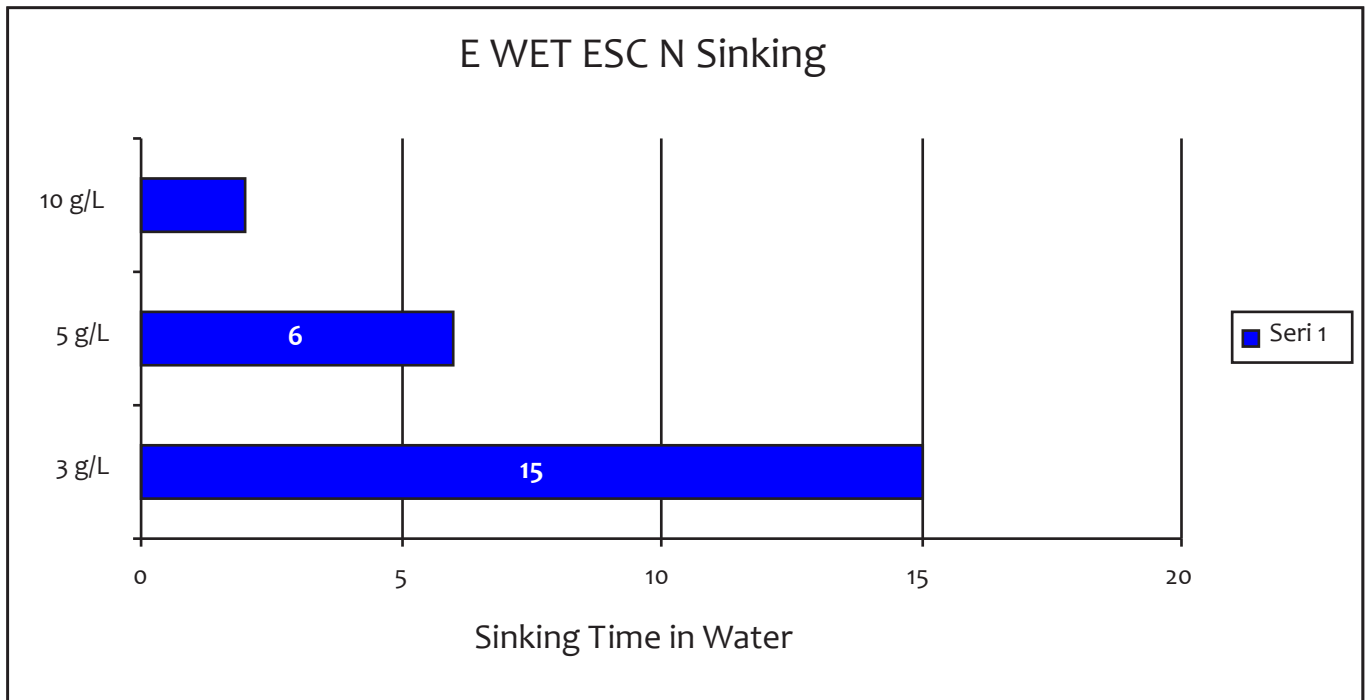
Recipe;

AMILAZ HT	1 - 2 g/L
E WET ESC N	3 g/L
Pad temp.	80 °C
Pad pH	5 - 6
Steamer time	20 min

E WET ESC N

Wetting Agent for Enzym Applications

- Enzymes are deactivated by,
 - Anionic wetting agents,
 - Ca/Mg sequestering agents.
- E WET ESC N is nonionic.
- Instant wetting power.
- Reduced foam-silicone free.



Singeing and Desizing Range

Recipe	Warm Pad Batch	Cold Pad Batch
E WET ESC N	3 g/L	5 g/L
AMILAZ TK 200	2 - 4 ml/L	4 - 6 ml/L
pH	5 - 6	5 - 6
Temp.	60 - 80 °C	Room
Batching time	6 h	12 h

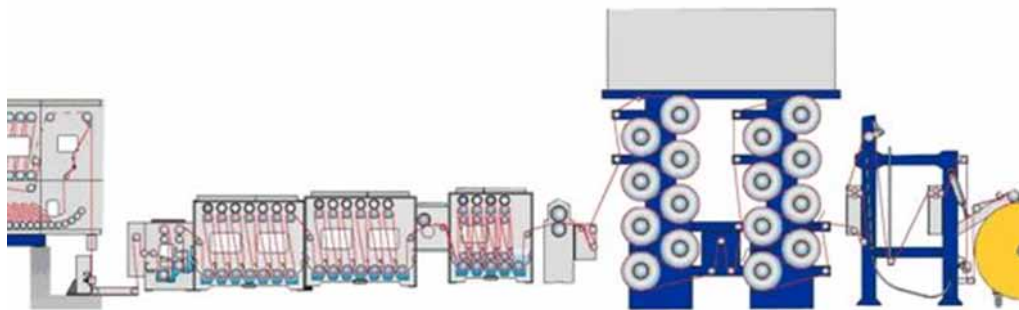
In case of tightly woven fabrics, EXOLINE PAD added into above solution, to enhance pick-up,

EXOLINE PAD 3 - 6 ml/L

DESIZING CHEMICALS

- AMILAZ TK 200** : Alpha amylase. Workable at cold and warm temperature.
- AMILAZ HT** : Special amylase. Workable in Pad-Steam ranges.
- E WET ESC N** : Nonionic wetting agent.
(Anionic wetting agents deactivates enzymes.)
- EXOLINE PAD** : Pick-up enhancer.

CONTINUOUS PEROXIDE BLEACHING



- High peroxide concentration,
30 - 40 ml/L H₂O₂, 50 %
- High pH,
8 - 15 g/L NaOH, flake
- Short reaction time 6 - 30 min

OXY CELLULOSE PREVENTION

- Oxy cellulose is degraded cellulose, formed in the presence of;

Peroxide,
Alkaline,
Ferrous ions.

- Pin-holes are the reflection of oxy cellulose formation.
- Oxy cellulose can be prevented,

Before bleaching and/ or	PROSIL D CONZ
During bleaching	EXOLINE FE LIQ. ANTISIL CONZ PERTONE PR

EXOLINE FE CONZ

- Main problem, encountered in continuous bleaching is oxy cellulose formation.
- Oxy cellulose formation shows itself as pin-holes.
- Heavy metal salts, like **Fe** and **Cu** , are the main cause of pin-holes.
- EDTA is workable at neutral or acidic region but not alkaline!

pH	mg Fe /g EDTA
4	150
6	120
8	60
10	10

- EXOLINE FE LIQ. complex Fe and Cu ions, even at very high caustic concentration.

NaOH, fl, g/L	mg Fe ³⁺ /g EXOLINE FE LIQ.
5	2,400
40	1,200
60	750
80	650

EXOLINE FE CONZ

- Prevents oxy cellulose, hence pin-holes.
- Imparts better and consistent whiteness.
- Biodegradable.
- No calcium and magnesium sequestering. Specially advised for amylase application;

Desizing,

Scouring / Bleaching.

PROSIL D CONZ

Acid Chelating Agent to Remove Alkaline Earth and Heavy Metal Ions.

- Prevents catalytic damage, hence pin-holes.
- Suitable for batch and continuous pretreatment/bleaching process.
- Chelating power is CaCO_3 : 550 mg/g ; FeCl_3 : 600 mg/g .
- Suitable for neutralizing goods after alkaline pretreatments and mercerizing.
- Improves whiteness and absorbency.

Recipe	Cold Pad Batch	Pad-Steam
PROSIL D CONZ	5 - 10 ml/L	7 - 10 ml/L
E WET CNT 200	2 - 3 ml/L	2 - 3 ml/L
Pad temp.	50 - 60 °C	50 - 60 °C
Steamer	-	95 - 100 °C
Time	2 h	1 min

EXOLINE 3H

Neutralizing and Sequestering Organic Acid

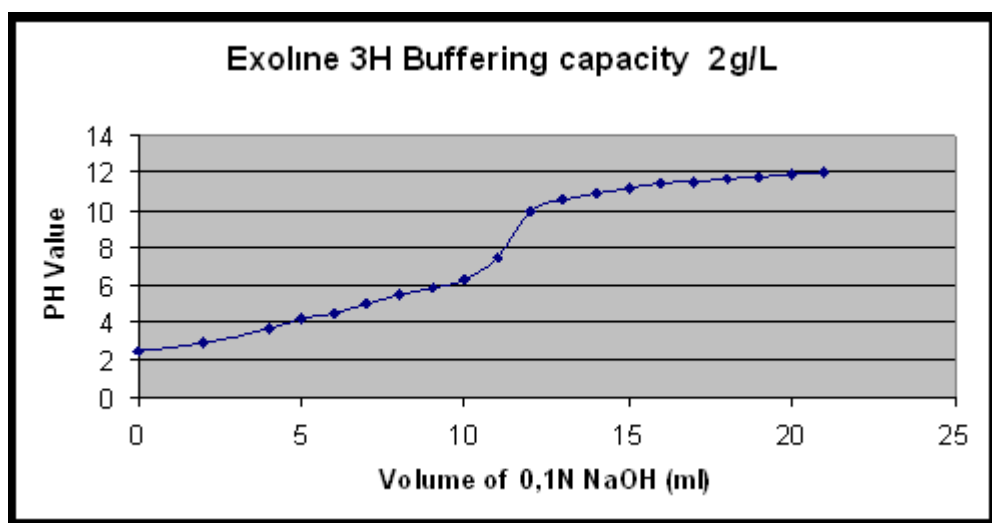
- Internal conditions of prepared cotton, should be our prime concern,

Peroxide	BIOKILL NEW
Hardness	PROSIL D CONZ, ANTISIL CONZ 1
Alkali	EXOLINE 3H or PROSIL D CONZ

- Alkali neutralization is more difficult to remove from cotton than either hardness and peroxide.
- Core pH of yarn is higher than the surface.

Parameter	Fabric
pH last rinse liquor	6,60
pH fiber surface	7,50
Core pH	10,30 !!

- Core alkali migrates to the surface after drying during storage period and increases pH.
- Formic and acetic acids are volatile and evaporates during drying and cannot neutralize out-migrating alkali.
- EXOLINE 3H is non-volatile and neutralize migrating alkali from the core of the fibre.



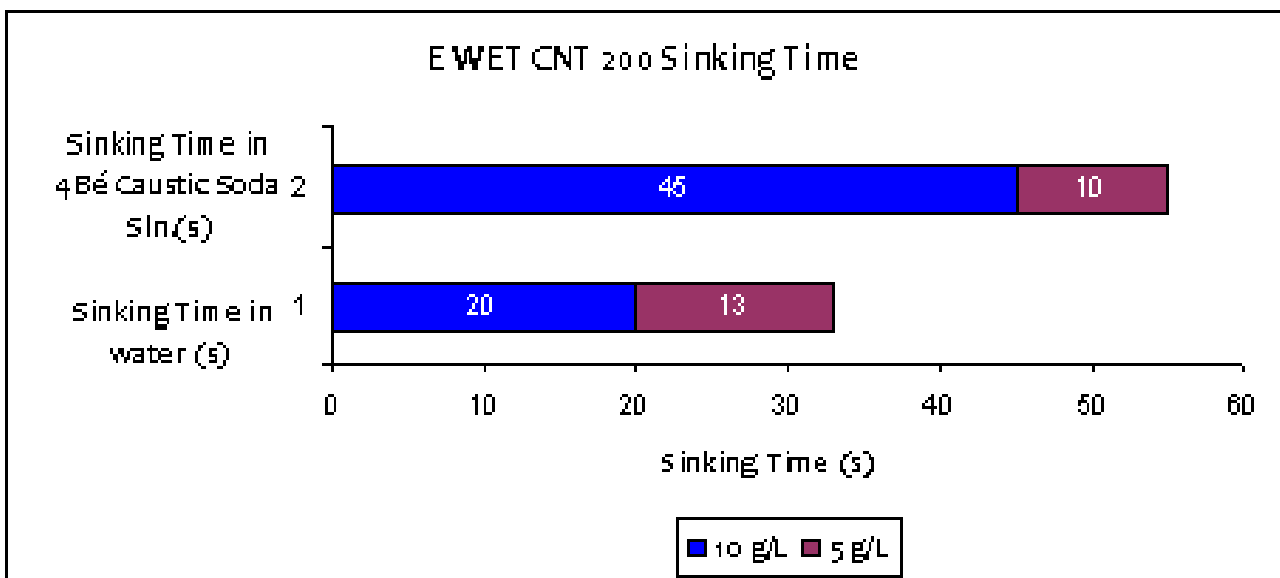
OUR SEQUESTERING AGENTS

Product	CaCO ₃ mg/g	FeCl ₃ mg/g	Desizing	Bleaching	Proton Cleaning	Neutralization
EXOLINE FE CONZ	100	2000	✓	✓	✓	○
PROSIL D CONZ	550	600	○	✓	✓	✓
ANTISIL CONZ 1	175	555	○		○	○
ANTISIL ACC	187,5	400	○	✓	○	○
EXOLINE 3H	300	700	○	○	○	✓

E WET CNT 200

Wetting Agent in Highly Alkaline Solutions.

- Alkly sulphofosfonates.
- Anionic / Nonionic.
- Stable to 4 Be' (25 g/L caustic soda fl.) NaOH solutions.
- Instant wetting.
- Reduced foam-silicon free.

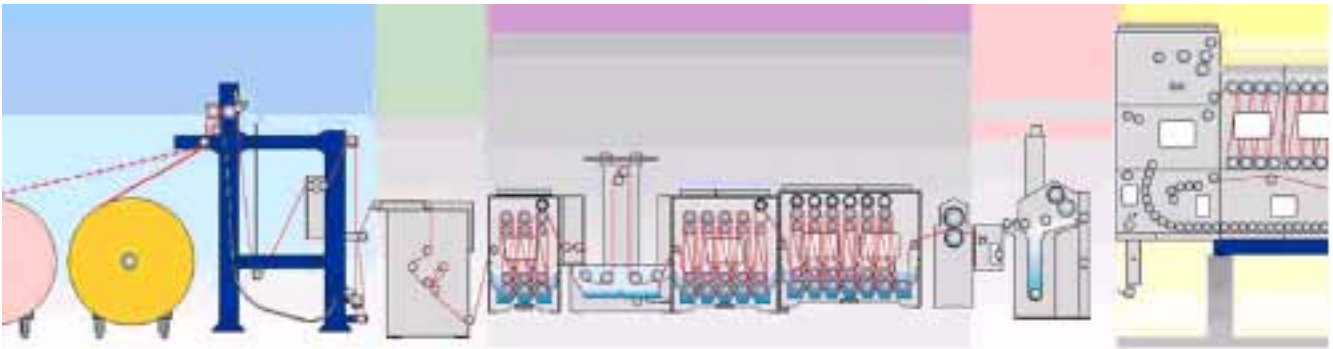


PERTONE PR

Silicate-Free Peroxide Stabilizer

- Applicable for pad-steam, cold pad batch process.
- Sodium silicate free.
- Prevents oxycellulose formation.
- Stable up to 80 g/L, NaOH solutions.
- Biodegradable.

PAD-STEAM BLEACHING



Recipe;

PERTONE PR	6 - 8 ml/L
ANTISIL CONZ 1	2 ml/L
E WET CNT 200	2 - 3 g/L
NaOH, 48 Be'	15 - 20 ml/L
H ₂ O ₂ , 50 %	25 - 35
Pad-Temp.	Room
Pick up	100 %
Steamer, temp.	100 °C
Time	10 min

COLD PAD BATCH BLEACHING

Since silicate deposits at high temperature water glass can be used in CPB bleaching, to reach better whiteness.

Recipe	With Silicate	Silicate Free
E WET CNT 200	2 - 3 ml/L	2 - 3ml/L
PERTONE PR	4 ml/L	6 ml/L
Silicate, 38 Be'	8 ml/L	-
NaOH, 48 Be'	30 ml/L	30 ml/L
Peroxide, 50 %	45 - 50 ml/L	45 - 50 ml/L
Pick up	100 %	100 %
Time	20 h	20 h

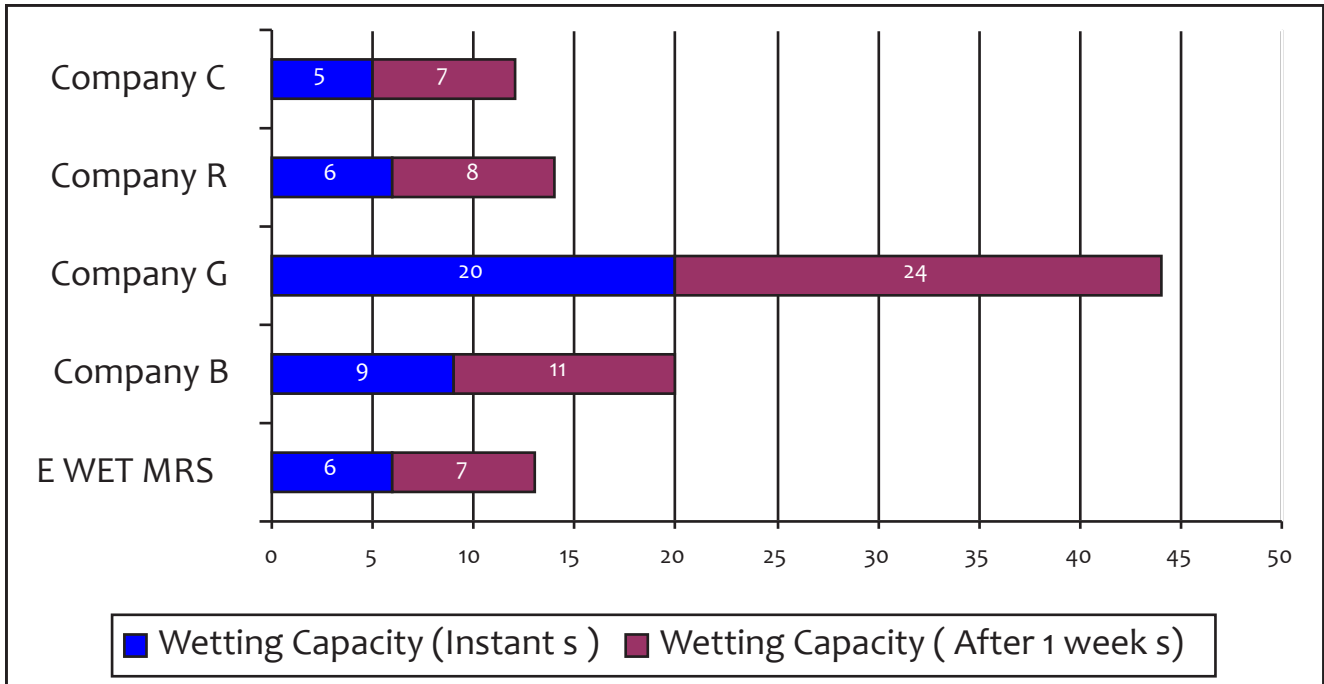
In case of tightly woven greige fabric, EXOLINE PAD is added into above impregnating liquors, to enhance pick-up.

EXOLINE PAD 3 - 5 ml/L

E WET MRS

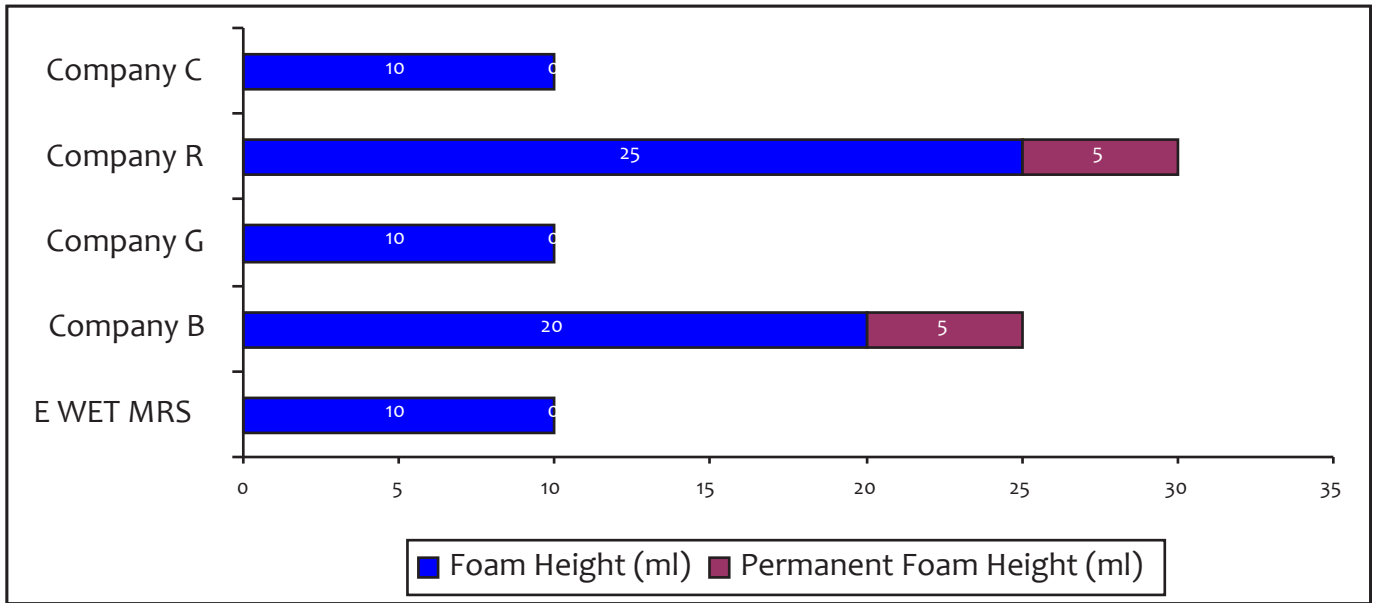
Wetting Agent for Mercerising and Caustic Treatment

- Sulphated alcohol.
- Anionic.
- E WET MRS is highly active, low foaming for alkaline scouring and mercerizing processes.
- E WET MRS has its best wetting effect in caustic soda of 20 - 30 Be'.
- E WET MRS does not decay in mercerising liquor and wetting power does not impaired during weeks.



Wetting Capacity(Instant second) Wetting Capacity(after 1 week,second)

E WET MRS	6	7
Company B	9	11
Company G	20	24
Company R	6	8
Company C	5	7



	E WET MRS	Company B	Company G	Company R	Company C
Foam Height (ml)	10	20	10	25	10
Permanent Foam Height (ml)	0	5	0	5	0

CONTINUOUS BLEACHING CHEMICALS

PERTONE PR : Organic peroxide stabilizer. Silicate free.

PROSIL D CONZ : Acidic chelating agent for proton cleaning.

ANTISIL CONZ 1 : Sequestering agent.

ANTISIL ACC : Polymeric sequestering and dispersing agent.

EXOLINE FE LIQ. : Ferric ion sequestering agent.

E WET CNT 200 : Highly alkaline stable penetrating agent.

E WET MRS : Foam free mercerizing wetting agent.

EXOLINE PAD : Pick-up enhancer.