PASSION FOR DIGITAL PRINTING / Innovating in creativity, quality and sustainability
How do we bring creativity, quality and sustainability to state-of-the-art digital printing?

CREATING SUSTAINABLE SOLUTIONS

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

Archroma is committed to developing innovative products and processes that are safer for the consumer and for the environment. We strongly believe, based on our extensive experience in textile processing, that sustainability can generate innovation, performance and can even lead to cost reductions and added value for our customers. For this reason, our clear ambition is to offer our customers the best possible system solution in their textile segments.

Innovation is a core competence of Archroma, which ensures that our products and services meet future demands, foster future technologies and contribute to a more sustainable textile industry.

As a global leader in color and specialty chemicals with a trusted heritage, we offer bespoke product solution systems and innovations. We strive to be a reliable partner for textile mills as well as major retailers and brands for the whole textile chain – from the first idea creation to the final article.

Brand owners and retailers around the world are taking action to evaluate the environmental impact of textile treatment, dyeing and finishing processes in response to consumer concerns. We can help textile manufacturers with this. Our exclusive ONE WAY Process Simulator can be used to simulate and compare products and processes, and thus calculate the ecological and economical profile of the final end-product.
From fiber to finish, Archroma plays a key role throughout the entire textile supply chain, with special system solutions for spinning, sizing, pretreatment, dyeing, printing and digital printing, as well as finishing.

Digital textile printing is the fastest growing segment within textile printing. Increasingly, more printing mills are making the transition from conventional to digital printing. More than 20 billion linear meters of printed textiles are produced every year; currently, only around five percent of these are made using digital printing techniques. However digital textile printing has an average growth of around 25% per year.

Archroma, a recognized global leader in integrated solutions for printing, is also investing in digital printing, bringing high innovation, creativity, quality and sustainability. Together with our expertise, we bring economical benefits with wider design possibilities, opening new business opportunities for digital textile printers.

Flexibility on demand

At the very beginning of the textile chain, Archroma’s spin finishes provide outstanding processing performance to all kinds of filaments and fibers. We combine our chemistry knowledge and yarn manufacturing experience to develop our high performance and innovative spin finishes and sizing systems, aimed at addressing the specific demands of our customers.

A heritage of performance

Pretreatment has always been a core competence in Archroma and our past heritage. We believe that a textile treatment process must be simple, robust and highly reliable.

With Archroma’s pretreatment systems, you will be able to achieve better print quality on fabric by inkjet printing.

Competence Center for Digital Printing

Benefit from Archroma’s digital printing expertise and networks for:
- Brand solution
- Innovative solutions for improved performance and sustainable production;
- New trends in the digital printing market;
- Collaboration network with market leaders in machinery manufacturers, digital printing producers, universities, textile industries, training centers and brands;
- Customer trainings and demos on Inkpresso® machines installed in each geographic region;
- State-of-the-art R&D labs for dyes purification and process developments.

The majority of Archroma’s products are endorsed by some of the most important eco-standards.

- bluesign®
- Oeko-Tex®
- GOTS
- ZDHC
- REACH
- EU Ecolabel
- C2C
- RSL
- MRSL

Archroma chemicals for cotton & viscose

- Wetting & deaerating Printogen® Inkjet NFW liq
- Levelness and definition improver Printogen® Inkjet DPE liq
- Reduction protection Printogen® Oxidant Grains
- Solubility & fixation (helps to reduce amount of urea in the recipe) Lyocol® BC liq

Archroma chemicals for polyamide

- Wetting & deaerating Printogen® Inkjet NFW liq
- Synthetic thickener to adjust viscosity Lutexal® GP Eco p
- Anti-frosting (improves penetration) Lyogen® VN liq
- Levelness and definition improver Printogen® Inkjet® DPE liq
DIGITAL PRINTING
ARCHROMA INKPRESSO® SYSTEM

Color creation flexibility, supports sustainable production, cost efficiency

Inkpresso® brings together benefits that were unattainable so far in inkjet printing: Production flexibility, no shelf-life problems, a larger color spectrum and the possibility of an individual coloristic variant.

Our Inkpresso® system is a paradigm shift; it allows you to manufacture your own inks, close to the printing machines, ensuring high stability and fresh ink from highly purified dyes with no issues of shelf life.

The central component of the system is the Ink Formulation Unit (IFU), where each color is mixed in separate units. The IFU is designed for exclusive use with Archroma’s Solar Reactive Dyes and Solar Compound.

The manufacturing process is automatically managed. The powder dyes are dosed through a closed system which ensures that no dye powder is released into the air. Chemicals and water are automatically fed into the mixing unit, all managed by a very accurate dosing system to ensure an exact ink output delivered when the customer needs it.

Create your color ink library by mixing the eight high-quality available color modules and preparing them on site and on demand.

Archroma’s Solar® reactive dyes & compounds

<table>
<thead>
<tr>
<th>Dyes</th>
<th>Solar® Brilliant yellow</th>
<th>Solar® Magenta 2B</th>
<th>Solar® Black</th>
</tr>
</thead>
<tbody>
<tr>
<td>Solar® Orange</td>
<td>Solar® Cyan</td>
<td>Solar® Blue</td>
<td></td>
</tr>
<tr>
<td>Solar® Brilliant Red</td>
<td>Solar® Brilliant Blue</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Compounds

- Specially designed and developed by Archroma as a carrier for dyes and water to optimize the ink for the following effects;
- Moisturizing effect;
- Runability in digital printer;
- Designed to fit all major print heads (Epson, Kyocera, Konica Minolta, Fuji etc.)

Solar® Compound

Archroma’s reactive inks

For implementing the Inkpresso® system we have available a full color range of inks to pre-test Archroma technology on purification and manufacturing.

<table>
<thead>
<tr>
<th>Inkpresso® Brilliant Yellow</th>
<th>Inkpresso® Magenta 2B</th>
<th>Inkpresso® Black</th>
</tr>
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<tbody>
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<td></td>
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<td>Inkpresso® Brilliant Blue</td>
<td></td>
</tr>
</tbody>
</table>

Archroma’s digital printing auxiliaries

Head cleaner

We provide the customer the most suitable head cleaner for preparing the digital printing machines before its manufacturing.
POST TREATMENT

Washing-off process

Archroma washing-off systems will help to remove unfixed dye and chemicals from fabric and avoid back staining of dyestuff onto unprinted/white areas.

Archroma's washing-off agents

- Dispersing & complexing agents
  - Cyclanon® X-CW New
  - Dekol® RSK

FINISHING

Archroma is a recognized expert in finishing solutions to fulfill the different market segment requirements.

Archroma's finishing solutions

- Care effects
  - Arkofix®
  - Ceralube®
  - Ceraperm®
  - Solusoft®
  - Appretan®
  - Ultraphor®
  - Leucophor®

- Protection
  - Smartrepel® Hydro
  - Nuva® N
  - Sanitized®
  - Pekoflam®
  - Actigard®
  - Rayosan®

- Thermocool
  - HyDry
  - Hydropem® coldblack®

Discover more information in our 'Functional Finishing' brochure

DIGITAL PRINTING

ARCHROMA FASTNESS LEVELS

Solar® dyes and Inkpresso®

FASTNESS LEVELS

<table>
<thead>
<tr>
<th>FASTNESS LEVELS</th>
<th>On 20%</th>
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</thead>
<tbody>
<tr>
<td>Light Fastness</td>
<td>ISO 105-B02</td>
</tr>
<tr>
<td>Water Fastness</td>
<td>ISO 105-E01</td>
</tr>
<tr>
<td>Domestic Laundry</td>
<td>ISO 105-C06/C2S</td>
</tr>
<tr>
<td>Home and Commercial</td>
<td>ISO 105-C06/C2S</td>
</tr>
<tr>
<td>Weather Fastness</td>
<td>ISO 105-B04-G53 (90h)</td>
</tr>
<tr>
<td>Dry Cleaning</td>
<td>ISO 105-D01</td>
</tr>
<tr>
<td>Chlorine Water</td>
<td>ISO 105-E03</td>
</tr>
<tr>
<td>Alkaline Acid</td>
<td></td>
</tr>
</tbody>
</table>

Solar® Brilliant Yellow
- 5-6
- 4-5
- 4
- 4
- 4
- 4
- 4
- 4

Solar® Orange
- 3-4
- 4-5
- 5
- 4-5
- 4
- 2
- 4
- 4-5

Solar® Brilliant Red
- 4-5
- 4
- 4
- 4
- 3-4
- 4
- 2
- 4-5

Solar® Magenta 2B
- 5-6
- 4
- 4
- 4
- 4
- 4
- 4
- 4-5

Solar® Brilliant Blue
- 4-5
- 4
- 4
- 4
- 3-4
- 4
- 4-5
- 1-2

Solar® Cyan
- 5-6
- 3-4
- 3
- 4-5
- 3-4
- 3
- 4-5
- 2

Solar® Black
- 5
- 4
- 4
- 4
- 4-5
- 4-5
- 2
- 4
- 2-3

The new Solar® range meets all the requirements of modern textile industry: GOTS®, OEKO-TEX and RSL, MRSL.
For implementing Inkpresso® system we have available a range of inks to pre-test Archroma technology on purification and manufacturing.

**Head cleaner**
- Inkpresso® System
- Chemicals for cotton & viscose
  - Inkpresso® Inkjet NFW 1q
  - Inkpresso® Inkjet DPE 1q
  - Reduction protector
  - Printogen® Oxidant Grains
- Wetting & deaerating
  - Printogen® Inkjet NFW 1q
  - Printogen® Inkjet DPE 1q
- Levelness and definition improver
  - Printogen® Inkjet DPE 1q

**Inkpresso® System**
- Dyestuffs

**Chemicals for cotton & viscose**
- Wetting & deaerating
  - Printogen® Inkjet NFW 1q
  - Printogen® Inkjet DPE 1q

**Washing-off agents**
- Spraying & containing agent
  - Cystalon® & CRY New

**Dyes & Compounds**
- Compounds
  - Specially designed and developed by Archroma as a carrier for dyes and water to optimize the ink for the following effects.
  - Moisturizing effect.
  - Run-ability in digital printer.
  - Designed to fit the most popular print head brands.

**Archroma Digital Printing Portfolio**
- Care & performance solutions
- Dispersing & containing agent
- Inkpresso® Inkjet DPE 1q
- Need cleaner

**Digital printing auxiliaries**
- Solar® Brilliant yellow
- Solar® Orange
- Solar® Brilliant Red
- Solar® Magenta 2B
- Solar® Cyan
- Solar® Brilliant Blue
- Solar® Black
- Solar® Compound

**Care effects**
- Arkofix®
- Ceralube®
- Ceraperm®
- Solusa®
- Trageser®
- Ottagard®
- Leucophor®

**Chemicals for polyamide**
- Wetting & deaerating
  - Printogen® Inkjet NFW 1q
  - Printogen® Inkjet DPE 1q

**ARCHROMA DIGITAL PRINTING PORTFOLIO**

**4. DIGITAL PRINTING**

**5. WASHING OFF**

**6. FINISHING**

**1. SPINNING**

**2. SIZING & WEAVING**

**3. PRETREATMENT**

**3. WASHING OFF**

**SPINNING Agents**
- Afilan®
- Leomin®
- Arkofil®

**Sizing Agents**
- Arkolf®

**Additives**
- Tivela®

**Spinning Agents**
- Inkpresso®

**Washing-off agents**
- Smartrepel® Hydro
- Nuva®
- Sanitized®
- Pekoflam®
- Actigard®
- Rayosan®

**Thermocontrol**
- HyDry
- Hydroperm®
- coldblack®

**Care & performance solutions**
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Safe, efficient, enhanced.

As a global leader in color and specialty chemicals, 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.

**Inkpresso® System**

- Safe
- Efficient
- Enhanced

- Cost Optimization
- Resource Saving
- Productivity Optimization

- Wide Shade Gamut
- Bright Neon
- Durability / Stay New
- Premium Quality
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