Flint Group’s Special Series of Varn® Web Conditioners

The Apollo Series
The most effective web conditioners on the market

**Flint Group is the global leader in web conditioner technology**

Flint Group manufactures our web conditioners with a variety of special silicone oils that impart unique lubricating characteristics. Flint Group supplements these specialty oils with carefully selected raw materials from other sources. Using years of formulation experience, the specialty raw materials are combined to create the most cost-effective web conditioners on the market.

Because these web conditioners are tailored to specific printing environments (substrate / speed / finishing equipment), each product can be optimized for the intended use.

**By selecting the right product for the application, the total cost of print is reduced.**

Many commodity silicone emulsions are designed for automotive appearance and mold release applications. The printing market is simply another outlet for these commodities. As a result, the commodity silicones need to be dosed higher to achieve the desired performance.

Flint Group is the only pressroom chemistry supplier who is vertically-integrated to manufacture silicone oils. This, combined with years of formulation experience, enables us to create the most cost-effective web conditioners on the market.

**WEB CONDITIONER is not “commodity silicone”**.
Features and Benefits of the Apollo Web Conditioners Series

### Design Features

<table>
<thead>
<tr>
<th>Design Features</th>
<th>Benefits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blends of silicone oils, waxes, and mineral oils are tailored to the specific application.</td>
<td>Reduces cost because of increased effectiveness at lower dosages compared to commodity silicones.</td>
</tr>
<tr>
<td>Conductivity tracers allow users to monitor and control dosage.</td>
<td>Reduces cost by eliminating gross over-dosing and random “spiking”.</td>
</tr>
<tr>
<td>Each Apollo Web Conditioner contains uniquely formulated built-in static reducers that accommodate specific print variables, including stocks.</td>
<td>Reduces waste in the bindery and newspaper inserting operations to eliminate the expensive and time-consuming “back to press” situations.</td>
</tr>
</tbody>
</table>

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### Reduce the Total cost of Print

#### Features

**Unique blends of silicone oils, mineral oils, and waxes**
- Prevents marking at lower dosages than commodity silicones

**Conductivity tracers**
- Allows operators to control lower dosage for improved consistency

**Built-in-anti-static properties — designed for the application**
- Further improves consistency of delivery to improve post-press efficiencies
Technical Tips:
Five Mechanisms to Prevent Ink Marking

1. Set oven temperatures properly.
2. Set chill roll temperatures properly.
3. Use proper web tension.
4. Use forced air to create a “pillow” between the web and non-moving metal parts.
5. Use web conditioner as a lubricant to reduce friction between ink and metal.

*Web conditioner cannot replace either ink curing or forced air.*

### Product Attributes

<table>
<thead>
<tr>
<th>Web Conditioner</th>
<th>Segment</th>
<th>Post-chill Systems</th>
<th>Conductivity</th>
<th>Antistat</th>
<th>Dosage</th>
<th>Wax</th>
<th>Press Speeds</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Apollo 930</td>
<td>Retail/insert with uncoated stock</td>
<td>must dose &lt;4 oz</td>
<td>No</td>
<td>No</td>
<td>3 to 8%</td>
<td>Low+</td>
<td>All</td>
<td>Economical blend of silicone and oils with low wax content.</td>
</tr>
<tr>
<td>Apollo 865</td>
<td>Universal application</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>6 to 30%</td>
<td>No</td>
<td>All</td>
<td>Straight blend of silicone oil traditionally in use.</td>
</tr>
<tr>
<td>Apollo 875</td>
<td>Retail with coated commercial directory</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>3 to 12%</td>
<td>Low+</td>
<td>&lt;2000 fpm</td>
<td>Blend of silicone oils, low wax content.</td>
</tr>
<tr>
<td>Apollo 885</td>
<td>Commercial/magazine/catalog</td>
<td>Yes</td>
<td>Yes</td>
<td>Low</td>
<td>3 to 12%</td>
<td>Med++</td>
<td>1000-3000 fpm</td>
<td>Blend of silicone oils, high wax content. Field tested and formulated for higher speeds.</td>
</tr>
<tr>
<td>Apollo 901</td>
<td>Retail/insert with coated/SNC/SCS/SCB uncoated stocks</td>
<td>Yes</td>
<td>Yes</td>
<td>Low</td>
<td>3 to 12%</td>
<td>High+++</td>
<td>1000-3000 fpm</td>
<td>Blend of silicone oils with medium wax content. Formulated to prevent path roller and former nose build-up often observed at very high speeds with retail stocks. Reduces the risk of ink and paper blocking.</td>
</tr>
</tbody>
</table>

AS 049 Anti Static additive is compatible with all products listed above.
Apollo Web Conditioners Series continued...

Product Recommendation Map

<table>
<thead>
<tr>
<th>Market</th>
<th>Typical Stocks</th>
<th>500</th>
<th>1000</th>
<th>1500</th>
<th>2000</th>
<th>2500</th>
<th>3000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Commercial Magazine</td>
<td>Heavy, Coated</td>
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<tr>
<td>Catalog</td>
<td></td>
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<tr>
<td>Retail Insert</td>
<td>Lightweight, Coated</td>
<td>Apollo 885</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Directory</td>
<td>SNC, SCA, SCB Uncoated</td>
<td>Apollo 875</td>
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<td></td>
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<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Apollo 901</td>
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</table>

The map is designed to indicate the product with the largest operating window. Generally more than one of these products will perform in a press room.

Individual technical data sheets for the Apollo Series Web Conditioners are available for pdf download at: [www.flintgrp.com](http://www.flintgrp.com)

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