

Detectapro Detectable Fine Tip Permanent Marker | MFPEN



Product Description

The Detectapro Detectable Fine Tip Permanent Marker (MFPEN) features a nylon nib and is the ideal detectable pen for writing on boxes, labels, charts, or any application requiring a ticker writing style than a regular ballpoint pen. The ink cartridge is made from nickel plated brass, with a polyester ink feeder and nylon nib.

The single piece cartridge is fully and permanently enclosed within the dual detectable pen body and has an estimated write out length of 1969 feet. The Detectable Fine Tip Permanent Marker is supplied with an XDETECT® cap to prevent the ink drying out. This cap is fully detectable and attached securely to the end of the pen when not in use.

Advantages

- Detectable by in-line metal detection systems and x-ray inspection systems
- Incorporates antibacterial technology to protect against pathogenic germs and molds
- Available with and without clip, both versions are compatible with a lanyard.
- Strong, durable, shatter resistant and chemically resistant material
- Compliant with EU and FDA food contact legislation, including mandatory EU migration test standards
- Halal approved and Kosher certified
- Available in a variety of ink colors to suit specific requirements
- Can be used as part of HACCP and BRC procedures
- Displays due diligence in the prevention of foreign body contamination

Product and Packaging Information

Item Number:	MFPEN
Size:	5.75" x .47"
Ink:	BK
Write Out Length:	1969' +/- 20%
Body Colors:	Blue
Pack Size:	10
Pack Weight:	7.1 oz
Detectability:	Metal and X-Ray Visible
Antibacterial	Yes
Housing Material	BST XDETECT®
Cartridge Material	Nickel Plated Brass

Ink Specification

- TSCA Listed (USA)
- Conforms to REACH standards

Safety Certificates / Approvals

FDA Approved	EU Compliant	Kosher Certified	Halal Approved
Incorporates SteriTouch®	BRC Compliant	ISO 9001:2015	Made In Britain

Handling and Storage

Store at normal room temperature, keep away from direct heat and keep in original container.

Ink Properties

This ink does not contain any substances of very high concern (SVHC), Benzene, Toluene or Xylene.

Property	Value
Hazard Identification	With normal use, no known hazards
Stability / Reactivity	Product is stable
Eco Toxicity	Harmful to aquatic organisms and to the aquatic environment in general.
Regulatory Information	R11: Highly Flammable. R22 Harmful if swallowed. R52/53: Harmful to aquatic organisms, may cause long-term effects in the aquatic environment. S25: Avoid contact with eyes. S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

Ink Safety

Ink contact with skin is not considered hazardous when coming into contact with skin through normal use. In the event of abnormal use causing health problems please refer to the below information.

Route	First Aid
Oral	Give plenty of water to drink if ingestion is suspected
Skin Contact	Wash skin with soap and water
Eye Contact	Irrigate with water for ten minutes—obtain medical attention
Inhalation	Remove from exposure—in severe cases obtain medical attention

Ink Temperature Range

The permanent ink will work in temperature ranges up to 50°C. They will also work in freezing temperatures however, if the cap is left off the nib for longer periods of time at freezing temperatures the nib will solidify due to the surfactant additive that is used to stop the ink from drying out.

Food Contact Status (EU) (Body and Cap)

Hereby we declare that the material XDETECT® in various colors is manufactured in line with the relevant requirements of 2023/2006/EC on good manufacturing practice (GMP) for materials and articles intended to come into contact with food.

The raw materials used in the manufacturing process of the above mentioned materials (XDETECT® in various colors) can be considered suitable for food contact applications in terms of compliance with European regulations. The raw materials used meet the relevant requirements of EU Framework Regulation 1935/2004 on materials and articles intended to come into contact with food.

All monomers, starting substances and additives used to manufacture these grades are listed in Commission Regulation (EU) No. 10 (2011) on plastic materials and articles intended to come into contact with food. Applicable restrictions on monomers, additives etc. (SML, QM) are available on request. The finished articles are required to meet the Overall Migration Limit (OML) of 10 mg/dm² or 60 mg/kg food.

Colorants used are compliant with European Council Resolution AP(89) 1 on the use of colorants in plastic materials coming into contact with food.

XDETECT® (various colors) is compliant with Directive 1895/2005/EC on the restriction of use of certain epoxy derivatives (BADGE, BFDGE, NOGE), since the latter substances are not intentionally used in the manufacturing process of XDETECT®.

BST Detectable Products hereby declare that articles manufactured from BST XDETECT® are, according to EU regulations, authorized to come into direct contact with all types of foodstuffs at a maximum temperature of 40°C for a maximum time period of one hour.

Food Contact Status (FDA) (Body and Cap)

The polypropylene base resin used in XDETECT® meets the FDA (Food and Drug Administration) requirements contained in the Code of Federal Regulations— latest revision (1/4-2011) - in 21 CFR 177.1520 (a) (3) (i) , (b) and (c) (3.1a).

At the same time this base resin grade meets the FDA criteria in 21 CFR 177.1520 for food contact applications, excluding cooking, listed under conditions of use C through H in 21 CFR 176.170 (c), Table 2., and can be used in contact with all food types as listed in 21 CFR 176.170 (c), Table 1. Also the mineral additives and the pigments used are GRAS (Generally Recognized As Safe) or are FDA cleared under specific FDA citations.

Migration Testing

The following overall migration results for XDETECT® were obtained using a UKAS accredited laboratory, with overall migration simulants and conditions as detailed in EU Regulation No 10/2011 as amended, on plastic materials and articles intended to come into contact with food.

Sample: PP-C-2013/393

Test conditions: Simulants A, B and 95%v/v ethanol: 10 days at 40°C. Iso-octane: 2 days at 20°C

Method	EN-1186-3 Migration into 10% v/v Ethanol (Simulant A)	EN-1186-3 Migration into 3% w/v Acetic Acid (Simulant B)	EN-1186-14§ Migration into Iso-octane (Substitute test)	EN-1186-14§ Migration into 95% Ethanol (Substitute test)
Replicate	#1 0.2 mg/dm ²	0.5 mg/dm ²	19.4 mg/dm ²	0.8 mg/dm ²
Replicate #2	0.3 mg/dm ²	0.5 mg/dm ²	21.0 mg/dm ²	0.9 mg/dm ²
Replicate #3	0.0 mg/dm ²	0.3 mg/dm ²	20.8 mg/dm ²	0.6 mg/dm ²
Mean Result	0.2 mg/dm ²	0.4 mg/dm ²	20.4 mg/dm ²	0.8 mg/dm ²
EU Limit	10.0 mg/dm ²	10.0 mg/dm ²	#20.0 mg/dm ²	10.0 mg/dm ²
Tolerance			#6.0 mg/dm ²	

#Limit and tolerance are quoted after the application of a fatty food reduction factor of 2 as quoted in EU Regulation 10/2011. To summarize the overall migration test results, the PP-C-2013/393 complies with the overall migration requirements given in EU Regulation 10/2011, as amended, with regards to use with all non-fatty foods, aqueous foods and fatty foods that require a reduction factor of 2 (or greater), as given in EU regulation 10/2011, as amended.

Antibacterial Technology

DetectaPen® products are manufactured from XDETECT® with built in silver ion antimicrobial technology, supplied by our partners SteriTouch. This technology offers continuous protection against cross infection, reducing the risk of spreading pathogenic germs such as MRSA, E.Coli and Salmonella. The antibacterial surface protection harnesses the natural sterilizing properties of silver; this protection is permanently embedded into the XDETECT® compound and will not wear off over time.

These antibacterial properties have been laboratory tested and proven to be effective against harmful bacteria and mold including but not limited to:

Bacterium

Bacillus Cereus
Bacillus Subtilis
Campylobacter
Klebsiella Pneumonia
Pseudomonas Aeruginosa
Streptococcus Mutavs
Streptococcus Pyogenes
MRSA
E.Coli
Salmonella

Fungus

Aspergillus Niger
Aureobasidium Pullulans
Candida Albicans
Cladosporium Cladosporioides
Fusarium Solani
Penicillium Funiculosum
Vibri Parahaemolyticus

Antibacterial Technology Continued

The antibacterial additive used in XDETECT® complies with the relevant requirements of Regulation 1935/2004/ EC (Framework Regulation), applicable to intermediate materials (e.g. plastic powders, plastic granules or plastic flakes) and also with the relevant requirements of Regulation 10/2011/EC (PIM), applicable to intermediate materials (e.g. plastic powders, plastic granules or plastic flakes).

The monomers and additives used to produce the antibacterial additive are listed in the Union List of Authorized Substances of Regulation 10/2011/EC. Dual use additives subject to restrictions in food as defined in Regulation 10/2011/EC are not intentionally used in the manufacture of or formulation of this product.

Antibacterial Laboratory Testing Method

All testing is conducted by an independent laboratory using the JIS Z 2801:2000 test method. Where possible, all test materials are taken from samples of the actual product. Samples typically measure 50mm x 50mm as specified by the JIS Z 2801:2000 method, although where this is impractical it is permissible to use smaller samples with the method being modified accordingly.

Each test sample is inoculated with a suspension of the test organism (for example MRSA). The inoculum is held in contact with the test sample using a sterile polyethylene film. All test samples are inoculated in triplicate, with an additional three replicates of the control.

The bacterial population on three control replicates is evaluated immediately following inoculation. This is assumed to be the initial population on all test samples. The remaining samples are incubated for the test period (typically 24 hours) at 35°C, at which time the bacterial population is evaluated.

Antibacterial Laboratory Testing Results

Salmonella Results Table

Sample Material	Bacterium	CFU at 0 Hours	CFU at 24 Hours	Comparison
Control	Salmonella. enteritidis	150000	140000	N/A
BST XDETECT®	Salmonella. enteritidis	150000	<10	99.999% reduction

MRSA Results Table

Sample Material	Bacterium	CFU at 0 Hours	CFU at 24 Hours	Comparison
Control	MRSA	100000	470000	N/A
BST XDETECT® A	MRSA	100000	<10	99.998% reduction
BST XDETECT® B	MRSA	110000	<10	99.998% reduction
BST XDETECT® C	MRSA	110000	<10	99.998% reduction

E. Coli Results Table

Sample Material	Bacterium	CFU at 0 Hours	CFU at 24 Hours	Comparison
Control	E. Coli	140000	11000000	N/A
BST XDETECT® A	E. Coli	140000	<10	99.999% reduction
BST XDETECT® B	E. Coli	140000	<10	99.999% reduction
BST XDETECT® C	E. Coli	140000	<10	99.999% reduction

Metal Detectability

BST Detectable Products/Detectapro Metal Detectable Pens are made using XDETECT®, an electromagnetically detectable and x-ray visible plastic compound. Within the pen housing is a stainless steel ink cartridge. The metal detectability of this product will vary based on, but not limited to:

- Calibration Levels
- Product Type (E.g. Wet, Dry, Frozen, Liquid)
- Aperture Dimensions
- Orientation

Orientation is a highly influential factor for the metal detectability of a contaminant that is non spherical, i.e. it will be easier to detect the contaminant when passing in one orientation compared to another—this is known as the orientation effect.

During testing of the BST Detectable Products/Detectapro Metal Detectable Pens we used a worst case scenario which is through the geometric center of the aperture and in the worst case orientation.

For ease of calibration, we have equated the full pen and pen parts to their ferrous ball test piece equivalents, which are widely used for metal detector testing and calibration. UKAS accredited test pieces are available to purchase from BST Detectable Products.

Component	Dimensions	Worst Case Orientation	Test Piece Recommended	Engineer Notes
Full Pen	5.75 (L) x .47 (Ø)"	Short Edge Leading	5.0mm	If the on-site detector is detecting .20" ferrous or smaller, then it will detect the pen regardless of orientation.
Housing	5.75 (L) x .47 (Ø)"	Short Edge Leading	2.0mm	If the on-site detector is detecting 2.0mm ferrous or smaller, then it will detect the pen housing regardless of orientation.
Pen Clip	.67 x .24 x .08"	Short Edge Leading	1.0mm	If the on-site detector is detecting 1.0mm ferrous or smaller, then it will detect the pen clip regardless of orientation.

Please note that the pen clip cannot be detached from the pen without extreme force or the use of tools. Generally speaking, the only circumstances where by such a small pen component could be introduced to food product would be through deliberate action or the pen going through an extreme process such as crushing, blending, mincing etc.

The above table is based on our own testing using one type of metal detector, and is supplied purely for customer convenience. Different metal detectors will feature different sensitivity settings, as well as settings for different product types (E.g. Wet, Dry, Frozen, Liquid).

For this reason BST/Detectapro recommend that all our products be thoroughly tested on your metal detection systems by a trained and certified professional. It may be the case that your equipment needs to be re-calibrated in order to reliably detect this product. Such a professional should be available by contacting the manufacturer of your metal detection system.

X-Ray Visibility

In contrast to metal detection, x-ray visibility is determined by material density. For this reason, XDETECT® contains an additional, evenly dispersed, food safe, high density additive.

Based on our experience and testing, positive readings should be consistent both for whole pens and XDETECT® fragments as small as 5mm. X-ray detection performance will be reduced when small fragments are buried in deeper, denser products—detection will depend on product type and density.

We highly recommend that all our products be thoroughly tested on your x-ray inspection systems by a trained and certified professional. It may be the case that your equipment needs to be recalibrated in order to reliably detect this product. Such a professional should be available by contacting the manufacturer of your x-ray inspection system.

The information provided in this product specification sheet is based on our experience and knowledge to date and we believe it to be true and reliable. This information is intended as a guide for your use of our products, the use of which is entirely at your own discretion and risk. We, Detectapro and BS Teasdale & Son Ltd., can not guarantee favorable results and assume no liability in connection with the use of our products. © 2020 BS Teasdale & Son Ltd. All Content and Data are owned by BS Teasdale & Son Ltd and are protected by international copyright law.