



Metalon® Conductive Inks for Printed Electronics

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Metalon® JS-A102A

Nanosilver Ink – Aqueous dispersions for Inkjet Printing

JS-A102A is an electrically conductive ink designed to produce circuits on porous and non-porous substrates such as coated papers and polymeric films including polycarbonate and PET. This ink can be thermally cured at temperatures as low as 100°C or PulseForge® processed for enhanced conductivity. The ink is formulated for printing from the Dimatix DMP series printers. Please inquire about suitability for other print heads.

| Performance Properties | PulseForge 1200 | Thermal³ | | | | | | | | | | | | | | | | | | | |
|----------------------------------|--|----------------------------|--------------|------------------|----------------|--------------|------------|----|-----|-----------|------|----|-----------------|-------|---------|----------------------------------|-------|----|------------------|-----|---|
| | JS-A102A | JS-A102A | Units | | | | | | | | | | | | | | | | | | |
| | Sheet resistance¹ | 25 | < 100 | milli-ohm/square | | | | | | | | | | | | | | | | | |
| | Volume resistivity² | 7.80E-06 | < 3.1E-05 | ohm-cm | | | | | | | | | | | | | | | | | |
| | Pencil hardness | >4H | >4H | -- | | | | | | | | | | | | | | | | | |
| | <p>Printed on Melinex ST505 with Dimatix DMP-2831 at 20 micron drop spacing.</p> <p>The inks also display excellent crosshatch adhesion and water resistance after full curing.</p> <p>¹Typical values.</p> <p>² Value calculated based on estimate of 50% porosity in cured print.</p> <p>³Thermal cure: 140C 10 minutes</p> | | | | | | | | | | | | | | | | | | | | |
| Physical Properties | <p>General Description Water-based Ag ink</p> <p>Flash PointNon-flammable</p> <table border="1" style="width: 100%; border-collapse: collapse; margin-top: 10px;"> <thead> <tr> <th></th> <th style="text-align: center;">JS-A102</th> <th style="text-align: center;">Units</th> </tr> </thead> <tbody> <tr> <td>Ag content</td> <td style="text-align: center;">40</td> <td style="text-align: center;">wt%</td> </tr> <tr> <td>Viscosity</td> <td style="text-align: center;">8-12</td> <td style="text-align: center;">cP</td> </tr> <tr> <td>Surface tension</td> <td style="text-align: center;">19-30</td> <td style="text-align: center;">dyne/cm</td> </tr> <tr> <td>z-avg particle size⁴</td> <td style="text-align: center;">30-50</td> <td style="text-align: center;">nm</td> </tr> <tr> <td>Specific gravity</td> <td style="text-align: center;">1.6</td> <td style="text-align: center;">–</td> </tr> </tbody> </table> <p>⁴Malvern dynamic light scattering</p> | | | | JS-A102 | Units | Ag content | 40 | wt% | Viscosity | 8-12 | cP | Surface tension | 19-30 | dyne/cm | z-avg particle size ⁴ | 30-50 | nm | Specific gravity | 1.6 | – |
| | JS-A102 | Units | | | | | | | | | | | | | | | | | | | |
| Ag content | 40 | wt% | | | | | | | | | | | | | | | | | | | |
| Viscosity | 8-12 | cP | | | | | | | | | | | | | | | | | | | |
| Surface tension | 19-30 | dyne/cm | | | | | | | | | | | | | | | | | | | |
| z-avg particle size ⁴ | 30-50 | nm | | | | | | | | | | | | | | | | | | | |
| Specific gravity | 1.6 | – | | | | | | | | | | | | | | | | | | | |
| Shipping and Packaging | Standard sample order is 50 mL or multiples of 50 mL. Bulk packaging is also available. | | | | | | | | | | | | | | | | | | | | |

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Contact us today to learn more.
info@novacentrix.com