



Metalon[®] Conductive Inks for Printed Electronics

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Metalon[®] JS-B15P Metalon[®] JS-B25P Metalon[®] JS-B35P Nanosilver Ink – Aqueous dispersion

JS-B15P, JS-B25P, and JS-B35P are electrically conductive inks designed to produce circuits on porous substrates such as paper and Novele[™] (a coated PET). JS-B15P, JS-B25P, and JS-B35P inks are specially formulated for compatibility and stability with piezo-inkjet printing methods.

Performance Properties	<p>Metalon JS-B15P, JS-B25P, and JS-B35P when printed and cured, produce conductive traces that attain 3× – 5× bulk Ag resistivity.</p> <p>Sample Conductivity</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th></th> <th style="text-align: center;">Units</th> <th style="text-align: center;">JS-B15P</th> <th style="text-align: center;">JS-B25P</th> <th style="text-align: center;">JS-B35P</th> </tr> </thead> <tbody> <tr> <td>Thin film resistivity</td> <td>Micro ohm–cm</td> <td style="text-align: center;">4.5</td> <td style="text-align: center;">5.0</td> <td style="text-align: center;">6.4</td> </tr> <tr> <td>Thin film sheet resistance</td> <td>Milliohm/square</td> <td style="text-align: center;">90</td> <td style="text-align: center;">60</td> <td style="text-align: center;">55</td> </tr> <tr> <td>Bulk resistivity comparison</td> <td>$\rho(\text{film})/\rho(\text{bulk Ag})$</td> <td style="text-align: center;">2.9</td> <td style="text-align: center;">3.2</td> <td style="text-align: center;">4.1</td> </tr> </tbody> </table> <p>Sample Information Substrate¹: Novele[™] IJ-220 (a coated PET) Printer: Low-cost consumer inkjet, single pass Post-Process Tool: PulseForge[®] 3100 in 12" configuration Environment: Atmosphere – no special preparation</p>		Units	JS-B15P	JS-B25P	JS-B35P	Thin film resistivity	Micro ohm–cm	4.5	5.0	6.4	Thin film sheet resistance	Milliohm/square	90	60	55	Bulk resistivity comparison	$\rho(\text{film})/\rho(\text{bulk Ag})$	2.9	3.2	4.1										
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Physical Properties	<p>General Description Water-based Ag ink Flash Point Non-flammable</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th></th> <th style="text-align: center;">Units</th> <th style="text-align: center;">JS-B15P</th> <th style="text-align: center;">JS-B25P</th> <th style="text-align: center;">JS-B35P</th> </tr> </thead> <tbody> <tr> <td>Ag content</td> <td style="text-align: center;">wt%</td> <td style="text-align: center;">15</td> <td style="text-align: center;">25</td> <td style="text-align: center;">35</td> </tr> <tr> <td>Viscosity</td> <td style="text-align: center;">cP</td> <td style="text-align: center;">4</td> <td style="text-align: center;">5</td> <td style="text-align: center;">6</td> </tr> <tr> <td>Surface tension</td> <td style="text-align: center;">dyne/cm</td> <td style="text-align: center;">30</td> <td style="text-align: center;">31</td> <td style="text-align: center;">31</td> </tr> <tr> <td>Z-avg particle size²</td> <td style="text-align: center;">nm</td> <td style="text-align: center;">70</td> <td style="text-align: center;">75</td> <td style="text-align: center;">55</td> </tr> <tr> <td>Specific gravity</td> <td style="text-align: center;">–</td> <td style="text-align: center;">1.18</td> <td style="text-align: center;">1.31</td> <td style="text-align: center;">1.48</td> </tr> </tbody> </table> <p>² Malvern dynamic light scattering</p>		Units	JS-B15P	JS-B25P	JS-B35P	Ag content	wt%	15	25	35	Viscosity	cP	4	5	6	Surface tension	dyne/cm	30	31	31	Z-avg particle size ²	nm	70	75	55	Specific gravity	–	1.18	1.31	1.48
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Shipping and Packaging	Standard sample order is 50 mL or multiples of 50 mL. Bulk packaging is also available.																														

¹recommended for use on the following substrates: paper, Novele[™] IJ-220
 not currently recommended for use on the following substrates: uncoated PET, glass, ITO

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Contact us today to learn more.
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