



BST Pocket Calculator | BSTPCAL



Introducing the BST DetectaCalc® Pocket Calculator

Calculators are an essential production area item but have long been identified as a foreign body contamination risk. Dropped and broken calculators can spread undetectable fragments within food, resulting in consumer hazard, product recall, penalties or even lawsuits for the food manufacturer.

The BST DetectaCalc® solves this problem by being the only plastic calculator available on the market with detectable casing and buttons. The casing is both metal detectable and x-ray visible, whilst the food

grade silicone keypad is metal detectable. Internal circuitry and wiring is also potentially detectable by metal detections systems, making the BST DetectaCalc® the most comprehensively detectable plastic calculator for food production areas.

This unique product is designed for food production from the outset, with minimal germ traps, no need to disassemble for battery changing, fully detectable food grade casing & buttons, as well as a built in stainless steel safety lanyard.

DetectaCalc® Advantages

- ✓ Dual detectable calculator casing
- ✓ Metal detectable silicone keypad
- ✓ Reinforced attachment loop and includes S/S lanyard with break free clasp
- ✓ Dual power system - no battery change
- ✓ Sealed unit with minimal germ traps
- ✓ Highly visible bright blue body colour for easy visual identification
- ✓ Compliant with EU legislation and can be used as part of HACCP and BRC procedures
- ✓ Displays due diligence in the prevention of foreign body contamination

Product and Packaging Information

Product Code	BSTPCAL	Battery	Lithium Battery
Pack Size	1	Lanyard Material	316 Grade S/S
Pack Weight	0.05kg	Lanyard Length	1000mm
Colour(s)	Blue	Casing Detectability	Metal & X-Ray Visible
Dimensions	120mm x 68mm x 8mm	Button Detectability	Metal Detectable
Casing Material	Detectable ABS	Country Of Origin	China
Button Material	Food Grade Silicone	Commodity Code	84701000

Product Safety Information

Calculator Casing

BST detectable pocket calculators feature a dual power system, comprising of a solar panel and battery, which removes the need for the products casing to ever be opened. The calculator is designed to be a permanently sealed unit, as such, no attempt should be made to open the casing of the calculator. If the calculator casing is opened, it is important that the calculator is disposed of and not used in a food production area.

Lanyard Attachment

The BST detectable pocket calculator is supplied fitted with a stainless steel safety lanyard, designed to prevent the accidental dropping of the calculator by operatives. This lanyard features a clasp designed to break under a sudden pressure. An appropriate risk assessment should be carried prior to use of the product with the lanyard attachment.

Food Contact

The casing and buttons of the BST detectable pocket calculator are manufactured from food grade metal detectable materials. This design feature is for the purpose of undertaking due diligence in the prevention of foreign body contamination, but does not mean that the product is designed to come into frequent contact with food. The BST detectable pocket calculator features metal detectable silicone buttons that only contain ingredients checked against the latest update of FDA regulations outlined under CFR Title 21 177.2600. These materials are also listed as being approved under BfR recommendation XV.

Safety Certificates / Approvals

EU Compliant

BRC Compliant

ISO 9001:2015



Animal Derivatives

To the best of our knowledge there are no ingredients in the formulation of this material that is of animal origin. As such, this material should not pass on any animal derived disease like BSE (Bovine Spongiform Encephalopathy) or other TSE (Transmissible Spongiform Encephalopathy).

Food Contact Status

Hereby we declare that the materials ABS are manufactured in line with the relevant requirements of 2023/2006/EC as amended by Commission Regulation (EC) 282/2008, 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 meet the relevant requirements of EU Framework Regulation 1935/2004 on materials and articles intended to come into contact with food. The monomers, starting substances and additives used are listed in Annex I of the consolidated Commission Regulation No.10/2011 as amended by (EU) 321/2011, (EU) 1282/2011, (EU) 1183/2012, (EU) 202/2014, (EU) 2015/174, (EU) 2016/1416, (EU) 2017/752, (EU) 2018/79, (EU) 2018/213, (EU)

2018/831, (EU) 2019/37, (EU)2019/1338, and (EU) 2020/1245 respectively, related to Plastic Materials and Articles intended to come into contact with foodstuffs.

The colourant used in the formulation of the ABS is compliant with European Council Resolution AP(89)1 on the use of colourants in plastic materials coming into contact with food, and also with German BfR Recommendations (IX). The carbon black used in the formulation of the ABS Black is specifically tested by the supplier to ensure continuous compliance with carbon black (CAS 1333-86-4, FCM Substance No 411) purity requirements and specific restrictions/specifications mentioned in Annex I of the Commission Regulation (EU) No 10/2011.

Migration Testing

The following overall migration results for Food Grade ABS 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: ABS-2016/047

Test conditions: Simulants A, B and Iso-octane: 10 days at 40°C 95%v/v ethanol: 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	0.4 mg/dm ²	0.8 mg/dm ²	346.7 mg/dm ²	14.5 mg/dm ²
Replicate #2	0.4 mg/dm ²	0.8 mg/dm ²	303.8 mg/dm ²	15.5 mg/dm ²
Replicate #3	0.4 mg/dm ²	0.7 mg/dm ²	318.0 mg/dm ²	14.3 mg/dm ²
Mean Result	0.4 mg/dm ²	0.8 mg/dm ²	322.8 mg/dm ²	14.8 mg/dm ²
EU Limit	10.0 mg/dm ²	10.0 mg/dm ²	10.0 mg/dm ²	10.0 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 summarise the overall migration test results, the ABS 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.

DetectaCalc® Metal Detectability

The casing and buttons of the BST Pocket Calculators are manufactured from electromagnetically detectable plastic and silicone compounds. Both compounds contain an evenly dispersed non-toxic detectable additive, making the material detectable by correctly calibrated metal detection systems. Metal detectability performance will vary based on, but not limited to the following factors:

- 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.

For this reason BST 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.

DetectaCalc® X-Ray Visibility

In contrast to metal detection, x-ray visibility is determined by material density. For this reason, the casing of these pocket calculators contain an additional, evenly dispersed, food safe, high density additive. 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, BS Teasdale & Son Ltd, cannot guarantee favourable results and assume no liability in connection with the use of our products. © 2023 BS Teasdale & Son Ltd. All Content, Data & Images are owned by BS Teasdale & Son Ltd and are protected by international copyright law.