Product/Process Change Notification

PCN Number:	100031-C	Product Category: Ink		Issue Date: 1-Sep-2019
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Description of Change to Customer:
Replacement of the black dye used in 8104 Xandex Inks.

Reason For Change:
The black dye used in Xandex Inks has been discontinued by the manufacturer. Replacement dyes from the same manufacturer are undergoing qualification testing.

Customer Impact of Change and Recommended Action:
The status of testing the revised ink formulation to our acceptance criteria is below. Customers are advised to perform their own required verification process on their specific target wafer materials.

Forecasted Key Milestones: Subject to change based on business conditions	Date:
Complete Internal Qualification Testing	1-May-20
Samples Available To Order	1-May-20
First Shipment of Changed Product (as early as)	1-Jan-21
Last Shipment of Unchanged Product (subject to material availability)	31-Dec-20

Method of Identifying Changed Product:
Batch number, expiration date and ship date.

Assessment:
Material change. Manufacturing location change.

Products and Xandex Part Numbers Affected

8104 Blk DM-2 Cartridge	306-1521	306-1621	306-1821
8104 Blk DM-2.3 Cartridge	307-1521	307-1621	307-1821

Revision History

Date of Revision:	Revision Letter:	Reason:
30-Aug-19	A	Initial publication
20-Feb-20	B	Revised implementation dates & test status
14-Jan-21	C	Final update for Shelf Life/Re-Verification test status

Please contact your Xandex sales representative for any questions or support requirements. Please return any response as soon as possible, but not to exceed 30 days.

PCN 100031 Appendix: Qualification Testing

Test	Result
Color strength	Pass
Particle size (fineness of grind)	Pass
Ink Viscosity	Pass
Contamination	Pass
Performance (size, curing, solvent resistance, adhesion)	Pass
Cartridge (balling, wetting, clogging)	Pass
Dot Count	Pass
Shelf Life/Re-verification	***Pass***