

ITODEEPENER LJ180



ITODEEPENER LJ180, a bathochromic agent for polyester, exhibits eminent effects in deepening colour shade especially black shade. ITODEEPENER LJ180 does not change hand of finished fabric nor decrease dyed fastness.

PROPERTIES

- **Appearance** : White Liquid
- **Ionic Character** : Weakly Cationic
- **pH** : Acidic
- **Solubility** : Easily soluble in water

APPLICATION

In Padding:

- **ITODEEPENER LJ180** : 30 - 50 g/l
- **Drying** : 110°C for 1 - 2 min.
- **Curing** : 170°C for 1 min

In Exhaustion:

- **ITODEEPENER LJ180** : 4 %
- **Liquor Ratio** : 10:1, at 40°C for 20 min.
- **Dehydrating and Drying** : 100°C
- **Curing** : 150°C for 1 min

1. ITODEEPENER LJ180 is used by padding method.
2. Dilute with water to desired concentration before use.
3. General quantity to be used is 30g/l to 50g/l. In case you use anti-static agent with ITODEEPENER LJ180, 10g/l of ITOANTISTAT LJ3 is recommended.
4. ITOANTISTAT LJ3, anti-static agent, can improve bathochromatic effects. In this case, both agents should be mixed after diluting both agent with more than 5 times volume of water respectively

CHARACTERISTICS

1. ITODEEPENER LJ180 exhibits excellent bathochromic effect for dyed polyester fabrics especially black dyed cloth.
2. ITODEEPENER LJ180 does not affect hand of fabrics.
3. ITODEEPENER LJ180 almost does not decrease various fastness of dyed materials.
4. The treated cloth by ITODEEPENER LJ180 shows less Chalk-mark trouble than other conventional type product

DISCLAIMER

The information herein offered is based on the best of our knowledge at present. However, we are not able to guarantee these matters, as the result of application may vary according to conditions adopted. Preliminary tests are, therefore, recommended in all cases. Please refer to MSDS regarding handling of the products.

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APPENDIX

A. Preparation of padding liquor

ITODEEPENER LJ180 is used by padding method.

The water for dilution of ITODEEPENER LJ180 should be cool and avoid high speed agitation like a homogenizer.

In case of use of other chemicals with ITODEEPENER LJ180, it is necessary to confirm the affection to the miscibility and bathochromatic effect.

B. Padding process

Pad roller should be a precision machine. Uneven pressure and squeeze cause uneven colour depth (uneven bathochromatic effect).

Pick-up of padded fabric should be around 80% to avoid migration.

C. Drying

At the first dry process, infrared heater is recommended because it does not blow wind and avoid migration.

Non-touch dryer is also recommended for drying to avoid migration because of mild blow.

To keep same shade (same bathochromatic effect), keep constant speed in not only padding but also drying process.

Drying temperature is 100 ~ 120°C and curing temperature is 160°C for 3 min.

D. Others

Depending on colour shade, depth, kind of fabric, etc, the colour fastness may affect by ITODEEPENER LJ180 application. So pre-test is needed before production.

Residual of dyeing chemicals, alkaline substance may affect bathochromatic effects. So sufficient washing before the treatment is required.

Durability of home laundry and dry cleaning should be checked before production.

Chalk mark, colour change, colour fastness by time lapse, water spot, whitening by abrasion should be checked before production.

As ITODEEPENER LJ180 shows water repellency effects. So re-touch or re-dyeing becomes very difficult.

APPENDIX

Test Data

Bathochromatic effect measured by Spectral colour difference meter SZ-Σ80
 Piled 4 pieces of specimen is measured L*, a*, b*.
 Colour fastness : JIS L 0849 -71 2 method
 Dry cleaning : JIS L 1092-92 3 2 (2) method and dry at room temp.

Bathochromatic Effect and Colour Fastness

	1	2	3	4	water pad	Blank
ITODEEPENER LJ180	30 g/l	50 g/l	30 g/l	50 g/l		
ITOANTISTAT LJ3	-	-	10 g/l	10 g/l		
Bathochromatic effect (L*)	11.52	10.44	10.73	9.90	13.48	13.55
Colour Fastness	Dry	3-4	3-4	3-4	3-4	3-4
	Wet	3	3	3	3	3

Test cloth: Polyester Formal black dyed cloth A

Conditions: Pad 1 dip 1 nip wet pick-up 95%
 Dry 100°C x 90 sec.
 Cure 170°C x 60 sec.

Durability and colour fastness

		1	2	3	4	Water Pad	Blank
ITODEEPENER LJ180		50 g/l	50 g/l	50 g/l	50 g/l		
ITOANTISTAT LJ3		-	10 g/l	-	10 g/l		
Melamine (80%)		-	-	3 g/l	3 g/l		
Catalyst		-	-	3 g/l	3 g/l		
Bathochromatic effect (L*)	Initial	11.43	10.78	11.56	10.69	13.24	13.18
	*DC1	11.76	11.22	11.67	10.74	13.44	13.20
Colour Fastness	Dry	3	3	3	3	3	3-4
	Wet	3	3	3-4	3-4	3	3-4

*DC-1 : After dry cleaning

Test cloth: Polyester Formal black dyed cloth B

Conditions: Pad 1 dip 1 nip wet pick-up 100%
 Dry 100°C x 3 min.
 Cure 170°C x 30 sec.

APPENDIX

Dosage and colour depth

ITODEEPENER LJ180 (g/l)	20	40	60	80	Blank
Bathochromatic effect (L*)	11.94	11.85	11.72	11.75	13.46

(lighter shade) 13 → 11 (deeper shade)

Test cloth: Polyester Formal black dyed cloth C

Conditions: Pad 1 dip 1 nip wet pick-up 100%
 Dry 100°C x 2 min.
 Cure 170°C x 1 min.

Chalk Mark test

Treated cloth by 40g/l of ITODEEPENER LJ180 was rubbed by MAEDA Chalk mark test machine and evaluated in accordance with JIS gray scale.

Test cloth: Polyester Formal black dyed cloth D

Conditions: Pad 1 dip 1 nip wet pick-up 100%
 Dry 100°C x 90 sec.
 Cure 170°C x 60 sec.

		Treated cloth	Blank
Chalk mark test (grade)	200g weight	5	5
	300g weight	4-5	4-5