

# D. K. ENTERPRISE

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## AQUASOFT D-10

(Hydrophilic & Stretch Back Resin Based Softener)

AQUASOFT D-10 is a polyester resin based softener. It imparts durable hydrophilic and soft handlings touch to polyester knitted & woven fabrics without causing any hindrance to flame resistance. AQUASOFT D-10 is most suitable for use in sports wears or blouses requiring good water absorbency. It also gives a unique stretch back property along with softness.

### Properties :

Appearance	:	Pale Yellow Emulsion
Main component	:	Polyester Polymer Resin
Ionicity	:	Weak Cationic
pH	:	4.0 +/- 1 (Stock Solution)
Viscosity	:	200 mPas or less (25 °C)
Solubility	:	Dissolves readily in water at room temperature
Solid	:	About 10 %

### Features :

1. AQUASOFT D-10 provides durable softness and stretch back properties to polyester fabrics.
2. AQUASOFT D-10 can be used in reduction clearing process or soaping process and also can be used in padding treatment.
3. It does not cause any bad effect on water absorbency of fabric.
4. It does not cause any bad effect on flame resistance of fabric.

### Application :

While standard recipes are outlined below, the method used is not fixed and varies with conditions of the substrate (including compatibility with agents used simultaneously) and the area of application. The recipe should be determined upon preliminary testing.

#### 1) Padding Method :

AQUASOFT D-10 . . . 0.2 ~ 1 % Soln.

Padding → Drying (100 °C x 3 min) → Setting (180 °C x 1 min)

Use at a concentration below 1 % to avoid any deterioration in colorfastness.

#### 2) In Reduction Clearing Bath :

- |                                 |                       |                          |
|---------------------------------|-----------------------|--------------------------|
| 1) { AQUASOFT D-10...           | 2 ~ 5 % o. w. f.      | Bath Ratio...1 : 10 ~ 20 |
| { Caustic Soda (or Soda Ash)... | 1 ~ 2 g / L ( 2 ~ 3 ) |                          |

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{ Hydrosulfite... 1 ~ 2 g / L  
{ SHINTOLE 2001... 1 ~ 2 g / L

Be sure to dilute AQUASOFT D-10 with water more than 10 times before adding into RC bath.

### 3) In Soaping Process :

\* In case of pale shade dyeing, add AQUASOFT D-10 at hot water washing process.

AQUASOFT D-10... 2 ~ 5 % o.w.f.  
Bath Ratio... 1 : 10 ~ 20 70 ~ 80 °C x 10 ~ 20 min.

\* Be sure to dilute AQUASOFT D-10 with water more than 10 times before adding into hot water washing bath.

### Technical information :

Test Purpose : To evaluate the water absorption, stretch back, and flame retardancy performance of AQUASOFT D-10 comparison with other products.

Test material: Polyester 100 % jersey  
Method : Exhaustion method in RC process  
1 : 15 (bath ratio)  
80 °C x 20 min. ~ Rinsing ~ Dry (100 °C x 3 min.) ~ Set (180 °C x 1 min.)

### <Test Item>

Test item No.	B	1	2	3
EX-200A		3 % o.w.f.		
Prosoft D-10			2 % o.w.f.	
Auqasoft D-10				2 % o.w.f.

### <Test Result>

Test item No	* 1 Water Absorption (mm)		* 2 Resistibility(g)		Extensibility		Recoverability	
	HL = 0	HL = 5	HL = 0	HL = 5	HL = 0	HL = 5	HL = 0	HL = 5
B	47	11	769	606				
1	78	42	627	783	Poor	Poor	Poor	Poor
2	74	31	571	523	Good	Good	Good	Good
3	45	34	323	332	Excellent	Excellent	Excellent	Excellent

Remark \*1 = Measured by byreck method

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Remark \*2 = Measured by our original method. I.E. Pass the test material into the stainless ring by using auto graph and measure the resistibility of each material. We reconsider it has soft handling as the resistibility goes lower than none treated materials.

Test Item No.	Flame Retardancy Ability Evaluation			
	Carbonized Area	Residual Flame Time	After Glow Time	Carbonized Distance
	(cm <sup>2</sup> )	(sec)	(sec)	(cm)
B	9.1	1	0	2.9
1	12.3	0	0	3.9
2	11.4	0	0	3.3
3	11.5	0	0	3.5

## Directions for use

1. To avoid coagulation, ensure that the temperature of water used in diluting Aquasoft D-10 is not higher than 50 °C.
2. Verify colorfastness for use in substrates dyed in medium to deep shades.
3. Since this product tends to coagulate over time, avoid long-term storage. Stir well before use.
4. Verify compatibility for simultaneous use with other agents.

## Properties of wastewater :

Attribute (concentration)	BOD (1 g/L)	COD (1 g/L)	n-hexane (10 g/L)
Measurement	108 mg/L	199 mg/L	mg/L

**Packaging** : 18 kg can OR 200 kg drum

## Handling Instructions :

1. Ensure that the workplace is well ventilated and avoid contact with the eyes and skin. Use protective clothing as required. Wash hands and face thoroughly after use.
2. In the event of direct contact with the eyes, wash the eyes immediately under running water for 15 minutes or more, and seek prompt medical attention.

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3. In the event of swallowing, spit out immediately (but do not induce vomiting if unsuccessful), and seek prompt medical attention.
4. In the event of inhalation, remove immediately to fresh air, rest and preserve body heat. Seek medical help if required.
5. Use this product as soon as possible and avoid outside storage. Store in a cool, dry place at a temperature between 5 - 35 ° C away from direct sunlight in air-tight conditions.
6. For further details, please refer to the Material Safety Data Sheet.