



BLACK SERIES

THE BEST SOLUTION
FOR BLACK SHADES



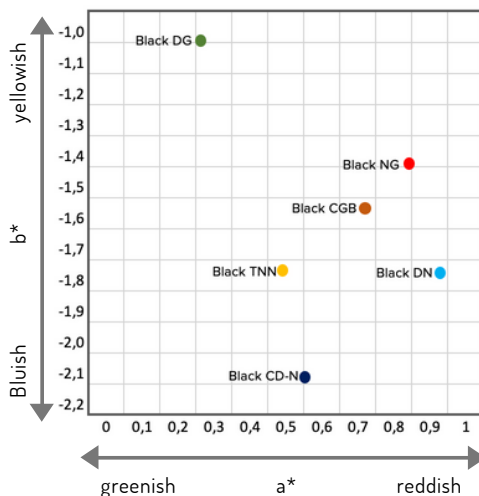
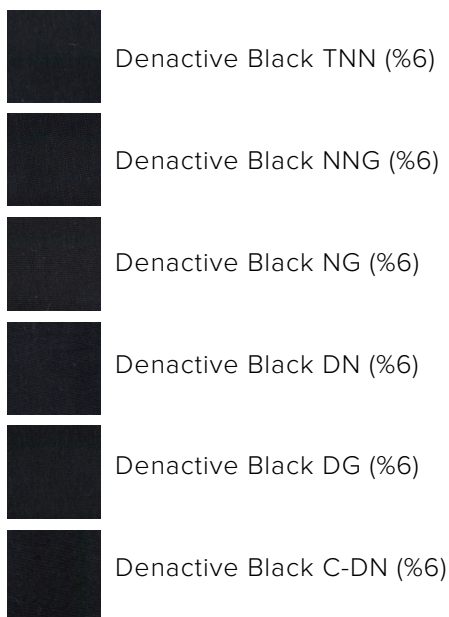
Denactive Black Series

Denactive Black Series ensure high performance at black shades for cellulose fibers. There is a wide range of products. Dye selection should be made considering the desired properties of fabric.

ADVANTAGES

- Excellent build-up and high fixation.
- Excellent all round fastness properties
- Good washing-off behavior
- Dischargeable
- Good oxidative fastness test results*
- Suitable for exhaust, pad batch and continuous dyeing methods.

Dye Selection



Fastness Properties

Denactive® Black Series	Dyeing Depth (% o.w.f.)	Light Fastness (ISO 105 B02)	Light & Weather Fastness (ISO 105 B04)	Perspiration Light Fastness (ISO 105 B07)		Washing Fastness (ISO 105 C06)		Water Fastness (ISO 105 E01)		Perspiration Fastness (ISO 105 E04)				Rubbing Fastness (ISO 105 X12)		Peroxide Bleaching F. (ISO 105 N02)		
				Acid	Alkali	Change of Shade	Staining of shade (CO)	Change of Shade	Staining of shade (CO)	Acid (Change of Shade)	Acid (Staining of CO)	Alkali (Change of Shade)	Alkali (Staining of CO)	Dry	Wet	Hot pressing Fastness (ISO 105 X11)	Change of Shade	Staining of shade
Black BTS	2%	3-4	3-4	4	4	4-5	4-5	4-5	4-5	5	4-5	5	4-5	4-5	3-4	4	4	3
Black TNN	6%	4	3-4	4	4	4	4	4-5	4	5	3-4	4-5	4	4-5	3	4	4	3
Black CGB	6%	4	3-4	4	4	4	4	4-5	4	5	3-4	4-5	4	4-5	3	4	4	3
Black NG	6%	4	3-4	4	4	4-5	4-5	4-5	4	5	4	4-5	4	4-5	3	4	4	3-4
Black DN	6%	4	4	4	4	5	4	5	4	5	4	4-5	4	4	3	4	4	3-4
Black DG	6%	4-5	4	4-5	4	5	4-5	5	4-5	5	4	4-5	4	4-5	3	4	4-5	4-5
Black C-DN	6%	4-5	4	4-5	4	5	4	5	4-5	5	4-5	4-5	4-5	4-5	3	4	4-5	4-5

The following fastness properties were tested:

Light Fastness (ISO 105 B02)

Expose test specimen and european ISO light fastness scale 1-8 to light until the change of shade of the test specimen corresponds to grade 4 on the grey scale.

Perspiration Light Fastness (ISO 105 B07)

Test under permanent exposure to light in accordance with ISO 105 B02, Alkali and acidic test solution as specified in ISO 105 B07.

Washing Fastness 50°C (ISO 105 C06 -C2S)

60°C; 30min; liquor volume:150ml; 25 steel balls; 4g/l ECE-A reference detergent and 1g/l sodium perborate.

Colour Fastness to Water (ISO 105 E01)

Wet out test specimen with water, place under a 5kg weight (12.5 kPa pressure) for 4h at 37°C (without circulating air)

Perspiration Fastness (ISO 105 E04)

Wet out test specimen with alkaline and acid perspiration solutions and place under a 5kg weight (12.5 kPa pressure) for 4 h at 37°C (without circulating air).

Rubbing Fastness (ISO 105 X12)

Dry rubbing fastness; crockmeter, 10 cycles. Wet rubbing; impregnate test specimen with distilled water (100% liquor pick up). Crockmeter, 10 cycles.

Hot Pressing Fastness(ISO 105 X11)

Dry 150°C, 15 sec.

Peroxide Bleaching (ISO 105 N02)

4,2ml/l hydrogen peroxide (30%), 5g/l sodium silicate, 0,1g/l magnesium chloride
pH 10,5, 90°C, 60min.

Dyeing Depth:3,0% o.w.f.

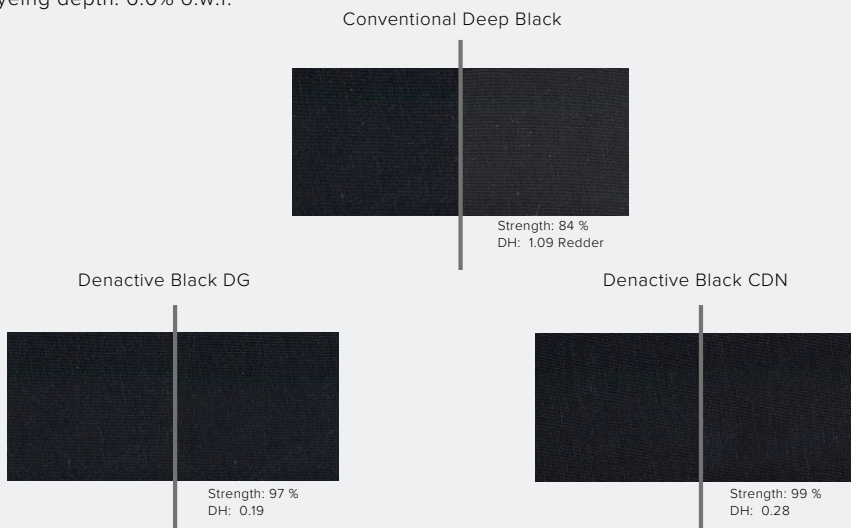
Washing Fastness Test Results

The test method is ISO 105 C06-C2S.
Dyeing depth: 6.0% o.w.f.



Oxidative Bleaching Fastness Test Results

The test method is ISO 105 C09
Dyeing depth: 6.0% o.w.f.



Light Fastness Test Results

The test method : ISO 105 B02
Dyeing depth: 6.0% o.w.f.

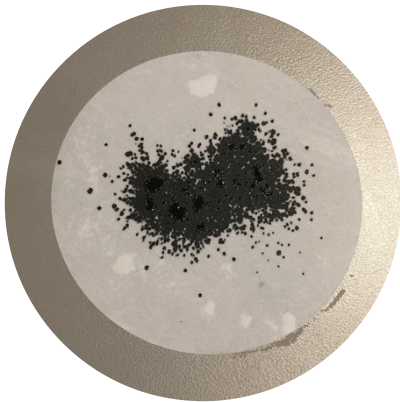
Black CD-N and Black DG has good light fastness and perspiration light fastness test results.

	Light Fastness	Perspiration Light Fastness (Acid)	Perspiration Light Fastness (Alkali)
Denactive Black DG			
Denactive Black CD-N			

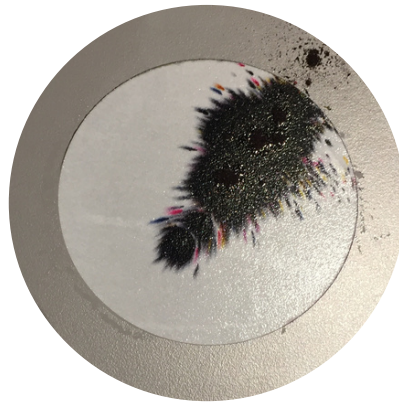
Quality Test of Blacks Powder

Separation liquid and powder production

Denactive Black Series
(Manufactured from liquid)



Conventional Black
(Manufactured from powder)



Denactive Black Dyes Position in the Range

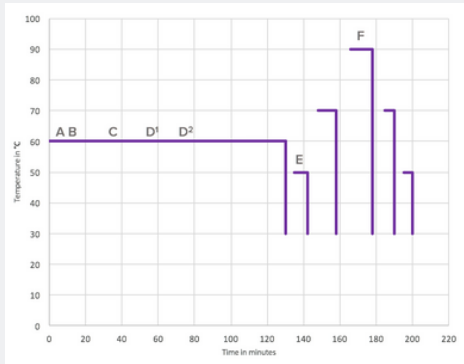
Denactive Black BTS	Economical versatile heavy blue dye.
Denactive Black TNN	Economical versatile black dye.
Denactive Black CGB	Economical versatile black dye.
Denactive Black NG	Economical versatile black dye. Stronger than Black TNN
Denactive Black DN	High color yield, easy wash-off for lower usage and optimum wet fastness
Denactive Black DG	Intense Black shades much deeper than other commonly available reactive greenish Blacks dyes. Good light and oxidative washing fastness test results.
Denactive Black C-DN	Deep black shades much deeper than other commonly available reactive reddish black dyes. Good oxidative washing fastness test results.



Exhaustion Dyeing Method for Denactive Dyes

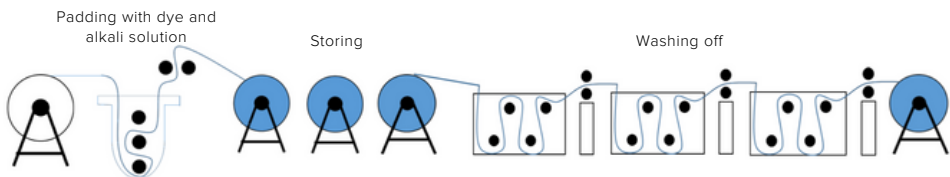
Isothermal Process

Universal process for excellent reproducibility and levelness. If a dosage control system is used, the sodium carbonate and dye can be added progressively which leads to a steady increasing fixing curve and therefore the best possible levelness is reached. In addition, premature hydrolysis of the dye is prevented. This means the highest possible colour yield.



A	0,3	g/l	Denova Speedy
B	0,3	g/l	Denraw N40 new
B	x	%	Denactive Dyes
C	y	%	Salt
D	1	g/l	Caustic Soda
D	z-1	g/l	Caustic Soda
E	0,5	ml/l	Acedic Acid 80%
F	0,5-1	%	Denova Worker

Cold Pad-Batch Dyeing Method for Denactive Dyes



Procedure

- The dried fabrics after pre-treatment are padded with padding solution containing dyes and chemicals.
- The padded fabrics are rolled up on a beam, wrapped with plastic sheet and stored for 10-24 hours (usually overnight) to allow the dyes to be fixed.
- After washing off to remove unfixed dyes, the process is completed.

Dyes (% o.w.f.)	Liquor Ratio:1:10 (%100 Cellulose)							
	Un-mercerized Cotton				Mercerized Cotton and Viscose			
	Salt (g/l)	Soda (g/l)	Soda ash + Caustic Soda (38°Be)		Salt (g/l)	Soda (g/l)	Soda ash + Caustic Soda (38°Be)	
			Na ₂ CO ₃ (g/l)	NaOH (g/l)			Na ₂ CO ₃ (g/l)	NaOH (g/l)
<0,1	10	10	10	-	10	10	10	-
0,1-0,5	20	15	5	0,5	15	12	12	-
0,5-1,0	30	20	5	0,5	20	15	5	0,5
1,0-2,0	40	20	5	1,0	30	20	5	1,0
2,0-3,0	50	20	5	1,0	40	20	5	1,0
3,0-4,0	60	20	5	1,5	50	20	5	1,5
4,0-5,0	70	20	5	1,5	60	20	5	1,5
5,0-6,0	80	20	5	2,0	70	20	5	2,0
≥ 6,00	80-100	20	5	2,0	80	20	5	2,0



Colors make life beautiful



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