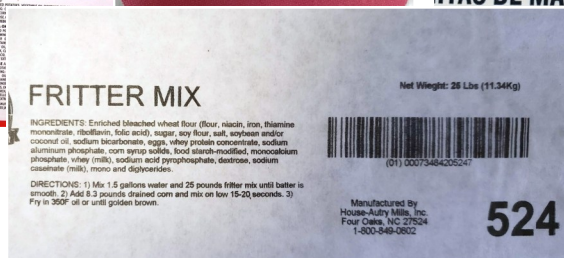


Managed Inks Portfolio



Water Based Inks

Carton Black Plus



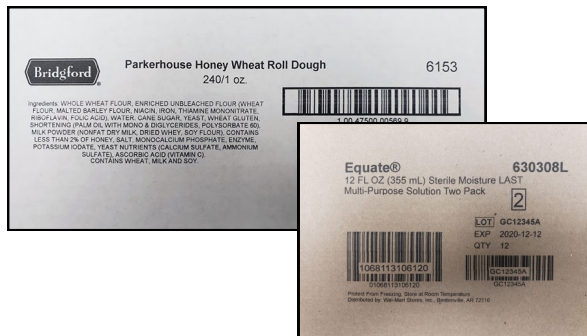
42ml

Bulk 800ml

Carton Black Plus has been formulated for excellent water-fast characteristics, stunning decap and very good print quality.

The Quick Disconnect bulk cartridges are available in two options—a 3 inch (for .CORE units) or 10 inch long tubes and connector.

Carton Black Plus is the ideal ink for Kraft Corrugate applications.



Express Black



42ml

Bulk 800ml

Perfect for coated stocks, this dye based ink gives good dry times and very good decap together with excellent print quality for barcodes and more.



Noir Black



42ml

Bulk 800ml

A solid performing pigment and dye based ink for use on paper, and glossy stocks, Noir has high optical density, very good print quality and excellent decap.

Jet Black Delta Plus 2



42ml

Bulk 800ml

For applications such as paper and glossy stock, it has very good optical density and the best light fastness available.

Solvent Based Inks

SolventX Colors



42ml

SolventX Colors are pigment based (apart from Black which is dye based) and have very good adherence to many non-porous substrates. However, they do require additional maintenance and care and should always be fully tested on any application.

TSD1010



42ml

Bulk 400ml

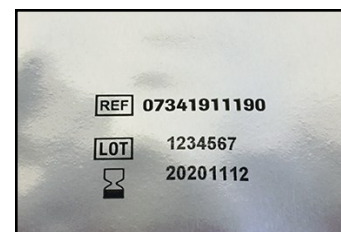
TSD1010 is the next generation of solvent based inks that prints on a very wide range of non-porous substrates. It has excellent darkness and adheres on many difficult substrates. It has a great decap allowing it to be used in applications with intermittent production.

TSD1160



42ml

This ink has a good decap and recovery, together with an extended shelf life of 12 months. It has solid adhesion, very similar to TSD1010, but with a slightly increased dry time.



TSD1210



42ml

TSD1210 is noticeably darker than other solvent inks, with better adhesion and shows a huge improvement when using the ink intermittently. It has shelf life of 12 months and is recommended for all Non-Porous substrates.

TSD1390



42ml

TSD1390 is equivalent to TSD1210, with a great adhesion and shows a huge improvement when using the ink intermittently. It has shelf life of 12 months and is recommended for all Non-Porous substrates.

Other Inks

Other inks are available for specific applications. They are not stocked and must be specially ordered. These include:

Colors



42ml

Bulk 800ml

Some inks are available in colors in 42ml and 800ml Bulk supplies. These can be pantone matched for specific customer needs. Ask your norwix representative for more details on specific inks.



Invisible (UV and IR)



42ml

Normally for internal monitoring and identification, Invisible inks are used. Two types can be supplied that become visible at either UV or IR wavelengths.

UV Curable



42ml

For applications where permanency and water fastness may be required beyond those offered with other norwix inks, a UV curable ink is available upon request.

BULK INK SOLUTIONS

To reduce operating costs, bulk ink solutions are available for many inks. They are comprised of three component parts:

Bulk Ink Holders

There are two types of holder.

Gravity Fed. The 800ml bulk holder (Aqueous Inks) has empty detection capability. The unit must be connected to a regulator to perform.



Bulk Regulators

This regulates the ink pressure from the Bulk Ink holder to the Cartridge and comes in various formats for printing vertically or horizontally and pre-configured in multiples of four or individually.



Active Device. Available only for TSD1010 and TSD1210, the 400ml Bulk Supply is an active device that connects directly to the cartridge and measures ink pressure at the cartridge. Ink is fed from the bulk supply to the cartridge when required. It *does not* require connection to a Regulator.



Quick Disconnect Cartridges

There are two styles of quick disconnect cartridges

Aqueous Based. The Quick Disconnect bulk cartridges are available in two options—with a 3 inch (for .CORE units) or 10 inch long tubes and connector for other norwix print solutions.



400ml Bulk Cartridge



Solvent Based. For use with the Active Bulk Holders, they have an internal sensor for measuring the volume of ink inside. They do not require attachment to a regulator.

TECHNICAL

Cartridge Yields

Stand alone cartridges (nominal 42ml capacity)

Expected Yield	Vertical Printing (ml)	Horizontal Printing (ml)
Carton Black Plus	39	36
Express Black	39	36
Jet Black Delta Plus 2	39	36
Noir Black	38	35
SolventX Colors	32	32
TSD1010 Black	33	32
TSD1160 Black	34	32
TSD1210 Black	38	36
TSD1390 Black	38	36



Bulk Quick Disconnect (QD) Cartridges

Expected Yield	Estimated QD Life (ml)
Carton Black Plus	600
Express Black	300
Jet Black Delta Plus 2	300
Noir Black	300
TSD1010 Black	1200
TSD1210 Black	1200

Different inks perform differently within the cartridges. The tables give an estimate of the expected yields. You may get greater or less volumes through the cartridges based upon your own print environment.

Shelf Life

Shelf Life	42ml	Quick Disconnect
Carton Black Plus	12 months	6 months
Express Black	12 months	6 months
Jet Black Delta Plus 2	12 months	6 months
Noir Black	12 months	6 months

Shelf Life	42ml	Quick Disconnect
SolventX Color	6 months	-
TSD1010 Black	9 months	9 months
TSD1160 Black	12 months	-
TSD1210 Black	12 months	9 months
TSD1390 Black	12 months	-

Shelf Life is the maximum period where norwix will honor any guarantees on performance.

Firing Parameters

Firing Parameters	Open Drive Voltage	Fire Pulse Length	Pulse Warming	Pulse Warming Temp.
Carton Black Plus	10.2 V	2.0 μ s	OFF	-
Express Black	10.6 V	2.0 μ s	OFF	-
Jet Black Delta Plus 2	10.6 V	2.0 μ s	OFF	-
Noir Black	10.6 V	2.0 μ s	ON	35°C
SolventX Colors	Varies with color. Ask for details.			
TSD1010 Black	9.6 V	1.6 μ s	OFF	-
TSD1160 Black	8.4 V	1.8 μ s	OFF	-
TSD1210 Black	8.4 V	1.8 μ s	OFF	-
TSD1390 Black	8.4 V	1.8 μ s	OFF	-

Storage and Operating Conditions

Operating Conditions:	15°C to 30°C, 35% to 80% RH
Shipping/Storage:	10°C to 30°C, to 20% to 80% RH

Maintenance

	Storage Orientation	Cleaning Method	Cleaning Fluid
Carton Black Plus	Nozzles DOWN	A	Deionized Water
Express Black			
Jet Black Delta Plus 2			
Noir Black			
Overcoat Black Delta Plus			
SolventX Colors	Nozzles UP	C	99% Isopropyl Alcohol
SolventX Plus Black	Nozzles DOWN	B	
TSD1010 Black			
TSD1160 Black			
TSD1210 Black			
TSD 1390 Black			

Method A (Water Based Inks)

1. Use dry lint free cloth moistened with **deionized water**
2. Wipe slowly and lightly across the tip of the long edge with the print head facing down.
3. Wipe until two dark lines appear on the cloth and any dry debris is removed off the face.

Method B (Solvent Based Inks)

1. Use dry lint free cloth moistened with **isopropyl alcohol**.
2. Wipe slowly and lightly across the tip of the long edge with the print head facing down.
3. Wipe until two dark lines appear on the cloth and any dry debris is removed off the face

Method C (SolventX Colors)

1. Prior to installing in a printer, gently shake the cartridge up and down for 30 seconds.
The pen must be capped with the clip.
2. Remove the cap and wipe excess ink off using a dry lint-free cloth with the print head facing down.
3. Using **Isopropyl Alcohol**, wipe until two ink lines appear on the cloth and any dry debris is removed off the face.
4. Wipe slowly and lightly across the tip of the long edge with the print head facing down.

Ink Applicability

	Lumber	Kraft Corrugate	Copy Paper	Glossy Paper	Aqueous Coated	Varnish Coated	Tyvek	PVC Cards	PE/PP Film	PET	Aluminum	Glass	Relative Costs
Carton Black +	●	●	●				●						\$
Express Black				●	●								\$
Jet Black Delta + 2			●	●	●								\$
Noir Black	●	●	●										\$
SolventX Colors								●	●	●	●	●	\$\$\$\$
TSD1010 Black						●	●	●	●	●	●		\$\$\$
TSD1160 Black						●	●	●	●	●	●		\$\$\$
TSD1210 Black						●	●	●	●	●	●	●	\$\$\$
TSD1390 Black						●	●	●	●	●	●	●	\$\$\$


The table gives a guide only of the suitability of norwix inks on substrates. There are many variations within substrate types and norwix strongly recommends that testing is performed on every new material.

● Recommended ink (should be the correct ink for the substrate)

● Suitable Ink (suitable for printing on the substrate)

Usage Estimates

The following gives an *estimate* on how many prints you may expect from a single cartridge, based upon print details. For more information, contact your norwix sales representative .

Font size	Example	Print Resolution	No images per cartridge
9 pt	JAN 07 2017 08:15	300 x 300	580,000
10 pt	LOT 66G7 EXP 07 JAN 2017	300 x 300	260,000
12 pt	USE BY 07 JAN 2017 7D 5766	300 x 300	185,000
18 pt	JAN 07 17 H7788857	300 x 300	104,000
32 pt	01/07/17 08:15 A	300 x 300	52,000
N/A	 (01) 012345678901231 (10) HJS649 (17) 28 02 2015 (21) 923Z845Y716W	300 x 300	73,000

