



DRIMAREN®
ULTIMATE HF/HD/ES
Reactive dyes

Delivering the ultimate
in performance and sustainable
fashion for cellulose



How do **we** bring
best-in-class
expertise, sustainability
and performance
to **fashion?**

CREATING SUSTAINABLE SOLUTIONS, THE ARCHROMA WAY

As a global leader in color and specialty chemicals, we touch and color people's lives every day, everywhere. That is why, at Archroma, we continuously challenge the status quo in the deep belief that we can make our industry sustainable.

We are committed to develop innovative systems and services to provide you with custom solutions that are:



SAFE – It's our nature to protect.
Safe to use, safe to release and safe to wear.

EFFICIENT – It's our nature to rethink sustainable manufacturing.
Innovating application processes that minimize resources and maximize productivity.

ENHANCED – It's our nature to add another level of value.
Effects, functionality and aesthetics to give additional value, for a life enhanced.

We touch and color people's lives every day, everywhere. That is why, at Archroma, we continuously challenge the status quo in the deep belief that we can make our industry sustainable.

**We call it "The Archroma way to a Sustainable World": Safe, efficient, enhanced.
It's our nature!**



DRIMAREN® ULTIMATE HF REACTIVE DYES

Drimaren® Ultimate HF dyes are a special selection of **highly compatible, problem solving**, elements, engineered to resolve the key issues faced when dyeing problematic pale to medium shades in exhaust, pad batch and continuous dyeing applications.

Robust dyeing behavior ensures excellent shade transfer from lab to bulk and bulk to bulk. **Improved Right-First-Time** performance reduces the amount of substandard material. Shorter processing times, facilitated by a high level of Right-First-Time productivity, **reduce the impact on the environment** through reductions in energy and water consumption.

Photochromic free, high light, perspiration light, oxidative bleach and repeated home laundry fastness properties meet the high demands of leading brands.

Highly efficient elements for dyeing problematic pale to medium shades efficiently whilst improving productivity and resource utilization

DRIMAREN® ULTIMATE HD/ES REACTIVE DYES

Archroma's **Drimaren® Ultimate HD/ES** reactive dyes are a range of high strength elements for dyeing intense shades on cellulosic fibers and their blends. The **excellent shade build up** properties of **Drimaren® Ultimate HD/ES** dyes signify that less dye and chemicals are required to achieve the deepest shades.

Their **excellent washing off properties** ensures **lower impact on the environment** through dramatic reductions in energy and water consumption and improved productivity via shorter processing times.

Drimaren® Ultimate HD/ES dyes have an excellent fastness profile, in medium to deep shades, which meets the specifications of brands and retailers. Their low sensitivity to process variables ensures excellent shade consistency and Right-First-Time performance.

Deeper shades, lower environmental impact – Delivering the ultimate in sustainable fashion

LIGHT SHADES

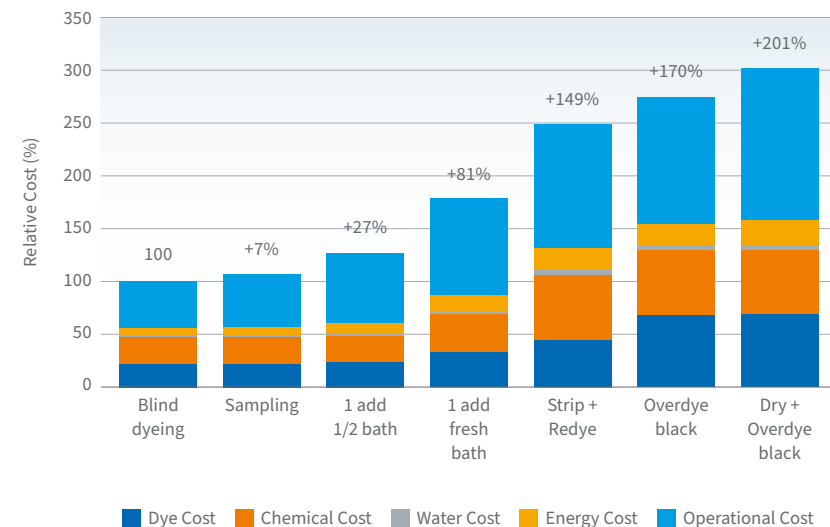
ULTIMATE DEEP SHADES

INTRODUCING DRIMAREN® ULTIMATE HF DYES

| PRODUCT PROPERTIES | VALUE ADDED |
|---|--|
| <ul style="list-style-type: none"> A special selection of highly compatible, problem solving, elements, engineered to resolve the key issues faced when dyeing problematic pale to medium shades. | <ul style="list-style-type: none"> Excellent shade transfer from lab to bulk and bulk to bulk vastly increasing RFT performance reducing the amount of substandard material. |
| <ul style="list-style-type: none"> Excellent all-round wet fastness properties. Very good light, perspiration light, oxidative bleach and repeated home laundry fastness. | <ul style="list-style-type: none"> Meeting the toughest fastness demands of leading brands. Low risk of claims and returns from consumers. |
| <ul style="list-style-type: none"> High alkaline stability. Minimum sensitivity to salt and alkali concentration, liquor ratio, time and temperature in exhaust, pad batch and all continuous dyeing applications. | <ul style="list-style-type: none"> Robust dyeing behaviour. High process reliability and Right-First-Time production. Excellent dyestuff stability in all climates, alkali systems and dyeing procedures. |
| <ul style="list-style-type: none"> Very good diffusion, penetration and leveling. | <ul style="list-style-type: none"> Excellent fabric appearance even on the most difficult substrates. |
| <ul style="list-style-type: none"> Very high solubility and solution stability in exhaust, pad batch and continuous dyeing procedures. | <ul style="list-style-type: none"> Simpler dyebath preparation. Low risk of precipitation or dye specks during application. |
| <ul style="list-style-type: none"> High quality of dye standardisation. | <ul style="list-style-type: none"> Improves batch to batch shade consistency. |

The price of non-conformance: Impact on process costs (relative cost %)

Example:
Grey shade, Isothermal 60°C exhaust dyeing process, LR 6:1, jet machine, 300 kg batch



BEST-IN-CLASS

- Drimaren® Ultimate Yellow HF-R**
Golden yellow element for dyeing problematic pale to medium shades. High level of RFT performance and operational excellence. Very good light, chlorine, oxidative bleach and repeated home laundry fastness.
- Drimaren® Ultimate Yellow HF-LP**
Non photochromic golden yellow element ideal for dyeing problematic pale to medium earth tone shades. High level of RFT performance and operational excellence. Very good light, oxidative bleach and repeated home laundry fastness.
- Drimaren® Ultimate Brown HF**
Homogeneous brown element particularly recommended for dyeing earth tone shades in pad batch and continuous dyeing applications. High level of RFT performance and operational excellence. Very good light, chlorine, oxidative bleach and repeated home laundry fastness.
- Drimaren® Ultimate Red HF-L**
High lightfast red element for dyeing problematic pale to medium shades. High level of RFT performance and operational excellence. Very good light, oxidative bleach and repeated home laundry fastness.
- Drimaren® Ultimate Olive HF**
Homogeneous olive element particularly recommended for dyeing earth tone shades in pad batch and continuous dyeing applications. High level of RFT performance and operational excellence. Very good light, chlorine, oxidative bleach and repeated home laundry fastness.
- Drimaren® Ultimate Blue HF**
High lightfast blue element for dyeing problematic pale to medium shades. High level of RFT performance and operational excellence. Very good light, oxidative bleach and repeated home laundry fastness.
- Drimaren® Ultimate Blue HF-RL**
High lightfast blue element with outstanding levelling properties. Ideal for dyeing problematic pale to medium combination shades. High level of RFT performance and operational excellence. Very good light, oxidative bleach and repeated home laundry fastness.



Below the detectable limits of p-chloroaniline (p-CA) and other regulatory arylamines.



| Drimaren® Ultimate HF | | Standard Depth, CO bleached, Exhaust, Isothermal 60°C | Standard Depth, CO bleached & mercerized, Pad Batch | Light Fastness, ISO 105-B02 (blue scale 1-8) | Light Fastness, AATCC 16E, 20 AFU (gray scale 1-5) | Light Fastness, AATCC 16E, 40 AFU (gray scale 1-5) | Perspiration, ISO 105-E04, acid | | | Perspiration, ISO 105-E04, alkaline | | |
|---|-----------------|--|--|---|---|---|------------------------------------|-----|-----|--|-----|-----|
| | | | | | | | Ch | CO | WO | Ch | CO | WO |
| 1/3 SD (DIN 54000)* 1/1 SD (DIN 54000) | | % | g/kg | Ch | Ch | Ch | Ch | CO | WO | Ch | CO | WO |
| | Yellow HF-R | 2.90 | 19.0 | 7 | 4-5 | 4-5 | 4-5 | 4-5 | 4-5 | 4-5 | 4-5 | 4-5 |
| | Yellow HF-LP | 1.60 | 12.0 | 6 | 5 | 5 | 4-5 | 4-5 | 4-5 | 4-5 | 4-5 | 4-5 |
| | Brown HF* | 1.50 | 9.00 | 5 | 4-5 | 4 | 4 | 4 | 4-5 | 4-5 | 4 | 4-5 |
| | Red HF-L* | 1.90 | 13.0 | 5-6 | 4-5 | 4 | 4-5 | 4-5 | 4-5 | 4-5 | 4-5 | 4-5 |
| | Olive HF | 3.30 | 24.0 | 7 | 4-5 | 4-5 | 4-5 | 4-5 | 4-5 | 4-5 | 4-5 | 4-5 |
| | Blue HF | 3.00 | 23.0 | 6-7 | 4-5 | 4-5 | 4-5 | 4 | 4-5 | 4-5 | 4 | 4-5 |
| | Blue HF-RL | 3.00 | 20.0 | 7 | 4-5 | 4-5 | 4-5 | 4-5 | 4-5 | 4-5 | 4-5 | 4-5 |

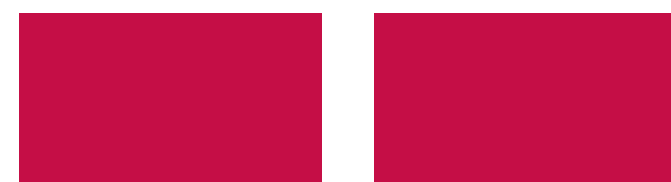
| Water, ISO 105-E06 | | | Domestic laundering, ISO 105-C06, C25, 60°C | | | Domestic laundering, AATCC, 2A, 49°C | | | Oxidative Bleach, ISO 105-C09, TAED, 60°C | Chlorinated water, ISO 105-E03, 20 mg/l | Nitrogen Oxides, ISO 105-G01 | |
|-----------------------|-----|-----|--|-----|-----|---|-----|-----|--|--|---------------------------------|----------|
| | | | | | | | | | | | 1 cycle | 3 cycles |
| Ch | CO | WO | Ch | CO | CV | Ch | CO | WO | Ch | Ch | Ch | Ch |
| 4-5 | 5 | 4-5 | 4-5 | 4-5 | 4-5 | 4-5 | 4-5 | 4-5 | 4-5 | 4 | 4-5 | 4-5 |
| 4-5 | 4-5 | 4-5 | 4-5 | 4-5 | 4-5 | 4-5 | 4-5 | 4-5 | 4-5 | 3 | 4 | 4 |
| 4-5 | 4-5 | 4-5 | 4-5 | 4-5 | 4-5 | 4 | 4-5 | 4-5 | 4-5 | 4 | 4 | 4 |
| 4-5 | 4-5 | 4-5 | 4-5 | 4-5 | 4-5 | 4-5 | 4-5 | 4-5 | 4-5 | 2 | 4 | 3 |
| 5 | 4-5 | 5 | 5 | 4-5 | 5 | 4-5 | 4-5 | 5 | 4-5 | 4 | 4 | 4 |
| 4-5 | 4-5 | 4-5 | 4-5 | 4-5 | 4-5 | 4-5 | 4-5 | 4-5 | 4 | 3 | 4 | 3 |
| 4-5 | 4-5 | 4-5 | 4-5 | 4-5 | 3-4 | 5 | 4-5 | 4-5 | 4-5 | 3 | 4 | 3 |



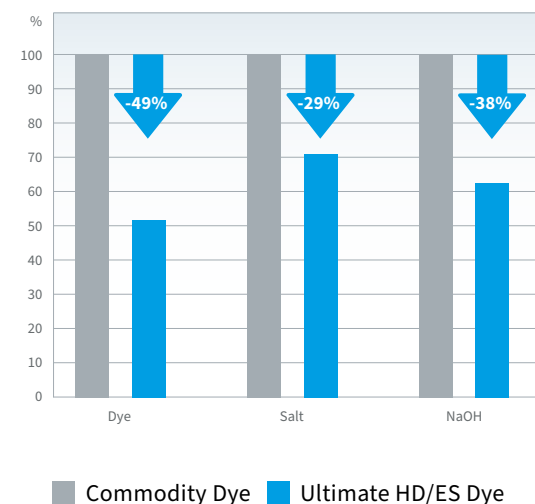
CREATING VALUE WITH DRIMAREN® ULTIMATE HD/ES DYES

| PRODUCT PROPERTIES | VALUE ADDED |
|---|--|
| <ul style="list-style-type: none"> A reactive dye range of high strength dyes with exceptional shade build up properties for dyeing intense shades. | <ul style="list-style-type: none"> The deepest shades are easily achieved using less dye and chemicals. Lower inventories required in the mill. |
| <ul style="list-style-type: none"> Excellent all-round wet fastness properties. Good light fastness in medium to deep shades. Very good oxidative bleach and repeated home laundry fastness of selected elements. | <ul style="list-style-type: none"> Meeting the highest fastness demands of leading brands. Low risk of claims and returns from consumers. |
| <ul style="list-style-type: none"> High alkaline stability. Minimum sensitivity to salt and alkali concentration, liquor ratio, time and temperature in exhaust, pad batch and all continuous dyeing applications. | <ul style="list-style-type: none"> Robust dyeing behaviour. High process reliability and Right-First-Time production. Excellent dyestuff stability in all climates, alkali systems and dyeing procedures. |
| <ul style="list-style-type: none"> Very good diffusion, penetration and leveling. | <ul style="list-style-type: none"> Excellent fabric appearance even on the most difficult substrates. |
| <ul style="list-style-type: none"> High degree of fixation combined with very good diffusion means excellent washing-off properties. | <ul style="list-style-type: none"> Resource savings, particularly in water, energy and time; lower environmental impact. |
| <ul style="list-style-type: none"> Very high solubility and solution stability in exhaust, pad batch and continuous dyeing procedures. | <ul style="list-style-type: none"> Trouble-free dyebath preparation. Low risk of precipitation or dye specks during application. |
| <ul style="list-style-type: none"> High quality of dye standardisation. | <ul style="list-style-type: none"> Improves batch to batch shade consistency. |
| <ul style="list-style-type: none"> Drimaren® Ultimate ES branding denotes dyes with below the detectable limits of restricted arylamines like p-chloroaniline (p-CA) | <ul style="list-style-type: none"> Textile articles produced do not present a hazard to health or have a negative impact on the environment during manufacture. |

SAVING RESOURCES WITH DRIMAREN® ULTIMATE HD/ES DYES



| Wine | Wine |
|--------------------------------|-------------------------------------|
| 1.60% Reactive Yellow 176 150% | 0.70% Drimaren® Ultimate Yellow HD |
| 3.20% Reactive Red 239 150% | 1.40% Drimaren® Ultimate Rubine HD |
| 0.50% Reactive Black 005 150% | 0.60% Drimaren® Ultimate Navy HD-XF |
| 70 g/l Glauber's Salt | 50 g/l Glauber's Salt |
| 5.0 g/l Soda Ash | 5.0 g/l Soda Ash |
| 4.0 ml/l NaOH 36° Bé | 2.5 ml/l NaOH 36° Bé |
| LR 6:1, Isothermal 60° C | LR 6:1, Isothermal 60° C |



Stronger dyes... Powerful build up... Deeper shades...

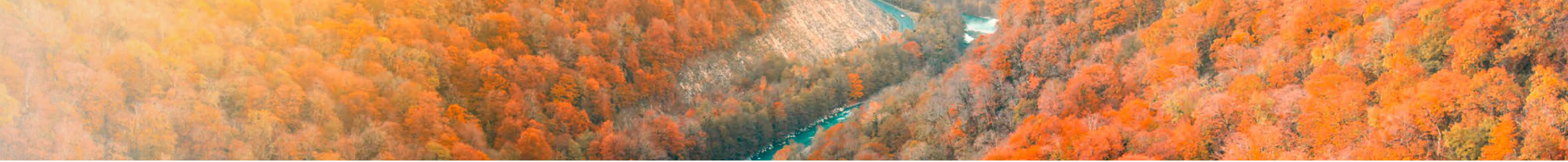
COLORFUL LIFE FOR SUSTAINABLE FASHION

- Drimaren® Ultimate Yellow HD**
 Golden yellow element with excellent shade build up for dyeing medium to very deep combination shades. Good light, oxidative bleach and repeated home laundry fastness. Very good washing off properties. Dischargeable.
- Drimaren® Ultimate Amber HD**
 Golden yellow element with unique color strength. Basis for economical deep shades. Good light, oxidative bleach and repeated home laundry fastness. Non photochromic. Dischargeable.
- Drimaren® Ultimate Crimson HD-N**
 Strong, bright, bluish red element. High degree of fixation and colour strength for medium to deep combination shades. Very good washing off and wet fastness properties.
- Drimaren® Ultimate Rubine HD**
 Dark red component, with unique colour strength, for dyeing the deepest bordeaux, brown and combination shades. Good light, chlorine, oxidative bleach and repeated home laundry fastness. Dischargeable.
- Drimaren® Ultimate Dark Blue HD**
 Strong, ternary blue element with good light fastness in medium to dark shades. High oxidative and repeated home laundry fastness. Fast to atmospheric pollutants (NOx). Excellent washing off and wet fastness properties Dischargeable.
- Drimaren® Ultimate Navy HD-G**
 Very strong navy element with a greenish cast. Recommended for dyeing medium to very dark shades. Good oxidative bleach and repeated home laundry fastness. Excellent washing off and wet fastness properties. Dischargeable.
- Drimaren® Ultimate Navy HD-XF**
 Very strong navy element for dyeing medium to very deep shades. Better light fastness than conventional navy dyes. Excellent chlorine, oxidative bleach and repeated home laundry fastness. Excellent washing off and wet fastness properties. Dischargeable.
- Drimaren® Ultimate Night Sky HD**
 Economical, dark navy component with powerful build up for dyeing the deepest navy and black shades. Very good washing off and wet fastness properties. Dischargeable.
- Drimaren® Ultimate Black HD**
 Deep black component with a neutral cast. Powerful build up for reaching the ultimate depths in black shades. Excellent washing off and wet fastness properties. Dischargeable.

- Drimaren® Ultimate Amber ES**
 Golden yellow element with unique color strength. Basis for economical deep shades. Good light, oxidative bleach and repeated home laundry fastness. Non photochromic. Dischargeable.
- Drimaren® Ultimate Carmine ES**
 Deep red component. Outstanding washing off properties. Good light, chlorine, oxidative bleach and repeated home laundry fastness. Dischargeable.
- Drimaren® Ultimate Night Sky ES**
 Economical, dark navy component with powerful build up for dyeing the deepest navy and black shades. Very good washing off and wet fastness properties. Dischargeable.
- Drimaren® Ultimate Black ES**
 Strong black component. Excellent build up properties for dyeing the deepest black shades. Excellent washing off and wet fastness properties. Dischargeable.

Below the detectable limits of p-chloroaniline (p-CA) and other regulatory arylamines.





| Drimaren® Ultimate HD/ES | | Standard Depth, CO bleached, Exhaust, Isothermal 60°C | Standard Depth, CO bleached & mercerized, Pad Batch | Light Fastness, ISO 105-B02 (blue scale 1-8) | Light Fastness, AATCC 16E, 20 AFU (gray scale 1-5) | Light Fastness, AATCC 16E, 40 AFU (gray scale 1-5) | Perspiration, ISO 105-E04, acid | | | Perspiration, ISO 105-E04, alkaline | | |
|-----------------------------------|---------------------|--|--|---|---|---|------------------------------------|-----|-----|--|-----|-----|
| 1/1 SD (DIN 54000) Navy/Black* | % | | | | | | g/kg | Ch | Ch | Ch | Ch | CO |
| | Yellow HD | 2.10 | 15.0 | 5-6 | 4-5 | 4 | 4-5 | 4-5 | 5 | 4-5 | 4-5 | 5 |
| | Amber HD/ES | 1.10 | 7.00 | 5-6 | 4 | 4 | 4-5 | 4-5 | 4-5 | 4-5 | 4-5 | 4-5 |
| | Crimson HD-N | 2.40 | 16.0 | 4-5 | 4 | 3 | 4-5 | 4-5 | 4-5 | 4-5 | 4-5 | 4-5 |
| | Rubine HD | 1.10 | 7.00 | 5 | 4-5 | 3-4 | 4-5 | 4-5 | 5 | 4-5 | 4-5 | 5 |
| | Carmine ES | 1.80 | 10.0 | 5 | 4-5 | 4 | 4-5 | 4 | 4-5 | 4-5 | 4 | 4-5 |
| | Dark Blue HD | 2.30 | 12.0 | 5 | 4 | 3-4 | 4-5 | 4-5 | 4-5 | 4-5 | 4-5 | 4-5 |
| | Navy HD-XF | 1.40 | 11.0 | 4 | 4 | 3-4 | 4-5 | 5 | 5 | 4-5 | 5 | 4-5 |
| | Navy HD-XF* | 4.20 | 33.0 | 4-5 | 4-5 | 4 | 4-5 | 4-5 | 4-5 | 4-5 | 4-5 | 4-5 |
| | Navy HD-G | 1.40 | 10.0 | 3-4 | 3-4 | 2-3 | 4-5 | 4-5 | 4-5 | 4-5 | 4-5 | 4-5 |
| | Navy HD-G* | 4.20 | 30.0 | 4 | 4 | 3 | 4-5 | 4-5 | 5 | 4-5 | 4-5 | 5 |
| | Night Sky HD/ES | 1.00 | 6.00 | 3-4 | 3-4 | 2-3 | 4-5 | 4-5 | 4-5 | 4-5 | 4-5 | 4-5 |
| | Night Sky HD/ES* | 3.00 | 18.0 | 4 | 4 | 3 | 4-5 | 4-5 | 5 | 4-5 | 4-5 | 5 |
| | Black HD* | 6.80 | 40.0 | 5 | 4 | 3 | 4-5 | 5 | 5 | 4-5 | 5 | 5 |
| | Black ES* | 8.00 | 48.0 | 5 | 4 | 3 | 4-5 | 4-5 | 4-5 | 5 | 4-5 | 4-5 |

| Water, ISO 105-E06 | | | Domestic laundering, ISO 105-C06, C25, 60°C | | | Domestic laundering, AATCC, 2A, 49°C | | | Oxidative Bleach, ISO 105-C09, TAED, 60°C | Chlorinated water, ISO 105-E03, 20 mg/l | Nitrogen Oxides, ISO 105-G01 | |
|-----------------------|-----|-----|--|-----|-----|---|-----|-----|--|--|---------------------------------|----------|
| Ch | CO | WO | Ch | CO | CV | Ch | CO | WO | Ch | Ch | 1 cycle | 3 cycles |
| 4-5 | 5 | 4-5 | 5 | 4-5 | 4-5 | 4-5 | 4-5 | 4-5 | 4-5 | 2 | 4 | 4 |
| 4-5 | 4-5 | 4-5 | 4-5 | 4-5 | 4-5 | 4-5 | 4-5 | 4-5 | 4 | 2-3 | 4-5 | 4-5 |
| 4-5 | 4-5 | 4-5 | 4 | 4-5 | 4-5 | 4-5 | 4-5 | 4-5 | 2-3 | 2-3 | 4-5 | 4-5 |
| 4-5 | 4-5 | 4-5 | 4-5 | 4 | 4-5 | 4-5 | 4-5 | 4-5 | 4-5 | 4-5 | 4-5 | 4-5 |
| 4-5 | 4 | 4-5 | 4-5 | 4-5 | 4-5 | 4-5 | 4-5 | 4-5 | 4-5 | 4-5 | 4-5 | 4 |
| 4-5 | 4-5 | 4-5 | 4-5 | 4-5 | 4-5 | 4-5 | 4 | 5 | 4-5 | 4 | 4-5 | 4-5 |
| 4-5 | 4-5 | 4-5 | 4-5 | 4-5 | 4-5 | 4-5 | 4-5 | 4-5 | 4-5 | 4 | 4-5 | 4 |
| 5 | 4-5 | 4-5 | 4-5 | 4-5 | 4-5 | 4-5 | 4-5 | 4-5 | 4-5 | 4-5 | 4-5 | 4-5 |
| 4-5 | 4-5 | 4-5 | 5 | 4-5 | 4-5 | 4-5 | 4-5 | 4-5 | 4 | 3 | 4-5 | 4 |
| 4-5 | 4-5 | 5 | 4 | 4-5 | 4-5 | 4-5 | 4-5 | 4-5 | 4-5 | 3-4 | 4-5 | 4-5 |
| 4-5 | 4-5 | 4-5 | 4-5 | 4-5 | 4-5 | 4-5 | 5 | 4-5 | 2 | 1-2 | 4-5 | 4 |
| 4-5 | 4-5 | 5 | 4-5 | 4-5 | 5 | 4-5 | 4-5 | 4-5 | 3 | 2-3 | 4-5 | 4 |
| 4-5 | 5 | 5 | 5 | 5 | 5 | 4-5 | 4-5 | 5 | 4 | 3 | 4-5 | 4-5 |
| 4-5 | 4-5 | 4-5 | 5 | 4-5 | 4-5 | 5 | 4-5 | 4-5 | 4 | 3-4 | 4-5 | 4-5 |



Drimaren® Ultimate HF – Salt and alkali recommendations

Soda ash method <LR 6:1

| Drimaren® HF dye | % | 0 – 0.5 | 0.5 – 1 | 1 – 2 | 2 – 3 | 3 – 4 | 4 – 5 | > 5 |
|--------------------------|-----|---------|---------|---------|---------|---------|---------|-----|
| Common or Glauber's salt | g/l | 10 | 10 – 20 | 20 – 30 | 30 – 40 | 40 – 50 | 50 – 60 | 60 |
| Soda ash | g/l | 12 – 14 | 14 – 16 | 16 – 18 | 18 – 20 | 20 | 20 | 20 |

Soda ash method LR 6:1 – 8:1

| Drimaren® HF dye | % | 0 – 0.5 | 0.5 – 1 | 1 – 2 | 2 – 3 | 3 – 4 | 4 – 5 | > 5 |
|--------------------------|-----|---------|---------|---------|---------|---------|---------|-----|
| Common or Glauber's salt | g/l | 10 – 20 | 20 – 30 | 30 – 40 | 40 – 50 | 50 – 60 | 60 – 70 | 70 |
| Soda ash | g/l | 10 – 12 | 12 – 14 | 14 – 16 | 16 – 18 | 18 – 20 | 20 | 20 |

Soda ash method LR >8:1

| Drimaren® HF dye | % | 0 – 0.5 | 0.5 – 1 | 1 – 2 | 2 – 3 | 3 – 4 | 4 – 5 | > 5 |
|--------------------------|-----|---------|---------|---------|---------|---------|---------|-----|
| Common or Glauber's salt | g/l | 20 – 30 | 30 – 40 | 40 – 50 | 50 – 60 | 60 – 70 | 70 – 80 | 80 |
| Soda ash | g/l | 8 – 10 | 10 – 12 | 12 – 14 | 14 – 16 | 16 – 18 | 18 – 20 | 20 |

Soda ash/caustic soda method <LR 6:1

| Drimaren® HF dye | % | 0 – 0.5 | 0.5 – 1 | 1 – 2 | 2 – 3 | 3 – 4 | 4 – 5 | > 5 |
|--------------------------|------|-----------|-----------|-----------|-----------|-----------|-----------|-----|
| Common or Glauber's salt | g/l | 10 | 10 – 20 | 20 – 30 | 30 – 40 | 40 – 50 | 50 – 60 | 60 |
| Soda ash | g/l | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| Caustic Soda 36°Bé | ml/l | 0.5 – 1.0 | 1.0 – 1.5 | 1.5 – 2.0 | 2.0 – 2.5 | 2.5 – 3.0 | 3.0 – 3.5 | 4.0 |

Soda ash/caustic soda method LR 6:1 – 8:1

| Drimaren® HF dye | % | 0 – 0.5 | 0.5 – 1 | 1 – 2 | 2 – 3 | 3 – 4 | 4 – 5 | > 5 |
|--------------------------|------|---------|-----------|-----------|-----------|-----------|-----------|-----|
| Common or Glauber's salt | g/l | 10 – 20 | 20 – 30 | 30 – 40 | 40 – 50 | 50 – 60 | 60 – 70 | 70 |
| Soda ash | g/l | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| Caustic Soda 36°Bé | ml/l | 0.5 | 0.5 – 1.0 | 1.0 – 1.5 | 1.5 – 2.0 | 2.0 – 2.5 | 2.5 – 3.0 | 3.5 |

Soda ash/caustic soda method LR >8:1

| Drimaren® HF dye | % | 0 – 0.5 | 0.5 – 1 | 1 – 2 | 2 – 3 | 3 – 4 | 4 – 5 | > 5 |
|--------------------------|------|---------|---------|-----------|-----------|-----------|-----------|-----|
| Common or Glauber's salt | g/l | 20 – 30 | 30 – 40 | 40 – 50 | 50 – 60 | 60 – 70 | 70 – 80 | 80 |
| Soda ash | g/l | 8 – 10 | 5 | 5 | 5 | 5 | 5 | 5 |
| Caustic Soda 36°Bé | ml/l | — | 0.5 | 0.5 – 1.0 | 1.0 – 1.5 | 1.5 – 2.0 | 2.0 – 2.5 | 3.0 |

Drimaren® Ultimate HD/ES – Salt and alkali recommendations

Soda ash method <LR 6:1

| Drimaren® Ultimate HD dye | % | 0 – 0.5 | 0.5 – 1 | 1 – 2 | 2 – 3 | 3 – 4 | 4 – 5 | > 5 | Black |
|---------------------------|-----|---------|---------|---------|---------|---------|---------|-----|-------|
| Common or Glauber's salt | g/l | 10 – 20 | 20 – 30 | 30 – 40 | 40 – 50 | 50 – 60 | 60 – 70 | 70 | 80 |
| Soda ash | g/l | 14 – 16 | 16 – 18 | 18 – 20 | 20 | 20 | 20 | 20 | 20 |

Soda ash method LR 6:1 – 8:1

| Drimaren® Ultimate HD dye | % | 0 – 0.5 | 0.5 – 1 | 1 – 2 | 2 – 3 | 3 – 4 | 4 – 5 | > 5 | Black |
|---------------------------|-----|---------|---------|---------|---------|---------|---------|-----|-------|
| Common or Glauber's salt | g/l | 20 – 30 | 30 – 40 | 40 – 50 | 50 – 60 | 60 – 70 | 70 – 80 | 80 | 90 |
| Soda ash | g/l | 12 – 14 | 14 – 16 | 16 – 18 | 18 – 20 | 20 | 20 | 20 | 25 |

Soda ash method LR >8:1

| Drimaren® Ultimate HD dye | % | 0 – 0.5 | 0.5 – 1 | 1 – 2 | 2 – 3 | 3 – 4 | 4 – 5 | > 5 | Black |
|---------------------------|-----|---------|---------|---------|---------|---------|---------|-----|-------|
| Common or Glauber's salt | g/l | 30 – 40 | 40 – 50 | 50 – 60 | 60 – 70 | 70 – 80 | 80 – 90 | 90 | 100 |
| Soda ash | g/l | 10 – 12 | 12 – 14 | 14 – 16 | 16 – 18 | 18 – 20 | 20 | 20 | 25 |

Soda ash/caustic soda method <LR 6:1

| Drimaren® Ultimate HD dye | % | 0 – 0.5 | 0.5 – 1 | 1 – 2 | 2 – 3 | 3 – 4 | 4 – 5 | > 5 | Black |
|---------------------------|------|-----------|-----------|-----------|-----------|-----------|-----------|-----|-------|
| Common or Glauber's salt | g/l | 10 – 20 | 20 – 30 | 30 – 40 | 40 – 50 | 50 – 60 | 60 – 70 | 70 | 80 |
| Soda ash | g/l | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| Caustic Soda 36°Bé | ml/l | 0.5 – 1.0 | 1.0 – 1.5 | 1.5 – 2.0 | 2.0 – 2.5 | 2.5 – 3.0 | 3.0 – 3.5 | 4.0 | 4.5 |

Soda ash/caustic soda method LR 6:1 – 8:1

| Drimaren® Ultimate HD dye | % | 0 – 0.5 | 0.5 – 1 | 1 – 2 | 2 – 3 | 3 – 4 | 4 – 5 | > 5 | Black |
|---------------------------|------|---------|-----------|-----------|-----------|-----------|-----------|-----|-------|
| Common or Glauber's salt | g/l | 20 – 30 | 30 – 40 | 40 – 50 | 50 – 60 | 60 – 70 | 70 – 80 | 80 | 90 |
| Soda ash | g/l | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| Caustic Soda 36°Bé | ml/l | 0.5 | 0.5 – 1.0 | 1.0 – 1.5 | 1.5 – 2.0 | 2.0 – 2.5 | 2.5 – 3.0 | 3.5 | 4.0 |

Soda ash/caustic soda method LR >8:1

| Drimaren® Ultimate HD dye | % | 0 – 0.5 | 0.5 – 1 | 1 – 2 | 2 – 3 | 3 – 4 | 4 – 5 | > 5 | Black |
|---------------------------|------|---------|---------|-----------|-----------|-----------|-----------|-----|-------|
| Common or Glauber's salt | g/l | 30 – 40 | 40 – 50 | 50 – 60 | 60 – 70 | 70 – 80 | 80 – 90 | 90 | 100 |
| Soda ash | g/l | 8 – 10 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| Caustic Soda 36°Bé | ml/l | — | 0.5 | 0.5 – 1.0 | 1.0 – 1.5 | 1.5 – 2.0 | 2.0 – 2.5 | 3.0 | 3.5 |

CONTINUOUS APPLICATION

Pad Batch process



*Fixation with caustic soda and sodium silicate:

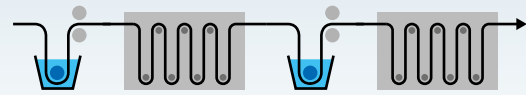
- x g/l Drimaren® Ultimate HF/HD/ES dye
- 0.5 – 3 g/l Leonil® EHC liq c
- 0.5 – 3 g/l Dekol® 1097N liq*
- 5 – 10 g/l Solidokoll® DPR liq*
- 50 ml/l Sodium silicate 38°Bé
- 6 – 36 ml/l Caustic Soda 36°Bé

Fixation with soda ash and caustic soda:

- x g/l Drimaren® Ultimate HF/HD/ES dye
- 0.5 – 3 g/l Leonil® EHC liq c
- 0.5 – 3 g/l Dekol® 1097N liq*
- 20 g/l Soda ash
- 4 – 26 ml/l Caustic Soda 36°Bé

Padding: 25 – 30°C
Batching: 8 – 24 hours at 25-30°C

Pad Dry Chemical Pad Steam process



Dye pad liquor:

- x g/l Drimaren® Ultimate HF/HD/ES dye
- 10 g/l Solidokoll® V liq
- 0.5 – 3 g/l Leonil® EHC liq c
- 0.5 – 3 g/l Dekol® 1097N liq*

Padding: 25 – 30°C
IR pre-drying: To residual moisture content 30 – 35%
Drying: 110 – 130°C

Chemical pad liquor:

- 250 g/l Glauber's salt or common salt
- 20 g/l Soda ash
- 10 – 20 ml/l Caustic Soda 36°Bé
- 10 g/l Revatol® NS liq c

Padding: 25 – 30°C
Steaming: 60 – 90 s (saturated steam)

Pad Wet Steam process

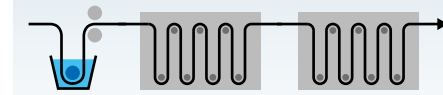


Dye pad liquor:

- x g/l Drimaren® Ultimate HF/HD/ES dye
- 0.5 – 3 g/l Leonil® EHC liq c
- 0.5 – 3 g/l Dekol® 1097N liq*
- 10 g/l Revatol® NS liq c
- 20 – 60 g/l Glauber's salt
- 10 – 30 g/l Soda ash

Padding: 25 – 30°C
Steaming: 60 – 90 s (saturated steam)

Pad Dry Thermofix process



Dye pad liquor:

- x g/l Drimaren® Ultimate HF/HD/ES dye
- 10 g/l Solidokoll® N liq
- 0.5 – 3 g/l Leonil® EHC liq c
- 0.5 – 3 g/l Dekol® 1097N liq*
- 25 – 150 g/l Urea
- 10 – 20 g/l Sodium bicarbonate/Soda ash

Padding: 25 – 30°C
IR pre-drying: To residual moisture content 30 – 35%
Drying: 110 – 130°C
Thermofixation: 45 – 90 s at 160°C

> Spotlight on **SOLID EARTH**, a robust pad-batch & continuous coloration system for consistent and durable earthy tones on cellulosic substrates and reduced use of water, chemicals and energy

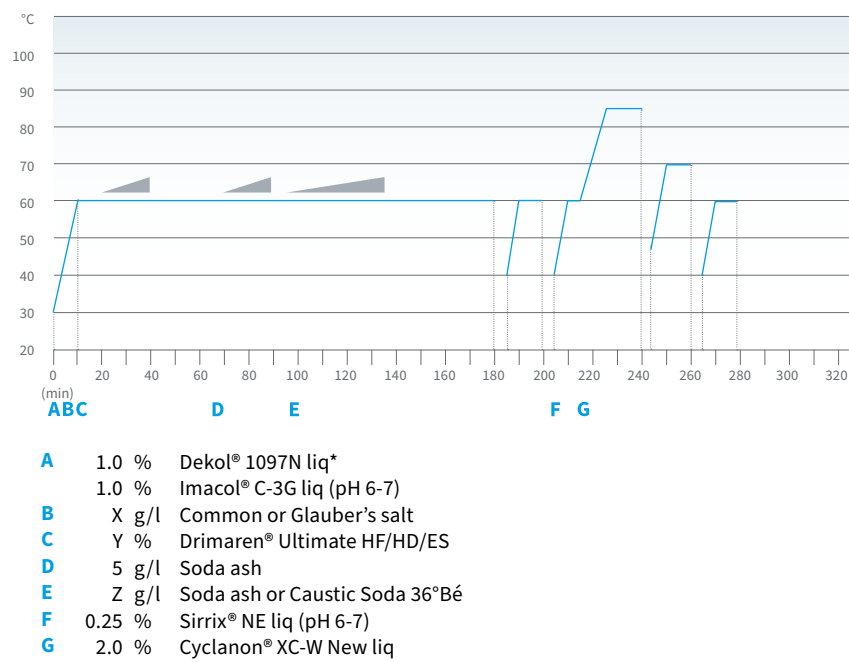
> Spotlight on **DEEP WEAVE**, a deep coloration system for maximum efficiency on woven fabrics with enhanced fastness, and dramatically reduced use of water

* Recommended for knitted fabric



EXHAUST APPLICATION

Drimaren® Ultimate HF/HD/ES: Dyeing and washing off procedure



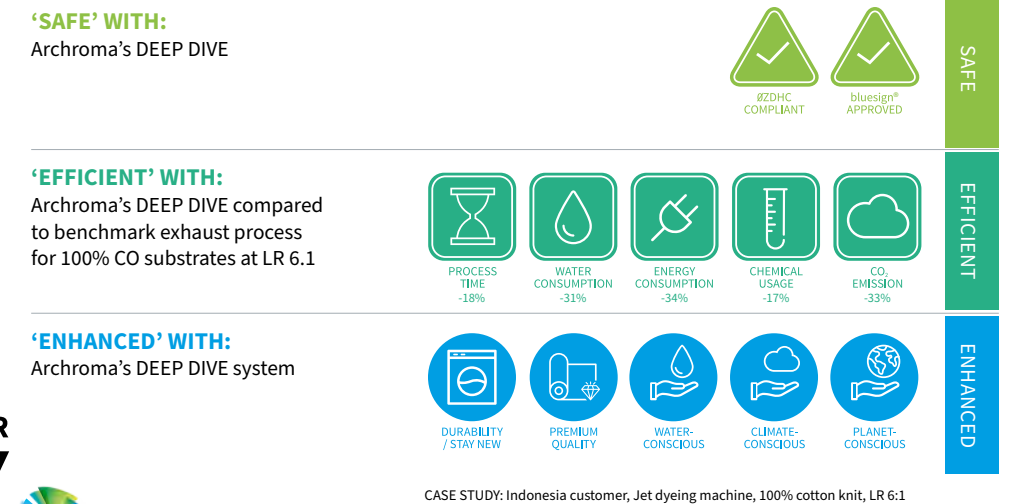
* Recommended for knitted fabric

- > Spotlight on **RIGHT ON TIME**, a robust exhaust coloration system for consistent and durable pale tones on cellulose substrates, with significant reduction of time, water, chemicals and energy
- > Spotlight on **DEEP DIVE**, a complete system for maximum coloration efficiency with enhanced fastness, and dramatically reduced use of water, chemicals and energy
- > Spotlight on **DARK BLISS**, a system for dyeing deep navy and black shades more efficiently with enhanced fastness and dramatically lighter use of water and chemicals

THE ONE WAY IMPACT CALCULATOR

Potential savings of **Drimaren® Ultimate** can be evaluated using Archroma's **ONE WAY Impact calculator**. ONE WAY is a 3-step systematic approach to the selection of chemicals, dyes and production processes. It allows customers to assess the cost, performance and environmental profile of the evaluated products and processes.

ARCHROMA'S ONE WAY SCORE CARD – DEEP DIVE system with Drimaren® Ultimate HD
Archroma's DEEP DIVE compared to benchmark exhaust process for 100% CO substrates at LR 6.1.



CASE STUDY: Indonesia customer, Jet dyeing machine, 100% cotton knit, LR 6:1

IMPACT CALCULATOR
ONE WAY
by ARCHROMA
LIFE ENHANCER

We continuously challenge the status quo in the deep belief that we can make our industry sustainable.

CERTIFIED ENVIRONMENTAL BENEFITS

The majority of our Drimaren HF/HD/ES dyes are certified by the most important eco-standards, such as: **bluesign, Oeko-Tex, GOTS, C2C, ZDHC.**



KEEPING SAFETY AT CORE WITH SAFE EDGE

The number of regulations and standards are growing fast each year and the compliance status to these standards is becoming strategic for product selection by companies.

Archroma supports customers in their efforts to comply with regulations, eco-certifications and brand requirements with the **Safe Edge, an online regulatory & compliance platform allowing instant checking for Archroma specialty chemical products.**

The Safe Edge covers standards, regulations and information such as air emission factors, animal origin, halal, kosher, plant origin, food contact, Blue Angel, bluesign®, Cradle-to-Cradle, chemical inventories, Compostability EN 13432, conflict minerals, EU Flower/Ecolabel, GOTS, CONEG, ISEGA, Nordic Swan, Oekotex® Standard 100, California Prop 65, REACH, RoHS (Restriction of Hazardous Substance), Screened Chemistry, SDS, SVHC (Substance of Very High Concern), VOC (US), ZDHC (Zero Discharge Hazardous Chemicals), and brand standards (like Coats A&F MRSL, Decathlon RSL 2020, Jack Wolfskin RSL and The List IV by Inditex).

This provides much needed reduced time-to-market for manufacturers, brands and retailers

The scopes covered by the Safe edge will continuously evolve over time with the aspirational goal to respond to 100% of the customer demand in a pro-active way.



YOUR COLOR IDEAS COME TO LIFE, SUSTAINABLY

Often design is separated from execution in the factory and as such often designers initially select color that cannot be met in reality on different fibers or production routes in terms of color flare, metamerism, brightness, depth and now sustainable metrics – leading to lengthy delays and compromises in function, performance and/or color.

Archroma decided to create a dedicated tool aimed at addressing that issues. The company developed a new, **unique book with color swatches** made with the system and **ready to implement into production** thanks to engineered color standards and specifications.

This new tool tries to bridge the gap between “art and science” by providing at inspiration phase a fully executable color that meets color flare, fastness, and now sustainable metrics too, in the production for deep shades on cotton knits.



/ **Check** our latest
updates at
www.fashion.archroma.com



...and know more about our
SYSTEMS SOLUTIONS for fashion

/ **About Archroma**

Archroma is a global color and specialty chemicals company committed to innovation, world-class quality standards, high service levels, cost-efficiency and sustainability. Archroma is headquartered in Reinach near Basel, Switzerland, and operates with approximately 3000 employees over 35 countries. Through its three businesses: Brand and Performance Textile Specialties, Packaging & Paper Specialties and Coatings, Adhesives & Sealants, Archroma delivers specialized performance and color solutions to meet customer needs in their local markets.

Archroma helps people fulfill their desire for products that appeal to their emotions and senses for a greater life experience, by developing beauty- and performance-improving technologies applied to everyday products. Products enhanced, colors enhanced, performance enhanced – “Life enhanced”.

/ **About Brand and Performance Textile Specialties**

From fiber to finish, Archroma’s Brand and Performance Textile Specialties plays a key role throughout the entire textile supply chain, with special chemicals for pretreatment, dyeing, printing and finishing of textiles. Our product packages enhance the properties of apparel and other textiles in applications as diverse as high fashion, home textiles and special technical textiles.

From crease resistance to moisture management as well as repellency, our functional effects provide added-value features to textile manufacturers. Our specialist advisers provide color matching, trend monitoring as well as sector specific concepts, including our ONE WAY sustainability service, to ensure that customers generate greater value from their products.

We touch and color people’s lives every day, everywhere.



www.archroma.com
bptmarketing@archroma.com

ARCHROMA MANAGEMENT LLC

Hardstrasse 1
4133 Pratteln
Switzerland

BRAND AND PERFORMANCE TEXTILE SPECIALTIES

Archroma Singapore, Pte. Ltd.
1 International Business Park
#06-01 The Synergy
609917 Singapore

This information corresponds to the present state of our knowledge and is intended as a general description of our products and their possible applications. Archroma makes no warranties, express or implied, as to the information's accuracy, adequacy, sufficiency or freedom from defect and assumes no liability in connection with any use of this information. Any user of this product is responsible for determining the suitability of Archroma's products for its particular application. *Nothing included in this information waives any of Archroma's General Terms and Conditions of Sale, which control unless it agrees otherwise in writing. Any existing intellectual/industrial property rights must be observed. Due to possible changes in our products and applicable national and international regulations and laws, the status of our products could change. Material Safety Data Sheets providing safety precautions, that should be observed when handling or storing Archroma products, are available upon request and are provided in compliance with applicable law. You should obtain and review the applicable Material Safety Data Sheet information before handling any of these products. For additional information, please contact Archroma.

*For sales to customers located within the United States and Canada the following applies in addition:
NO EXPRESS OR IMPLIED WARRANTY IS MADE OF THE MERCHANTABILITY, SUITABILITY,
FITNESS FOR A PARTICULAR PURPOSE OR OTHERWISE OF ANY PRODUCT OR SERVICE.

© Trademark of Archroma registered in many countries
© 2022 Archroma

CERTIFIED TO
SE EN ISO 9001:2015
SN EN ISO 14001:2015
SN EN ISO 45001:2018