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The revolution of direct dyeing – TUBANTIN

Direct dyestuffs for the use on garments

LAB
102

**Blue veins
of CHT**

What makes TUBANTIN different?

TUBANTIN are substantive or direct dyes of the CHT group for dyeing cellulosic fibers and their blends with synthetic fibers.

The dyes are often chosen for resource-saving dyeing of ready-made garments. They are characterized by a high bath exhaustion as well as low salt requirement. In light to medium colour depths, a low-temperature dyeing process improves ecological footprint of the dyeing (see low temperature dyeing method on page 2).

Dye selection

For best results of the dyeing the dyes should be selected according to the desired shade and colour. The selection below shows an overview of the possible dyestuffs and the best possible choice in dyes.



Light shades

TUBANTIN Yellow 2G
TUBANTIN Orange GGLN 200
TUBANTIN Bordeaux 3BL
TUBANTIN Brown GGL (base element)
TUBANTIN Brown LR (base element)
TUBANTIN Grey CGLL conc. (base element)

Medium shades

TUBANTIN Yellow GR
TUBANTIN Orange GGLN 200
TUBANTIN Red BWS
TUBANTIN Bordeaux 3BL
TUBANTIN Blue GLL 300
TUBANTIN Brown LR (base element)
TUBANTIN Grey 4GL (base element)

Dark shades

TUBANTIN Orange GGLN 200
TUBANTIN Scarlet 4G
TUBANTIN Red BWS
TUBANTIN Bordeaux 3BL
TUBANTIN Blue GLL 300
TUBANTIN Blue BRR h.c.
TUBANTIN Navy CN
TUBANTIN Brown BL (base element)
TUBANTIN Grey 4GL (base element)

Low temperature dyeing

The goal of continuously improving the ecological footprint of textile finishing processes can lead to questioning the tried and tested. In the case of our direct dyes TUBANTIN, we have developed a dyeing method by means of range and process optimization which enormously reduces the energy required. Dyeing at 60°C or 75°C also minimizes dyeing time and surface abrasion and the water-consuming cooling of the dye bath is also omitted, at least in the 60°C version. The process is predestined for light - medium shades (up to approx. 1.0%) on CO articles, which are optimally pre-treated and allow good penetration. The resulting bath exhaustion is comparable to that of the normal process. An increase of the salt quantity by 5 - 10 g/l should be considered for this. The wet fastness properties are on a comparable level with normal dyeing.

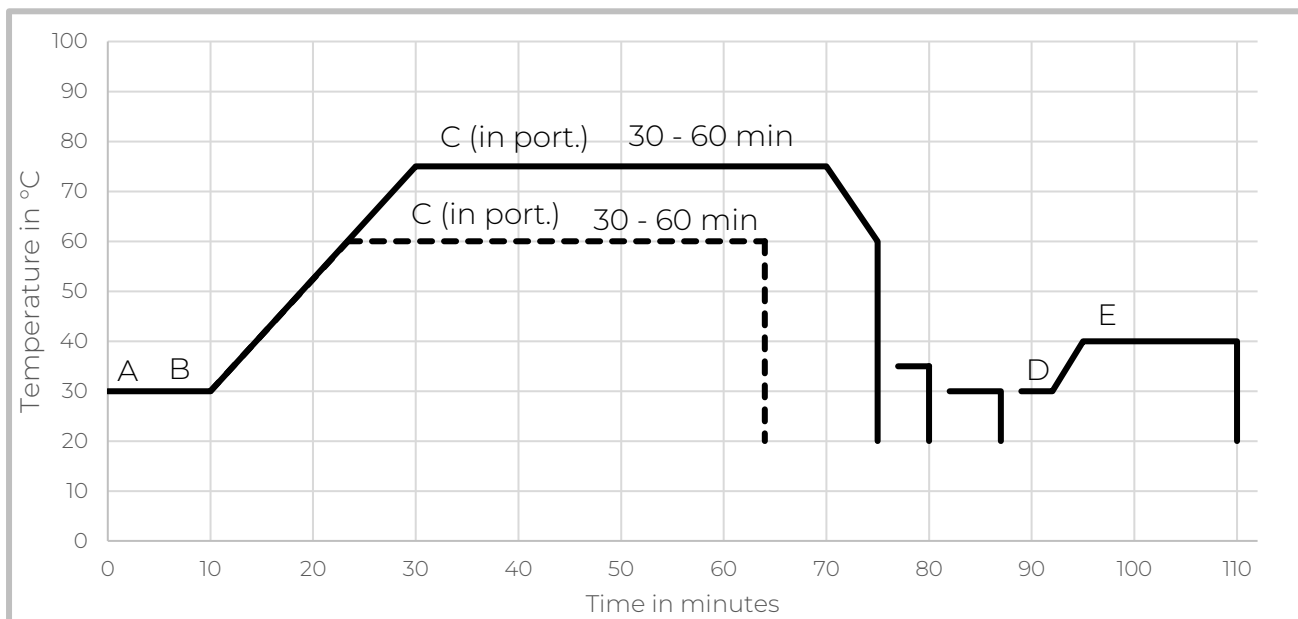


The table shows the suitability of TUBANTIN dyes for low-temperature dyeing.

TUBANTIN	Temperature		TUBANTIN	Temperature	
	75°C	60°C		75°C	60°C
Yellow 2G	●	●	Dark Blue R	●	●
Yellow GR	●	●	Navy CN	●	○
Orange GGLN	●	●	Turquoise GL 200	●	●
Scarlet 4G	●	●	Turquoise FBL conc.	●	○
Red F3B conc.	●	●	Green BL h.c.	●	○
Pink 2B	●	●	Brown GGL	●	●
Red BWS	●	●	Brown BL	●	●
Bordeaux 3BL	●	●	Brown LR	●	●
Violet BL 200	●	○	Grey 4GL	●	●
Blue 2RL 200	●	●	Grey CGLL conc.	●	●
Blue GLL 300	●	●	Black VSF 600	○	○
Blue BRR h.c.	●	●	Black VSF 1200	○	○

● - suitable ($\leq 1/1$ SD) ● - suitable ($\leq 1/3$ SD) ○ - not recommended

Procedure



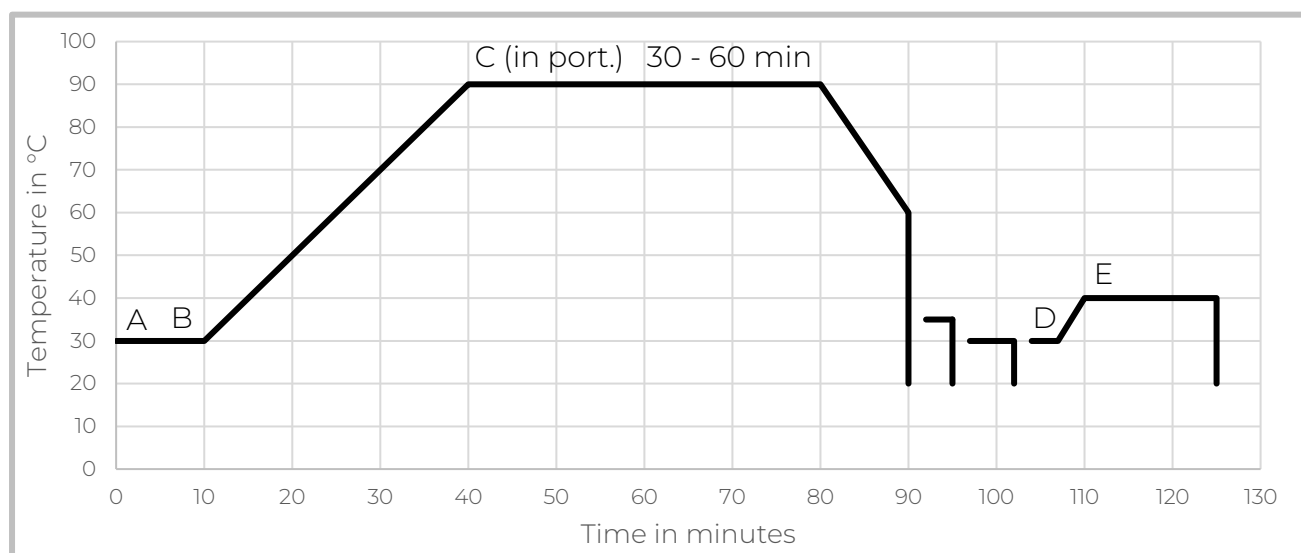
A	0.3	-	1.0	%	DENIMCOL LEV-DLC			
	0.0	-	2.0	g/l	DENIMCOL DIS-SF4			
	1.0	-	2.0	g/l	DENIMCOL LUB-BPA			
	0.5	-	5.0	g/l	Sodium carbonate			
B			x	%	TUBANTIN dyes	≤0.4%	0.4-1.5%	≥ 1.5%
C	5.0	-	35.0	g/l	Glauber's salt or common salt (portion wise)	5-10	10-25	25-35
D	0.2	-	0.4	g/l	DENIMCOL BUFFER-NVM 200 (pH 5.0 - 6.0)			
	1.0	-	3.0	%	DENIMCOL FIX-ACP or DENIMCOL FIX-FSN			
E			y	%	DENIMCOL SOFT (of your choice)			



Standard dyeing method

Direct dyes are classically applied at 85-95°C on drum dyeing machines. The high dyeing temperature improves penetration and combinability on the one hand, and bath exhaustion for dark shades on the other hand. Levelness and penetration are additionally controlled by means of leveling agents, heating gradient and salt dosage. The dye bath must be cooled down to 60°C before draining. This ensures optimal bath extraction of all dyes and prevents thermal shock incl. the formation of creases. It also prevents the first rinsing bath from being too warm and therefore fixed dye from coming off again. The wet fastness properties of dyeing's with TUBANTIN dyes can be significantly improved by cationic after-treatment with DENIMCOL FIX-ACP or DENIMCOL FIX-FSN. Softeners can be used in the same bath with the aftertreatment agent. For TUBANTIN Turquoise we recommend the addition of 0.5 - 1.0 g/l Sodium carbonate and the use of Glauber's salt instead of common salt. TUBANTIN Black VSF 600, VSF 1200 and Navy CN should be dyed with an addition of soda at pH 10.0 - 10.5.

Procedure



A	0.3 - 1.0	%	DENIMCOL LEV-DLC			
	0.0 - 2.0	g/l	DENIMCOL DIS-SF4			
	1.0 - 2.0	g/l	DENIMCOL LUB-BPA			
	0.5 - 5.0	g/l	Sodium carbonate			
B	x	%	TUBANTIN dyes	≤0.4%	0.4-1.5%	≥ 1.5%
C	2.0 - 25.0	g/l	Glauber's salt or common salt (portion wise)	2-5	5-15	15-25
D	0.2 - 0.4	g/l	DENIMCOL BUFFER-NVM 200 (pH 5.0 - 6.0)			
	1.0 - 3.0	%	DENIMCOL FIX-ACP or DENIMCOL FIX-FSN			
E	y	%	DENIMCOL SOFT (of your choice)			



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