

# Technical Communication



Nippon Kayaku (Thailand) CO., LTD.  
Technical Service Center

## (vol. 02)

### 「Black for dyeing CDP: KAC Black HF-ED」

○KAC Black HF-ED for CDP dyeing.

- KAC Black HF-ED was developed as a black cationic dye for dyeing CDP fabrics for sportswear which requires considerable and extreme heat fastness. It has also been developed to have low staining on Polyester.
- Recently, as the number of CDP fibers with inferior light fastness levels have been increasing, KAC Black HF-ED can be recommended as it has the best light fastness among the existing ED Black series.

Δ E after Heat Set 190°C × 2min

Dye name	N %o.w.f.	N	2N	3N
KAC Black R-ED	4.0	6.34	4.10	3.58
KAC Black BS-ED	4.6	1.92	1.11	0.59
KAC Black MG-ED(N)	3.9	2.19	1.30	1.33
KAC Black MR-ED(N)	4.7	2.23	1.78	1.34
Cationic Black BS-112D	4.6	2.79	1.73	1.10
<b>KAC Black HF-ED</b>	<b>4.0</b>	<b>1.98</b>	<b>1.42</b>	<b>0.87</b>

- Kayacryl Black R-ED has the least heat resistance out of Kayacryl Black ED series.
- Aside from Kayacryl Black R-ED, most Kayacryl Black ED dyes have sufficient resistance to general heat treatments.
- In more severe heat treatment conditions, Kayacryl Black HF-ED can be recommended.

Light fastness

- Poor light fastness levels on CDP can be caused by many factors, including the fineness of the fiber and less dyeing sites.
- The following data shows Heat fastness, Light fastness (AATCC 20AFU), and Polyester staining (CDP/PET 50/50) of Kayacryl Black ED series.

Dye name	%o.w.f.	Heat fastness (Δ E)		Light fastness AATCC 20AFU		CDP/PET
		180°C, 1min	190°C, 2min	KYK CDP	Customer CDP	PET stain
KAC Black R-ED	8.0	4 (1.00)	3 (1.84)	4	3	3
KAC Black BS-ED	9.2	4-5(0.25)	4-5(0.41)	3-4	2-3	4
KAC Black MR-ED(N)	9.4	4-5(0.40)	4 (1.00)	<u>4-5</u>	3	<u>4-5</u>
KAC Black MG-ED(N)	7.8	4-5(0.31)	4 (0.71)	<u>4-5</u>	3	<u>4-5</u>
Cationic Black BS-112D	9.2	4-5(0.35)	3-4(1.16)	3-4	3	<u>4-5</u>
<b>KAC Black HF-ED</b>	<b>8.0</b>	<b>4-5(0.21)</b>	<b>4 (0.58)</b>	<b>4-5</b>	<b>3-4</b>	<b><u>4-5</u></b>

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