

Color Enhancer

TECHNOLOGY

COLOR DEEPENING AGENTS



CE TECHNOLOGY CO., LTD

With a breakthrough technology and fully automatic production facilities, CE TECHNOLOGY is very much specialized for developing and producing a series of color-deepening agents. Our leadership possesses a deep expertise and experience in technology, operations and services for the color-deepening agents over more than 150 years in total.

Simply speaking, therefore, we are recognized by our customers as a reliable supplier with the world top-class products, qualities and services for color-deepening agents.

Color-deepening Agents Applied by Double Finishing:

-4.7~-4.0 ΔL^* value is typically achieved by double finishing, i.e., 1st finishing with CET 106 for reddish-black tone (or CET 107 for blueish black tone) → drying → 2nd finishing with CET 209.

Compared to a silicone-based color-deepening agent conventionally applied by single finishing, i.e., one time finishing, CE TECHNOLOGY color-deepening agents applied by double finishing, i.e., two times finishing provides much superior deepness and vividness of virtually all types of dark color, especially black colored polyester fabrics typically used for chador, hijab and other apparels.

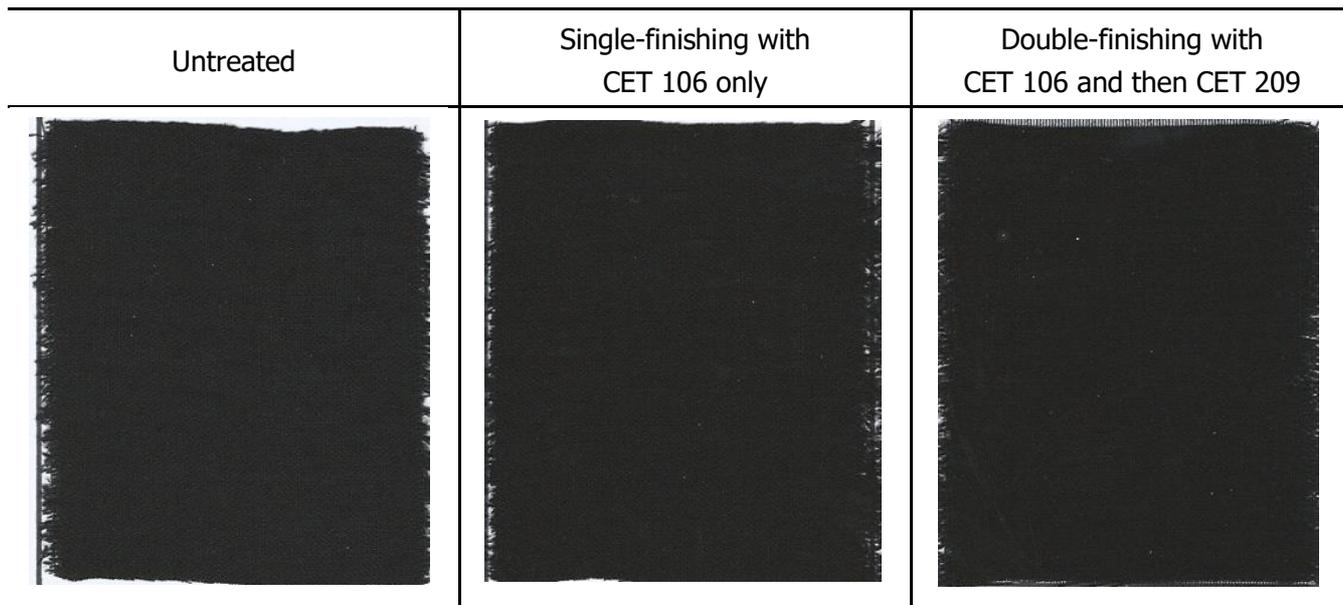
The fabrics treated with CE TECHNOLOGY color-deepening agents applied by double finishing are mostly used for high-end apparels with novel and elegant color shade.

Product	Features & advantages	Appearance	Active Content	Key Applications
CET 106	<ul style="list-style-type: none"> ✓ be used for 1st finishing, followed by 2nd finishing with CET 209. ✓ superior deepness and vividness with reddish-black tone. ✓ Converts a black polyester to jet-black with -4.7~-4.0 ΔL^* value. 	Milky white liquid	20%	<ul style="list-style-type: none"> - high-end apparels - elegant chador and hijab
CET 107	<ul style="list-style-type: none"> ✓ be used for 1st finishing, followed by 2nd finishing with CET 209. ✓ superior deepness and vividness with blueish-black tone. ✓ Converts a black polyester to jet-black with -4.7~-4.0 ΔL^* value. 	Milky white liquid	20%	<ul style="list-style-type: none"> - high-end apparels - elegant chador and hijab
CET 209	<ul style="list-style-type: none"> ✓ be used for 2nd finishing for double finishing application. ✓ applicable for single finishing; but much inferior performance (about -1.5 ΔL^* value) to double finishing. ✓ less rubbing fastness impact to conventional silicone-based color-deepening agents. ✓ prestige hand-feel. 	Milky white liquid	30%	<ul style="list-style-type: none"> - high-end apparels, elegant chador & hijab if applied by double finishing. - low-end apparels if applied by single finishing with CET 209 only.

Typical properties should not be used as specifications. The specifications are available if contacting CE TECHNOLOGY Co., Ltd.

Example of Color deepening Performance

An example on the color deepening performance treated by double-finishing is shown in a Korea customer's production test report summarized below.



Test data

	<u>DL*</u>	<u>Da*</u>	<u>Db*</u>	<u>L*</u>	<u>a*</u>	<u>b*</u>
Single-finishing with CET 106 only	-2.48 D	0.16 R	0.75 Y	11.06	0.49	-0.64
Double-finishing with CET 106, and then CET 209	-5.09 D	0.15 R	0.81 Y	8.46	0.48	-0.50
Untreated	<u>L*</u>	<u>a*</u>	<u>b*</u>	<u>C</u>	<u>h°</u>	
	13.55	0.33	-1.39	1.43	283.40	

Test conditions

- Fabric tested: 100% polyester woven dyed with a black disperse dyes.
- Finishing process: continuous pad-bath process
- How to treat CET color deepening agent
 - Single-finished with 40g/l CET 106 (70% pick-up & 50m/min speed) → Dry at 170°C x 1.5min
 - Double-finished with 40g/l CET 106 (70% pick-up & 30m/min speed) as 1st finishing → Dry at 145°C x 1.5min → 40g/l CET 209 (70% pick-up & 50m/min speed) as 2nd finishing → Dry at 170°C x 1.5min

Color-deepening Agent for Single Finishing (Hybrid Type):

In point of applying by single finishing, CET 803 is misread as a silicone-based color deepening agent; but that is not true !

CET 803 is specially designed by a hybrid technology that is obviously distinguished from a conventional silicone-based color deepening agent. CET 803 is applied for single finishing; but the color deepness and vividness is significantly superior to a silicone-based color deepening agent also

applied by single finishing.

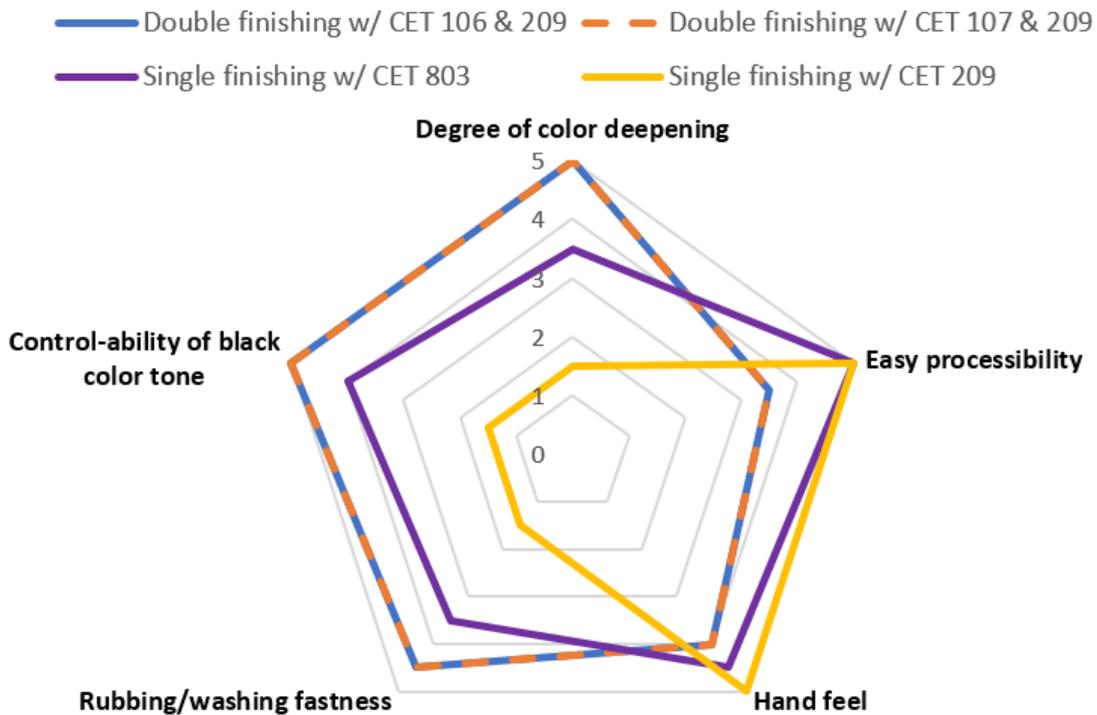
For instance, $-2.5 \sim -3.5 \Delta L^*$ value can be obtained if applying CET 803 by single finishing whereas a typical silicone-based color deepening agent provides approximately $-1.5 \Delta L^*$ value only.

In case of limited circumstance that double finishing is not allowed by any reason, therefore, CET 803 is a good alternative to convert a normal black color to premium black color particularly for polyester fabrics.

Product	Features & advantages	Appearance	Active Content	Key Applications
CET 803	<ul style="list-style-type: none"> ✓ capable to give good color deepness and vividness even single finishing. ✓ superior performance to conventional silicone-based color deepening agent. ✓ blueish black tone to polyester black fabrics ✓ better rubbing & washing fastness than silicone-based color deepening agents ✓ novel hand-feel 	Milky white liquid	22%	<ul style="list-style-type: none"> - high-end apparels - elegant chador & hijab - most wide applications: mid to high end - suitable for such dyeing factories who are limited to apply double finishing

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Distinguished Feature of CET Color Deepening Agents



Customized Color Deepening Agents:

Besides a few color deepening agents highlighted in the above, CE TECHNOLOGY is also capable to newly design and produce such color deepening agents that are specifically customized by business partners. We are ready to establish a long-term business partnership with you for the customized color deepening agents!

Limitation

All formulations, procedures, performance data, benefits and advantages are included as illustrative examples only. CE TECHNOLOGY makes no representation or warranty of any kind with respect to all information in this document, including, without limitation, concerning the efficacy or safety of any product manufactured by using the information stated in here.

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