



RANGER®

We committed to the perfect
combination of dyes and
auxiliaries
for our global customers

ISO 9001 & 14001 certified company
Bluesign certified company
ZDHC certified company
OEKO-TEX® certified company

Ranger[®] dyestuff

Discharge dyestuff for garment washing

Introduction

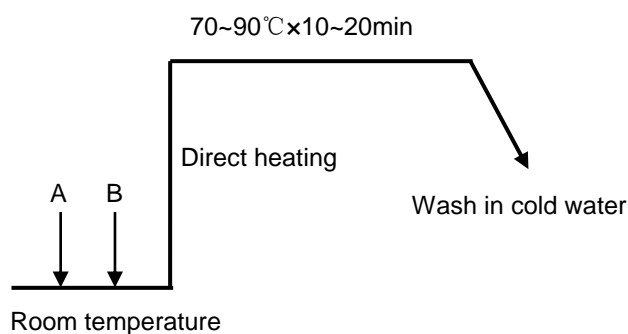
Ranger[®] dyestuff is our range of selected dyes to achieve particular vintage effect. Specially designed for garment dyeing to obtain high contrast on the seams, can be applied also by exhaustion or continuous on knitted and woven fabric.

Main features

- ◆ Ranger[®] dyestuff is designed for garment dyeing to obtain high contrast on the seams
- ◆ Ranger[®] dyestuff can provide garment full color series and achieve high color fastness
- ◆ Ranger[®] dyestuff is compatible with enzyme, stone washing, sandpaper and chemical abrasion process
- ◆ Ranger[®] dyestuff is easy to use and do not stain the dyeing machines

Process

Pre-treatment

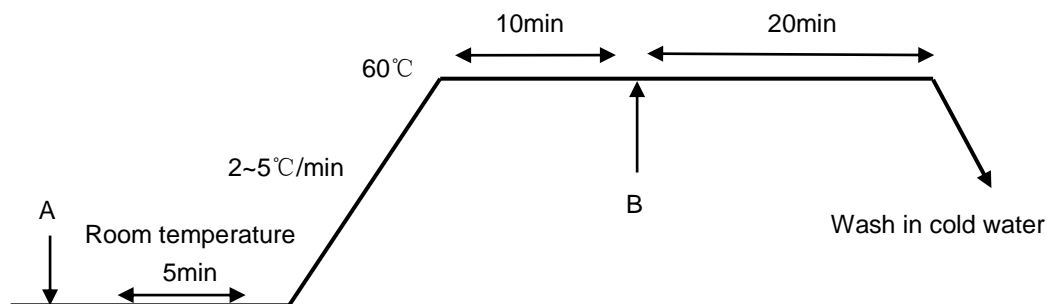


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|-------------------------------------|-------------|
| A. Degreasing agent Kingfine CJ-082 | 0.3~0.6 g/L |
| B. Sodium carbonate | 1~2 g/L |

Key points (Pre-treatment)

- ◆ The pretreatment must be sufficient to ensure that the impurities on the fabric are cleaned and the fabric has good hydrophilicity, so as not to affect the subsequent modification and dyeing process.
- ◆ After the pretreatment of the fabric, it must be fully cleaned to ensure that there are no other additives left on the surface of the fabric. Colleagues should ensure that the temperature of the fabric after cleaning is reduced to room temperature, and the pH of the fabric is close to neutral. If necessary, glacial acetic acid can be used to neutralize the strong alkali left on the surface of the fabric.

Garment Modified



A. Modifiers M-201 2 g/L

Modifier M-201 (white-faced), ASUT AST DEL (ASUTEX) counter

B. Sodium carbonate 3 g/L

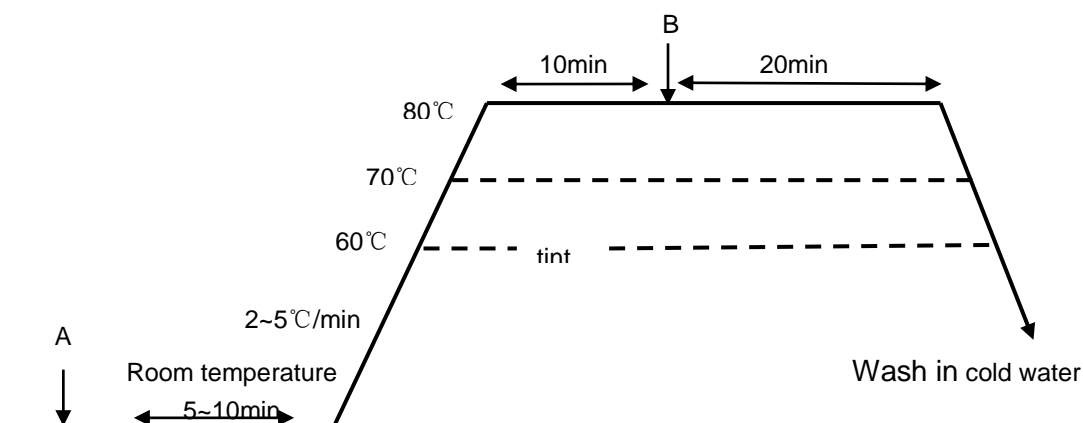
Modifier M-202 (extra deep), ASUT AST MAC (ASUTEX) counter

Note: Modifiers and Sodium carbonate must be sufficiently diluted before use.

Key points (Garment Modified)

- During modification, no other auxiliary agent is needed, such as penetrant, defoamer, softener, etc.
- The dosage of modifier must be sufficient, and the concentration and purity of caustic soda must be guaranteed, otherwise the dye uptake and firmness are easy to occur. When the amount of dye is less than 0.5%, it is recommended to replace caustic soda with soda ash to improve levelness. The amount of soda ash is 3g/L.
- If it is necessary to achieve particular vintage effect, it is recommended to add sodium carbonate first, then add Modifier.
- After modification, it is necessary to fully clean the excess modifier attached to the fabric surface, otherwise, during dyeing, the residual modifier will react with the dye, reduce the dye uptake, produce precipitation, and cause color spots.
- If the modified garments need to be stored for a long time, please dry it for storage.

Garment Dyeing



A. Ranger® dyestuff (o.w.f) x %

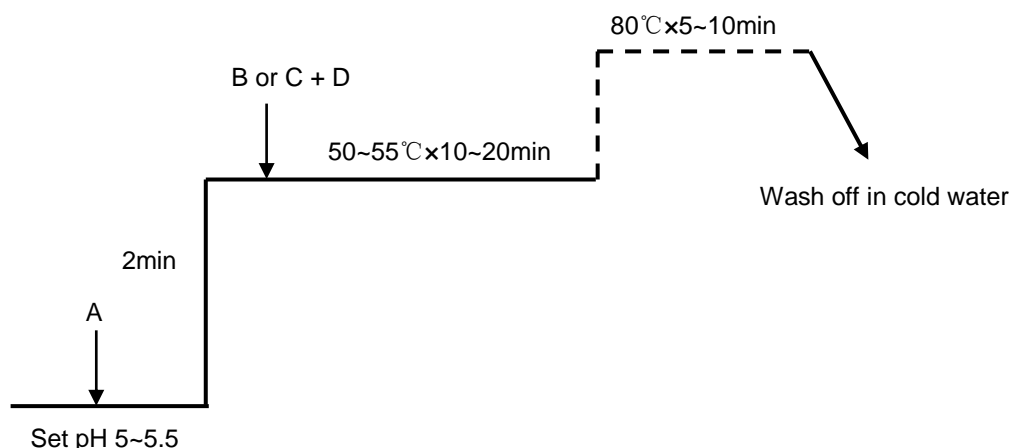
B. Sodium sulphate 10~30 g/L

Note: It is recommended to add 0.5-1 g/L of levelling agent Kingfine LE-302 when dyeing tint

Key points (Garment Dyeing)

- ◆ The chemical temperature of the dye should be above 80°C. It is recommended to filter before use.
- ◆ Amount of sodium sulfate: when the amount of dye is $\geq 2\%$, add 30g/L; when the amount of dye is 1-2%, add 20g/L; when the amount of dye is $< 1\%$, add 10g/L.
- ◆ When dyeing light colors, it is recommended to add 0.5~1.0g/L leveling agent Kingfine LE-302, and appropriately extend the low temperature holding time to reduce the heating rate.
- ◆ The recommended dyeing temperature is 60~80°C. For medium and dark colors, the dye uptake can be increased by increasing the dyeing temperature. For light colored fabrics, if the dye has been absorbed when the temperature is less than 60°C, it is recommended to continue to heat up to 60°C for 10 minutes.

Fixing, Enzyme & stone washing



- | | |
|---|-----------|
| A. Fixing agent for garment Kingfast FIX-202 | 2~3 g/L |
| B. Neutral one bath enzyme KingwashEN-8680 | 2-3 g/L |
| C. Neutral enzyme Kingwash EN-038 | 2 g/L |
| D. Anti-staining agent for denim Kingfast FRF-B | 0.2-2 g/L |

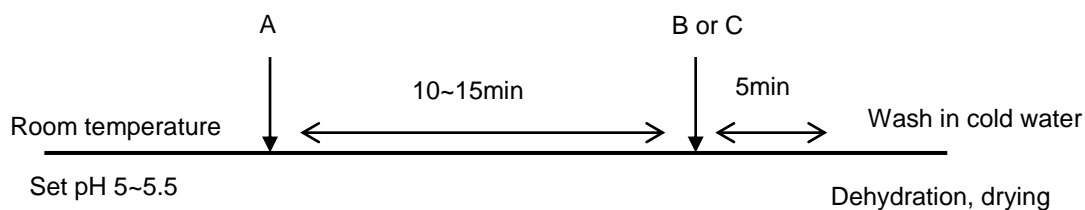
Note: (1) To achieve excellent vintage effect, it can be heated to 80 °C for 5~10 minutes after enzyme & stone washing for 20 minutes.

(2) If high washing fastness required, washing fastness improver Kingfast FIX-203 is recommended, dosage at 1~2g/L, 40 °C x 10 minutes after enzyme & stone washing.

Key points (Fixing, Enzyme & stone washing)

- ◆ If customers have high requirements for washing fastness, they can use Kingfast FIX-202 to fix the color after fermentation. Fixing process: 1~2g/L, Kingfast FIX-202, 40°C, 10 minutes.
- ◆ If the customer has high requirements for dry and wet rubbing fastness, Kingfast M3Q-30(wet rubbing fastness improver) should be used for additional fixation. Kingfast M3Q-30 can be used with the softener in the same bath. The specific method is: adjust the pH value to 5-5.5 with glacial acetic acid, add 2-5g/L Kingfast M3Q-30, treat for 10-15 minutes, then add the softener, and then directly dehydrate and dry after completion.

Soften finishing / wet rubbing fastness improvement finishing






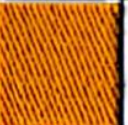


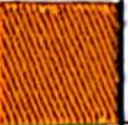











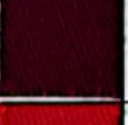




























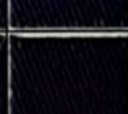



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|--|---------|
| A. Wet rubbing fastness improver Kingfast M3Q-30 | 2~5 g/L |
| B. Fluffy & soft softener Linesoft WSK-25 | 1~3 g/L |
| C. Hydrophilic softener Hydrossoft 2285 | 1~3 g/L |

Manual processing

- ◆ The fabric dyed with Ranger® dyestuff can be subject to subsequent manual treatment, such as hand brushing, spraying PP, frying snowflakes, etc. We suggest that: when hand brushing, sandpaper with different mesh sizes should be selected according to the thickness of the fabric, and generally more than 600 mesh sandpaper is recommended.
- ◆ Preparation of potassium permanganate solution: it is recommended to prepare a solution of 30~40g/L potassium permanganate and 30g/L phosphoric acid. It is suggested to use our company's high manganese white, which can significantly improve the effect of white spraying.

Color fastness of Ranger® dyestuff

怀旧染料 Ranger® dyestuff	染色浓度 Dyeing depth%(O.W.F)			日晒牢度(Light fastness)	皂洗牢度 (50℃) Washing color fastness		耐汗渍牢度 (Fastness to Perspiration)		摩擦牢度 (Fastness to Rubbing)		高锰敏感度 KMnO4 sensitivity
	0.5%	1% (黑2%)	2% (黑4%)		染色 change colour	沾色 staining	PH=5.5	PH=8	干 Day	湿 Wet	
嫩黄 6GL FLAVINE 6GL				4	4	4	4-5	4	4-5	3	4
黄 3R YELLOW 3R				4-5	4	4-5	4-5	4-5	4-5	3-4	4-5
金黄5R YELLOW 5R				4-5	4	4	4-5	4	4-5	3	4
橙TGL ORANGE TGL				4	4	4	4-5	4	4-5	3-4	4
红3B RED 3B				4	4	4	4	4	4-5	3-4	4
酱红5B RED 5B				4-5	4	4	4	4	4-5	3	4
枣红BH BORDEAUX BH				4-6	3-5	3-5	4	5	4-6	4	5
艳红 4B BRIGHT RED 4B				4	3-4	3-4	3-4	4	4-5	3-4	5
艳蓝 LBE BRIGHT BLUE LEB				4-5	4	4-5	4-5	4-5	4-5	3-4	4-5

怀旧染料 Ranger dyestuff	染色浓度 Dyeing depth%(O.W.F)			日晒牢度(Light fastness)	皂洗牢度(50℃) Washing color fastness		耐汗渍牢度 (Fastness to Perspiration)		摩擦牢度 (Fastness to Rubbing)		高锰敏感度 KMnO4 sensitivity
	0.5%	1% (黑2%)	2% (黑4%)		染色 change colour	汗渍 staining	PH=5.5	PH=8	干 Day	湿 Wet	
翠兰 GL BLUE GL				4-5	4	3	4	3-4	4-5	3-4	4
藏青 3FB NAVY 3FB				5	4	4	4	4	4	3-4	4
棕 RGL BROWN GRL				5	4	3-4	4-5	3-4	4-5	3	4
艳绿RBE BRILLIANT GREEN				5	4	4	4-5	4-5	4	3	4
橄榄绿 RMC OLIVE GREEN RMC				4-5	4	3-4	4-5	4	4-5	3	4
深灰 RDL GREY RDL				4	4	4	4-5	4	4-5	3-4	4
黑 RSL BLACK RSL				5	4	4	4	4	4-5	3	4
正黑 RCE BLACK RCE				5	4-5	4	4	4	4	3	4

备注：日晒牢度((Light fastness) : ISO 105-B02

皂洗牢度(Washing color fastness) : ISO 105-C03

汗渍牢度(Fastness to Perspiration) : ISO 105-E04

摩擦牢度(Fastness to Rubbing): ISO 105-X12

建议三原色：黄3R 红3B 藏青3FB

Ternary color suggestion

YELLOW 3R ,RED 3B,NAVY 3FB

Washing effect comparison



Garment effect





RANGER®

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