BioDtex™

UV Lamp Detector

A fast, simple way to visually confirm hygiene and reduce contamination risks.

Introduction to BioDtex™

Instant Biofilm detection across all industries

UV technology for inspection on all surfaces

Used as part of your cleaning/sanitization procedures

AREAS OF APPLICATION

The BioDtex lamp is designed for all sectors requiring high hygiene standards.

Food industry

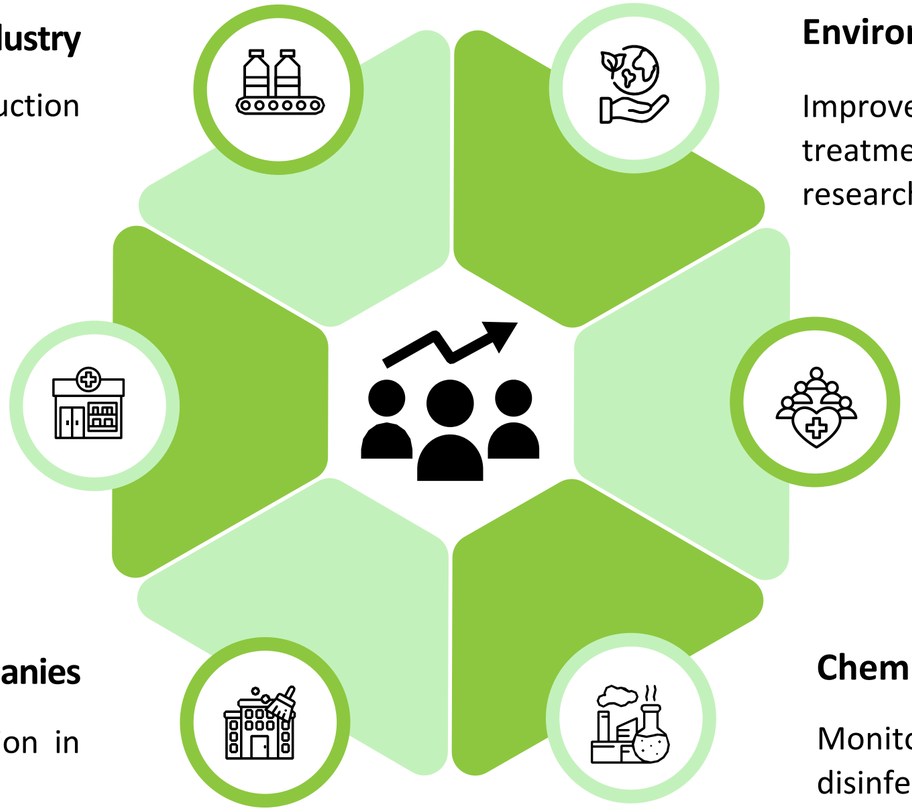
Ensure better control and cleanliness of production equipment and surfaces in contact with food.

Pharmacteutical

Improved control of environments for production-critical surfaces.

Cleaning companies

Ensure thorough cleaning after biofilm detection in various environments.



Environmental

Improved analysis of the impact of biofilms on water treatment systems and in environmental pollution research.

Public health

Monitor and prevent microbiological contamination in hospitality, health care and medical facilities.

Chemical industry

Monitor the effectiveness of cleaning and disinfection solutions used to eliminate biofilms.

KEY POINTS FOR BIODTEX

BioDtex offers numerous benefits, making it a necessary tool for monitoring critical surfaces.

Rapid and Precise Controls: Effectively highlights at-risk areas, allowing for targeted interventions and improved cleaning procedures.

Optimising Controls through Image Capture: The BioDtex lamp's image capture feature enhances controls by providing a clear visual record of surfaces, aiding in identifying high-risk areas and ensuring ongoing compliance with safety standards.

Ease of Use and Maintenance: Designed for professionals, BioDtex is intuitive and requires minimal maintenance, facilitating the monitoring and management of inspections.

Powerful Detection Capability: The advanced technology of BioDtex clearly reveals pathogens in both dry and wet environments, ensuring the safety of products and manufacturing processes.

Short-Term Cost Effectiveness A wise investment that optimises operational costs while enhancing the quality of safety controls.

INDEPENDENT TESTING OF BIODTEX

BioDtex has been independently tested by Campden BRI on a range of bacterial organisms and successfully detected all strains.

Microorganisms Associated with Potential Biofilm Risks	
FOOD ITEMS	**TARGET MICROORGANISMS**
Milk and meat products	**Listeria monocytogenes, Staphylococus aureus, E. Coli, Bacillus spp., Enterococcus spp., Cronobacter spp., Lactobacillus Spp.**
Meat and meat products	**Salmonella spp., S. aureus, L. monocytogenes, E. coli, E. coli 0157:H7, Campylobacter jejuni, Clostridium perfringens, Enterococcus spp., Enterobacter cloacae**
Seafood	**L. monocytogenes, Staphylococcus spp., Vibrio spp.**
Vegetables and fruits	**E.coli, Salmonella spp., L. monocytogenes, Cronobacter spp., Bacillus cereus**

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Campden BRI
food and drink innovation

Report on:
Assessment of BioDtex unit instrument for detection of food industry biofilms

Work performed by Campden BRI (Chipping Campden) Limited
Report number: MB/REP/ZCL/156947/1 Issue date: 26th September 2022

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Campden BRI (Chipping Campden) Limited
Rob Limburn Section Lead, Industrial Process Microbiology

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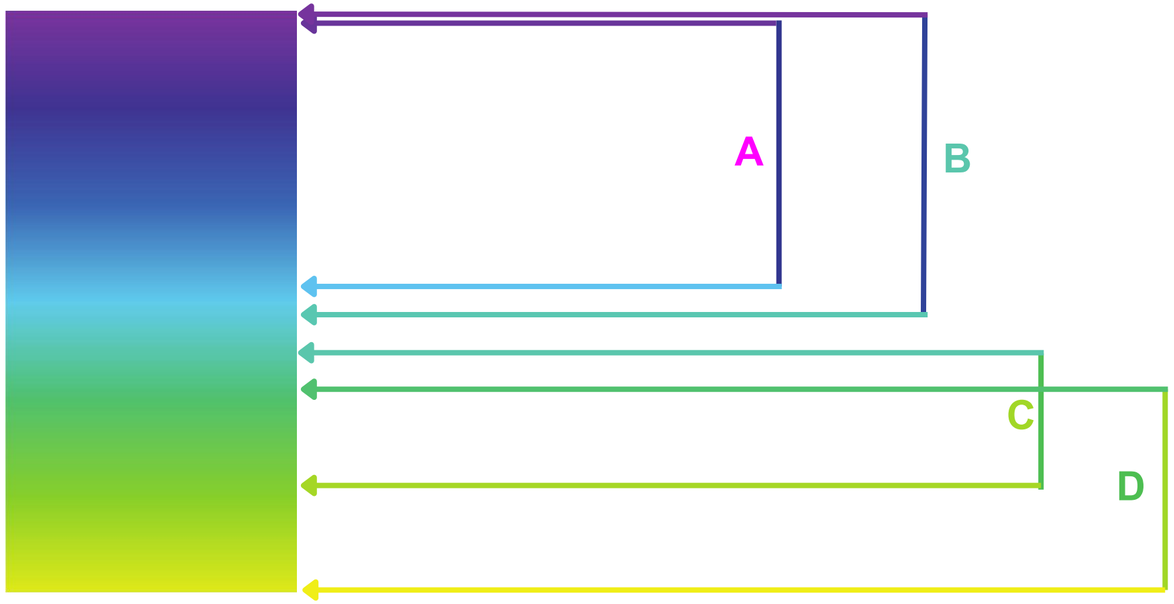
Page count: 19

4. ANALYSIS OF RESULTS AND INTERPRETATIONS

BioDtex is equipped with specially designed LEDs to detect high-risk pathogens in and on processing equipment. These pathogens emit a distinct fluorescence, ranging from blue to green. At any stage of biofilm development, BioDtex LEDs can detect it, producing a varied response.

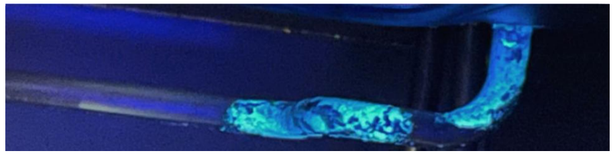
UV LIGHT SPECTRUM



A. Blue surface spots

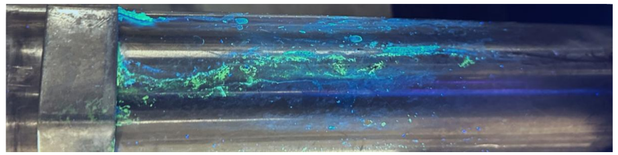
Dust residues: Presence of dust residues with little to no risk of contamination.

B. Embedded blue/white spots



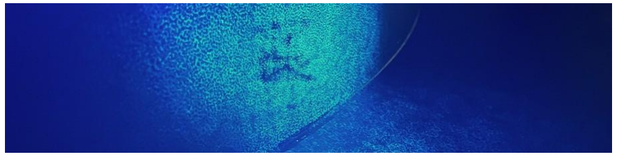
Chemical residues: Accumulation of chemical residues which, upon contact with the product, may pose a contamination risk.

C. Light fluorescent Green



Initial bacterial colonisation: Early-stage biofilm formation indicating the beginning of bacterial colonisation.

D. Bright green



Compact biofilm structure: Significant presence of biofilm, requiring ATP testing, intensive cleaning procedures, and frequent monitoring.

WITHOUT BIODTEX

WITH BIODTEX

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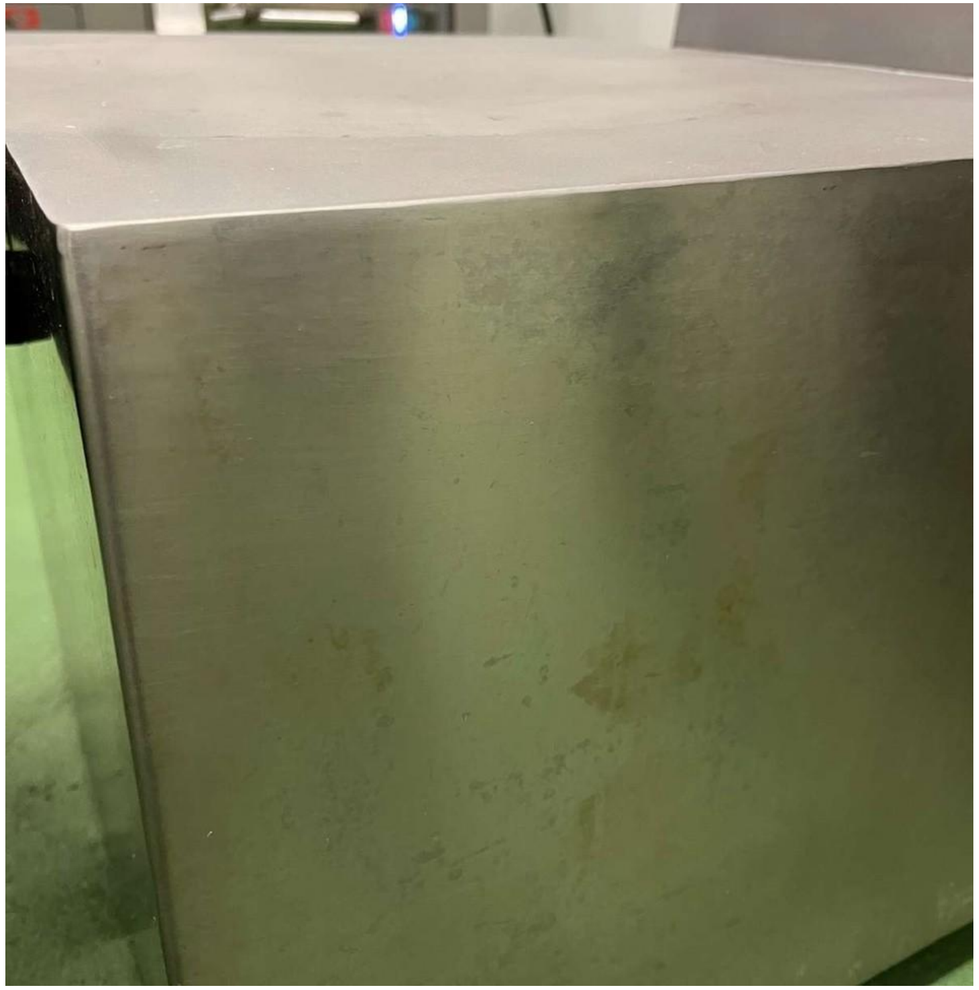

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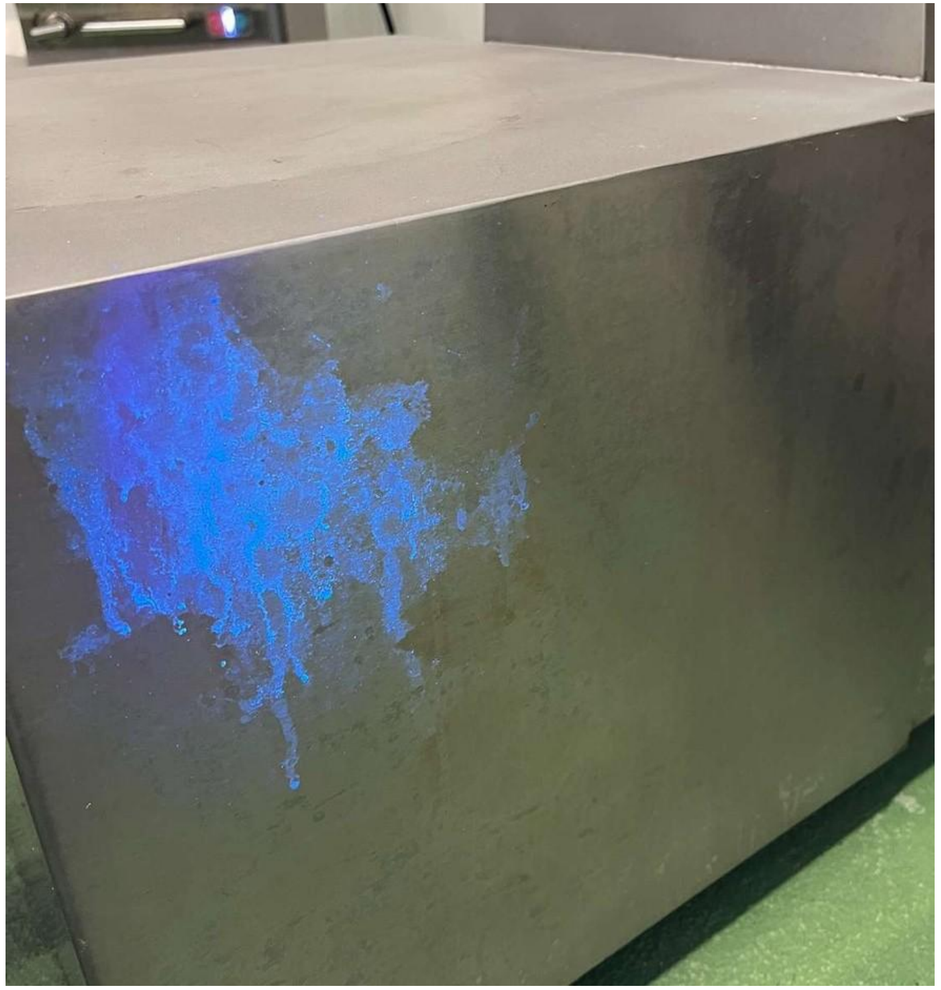

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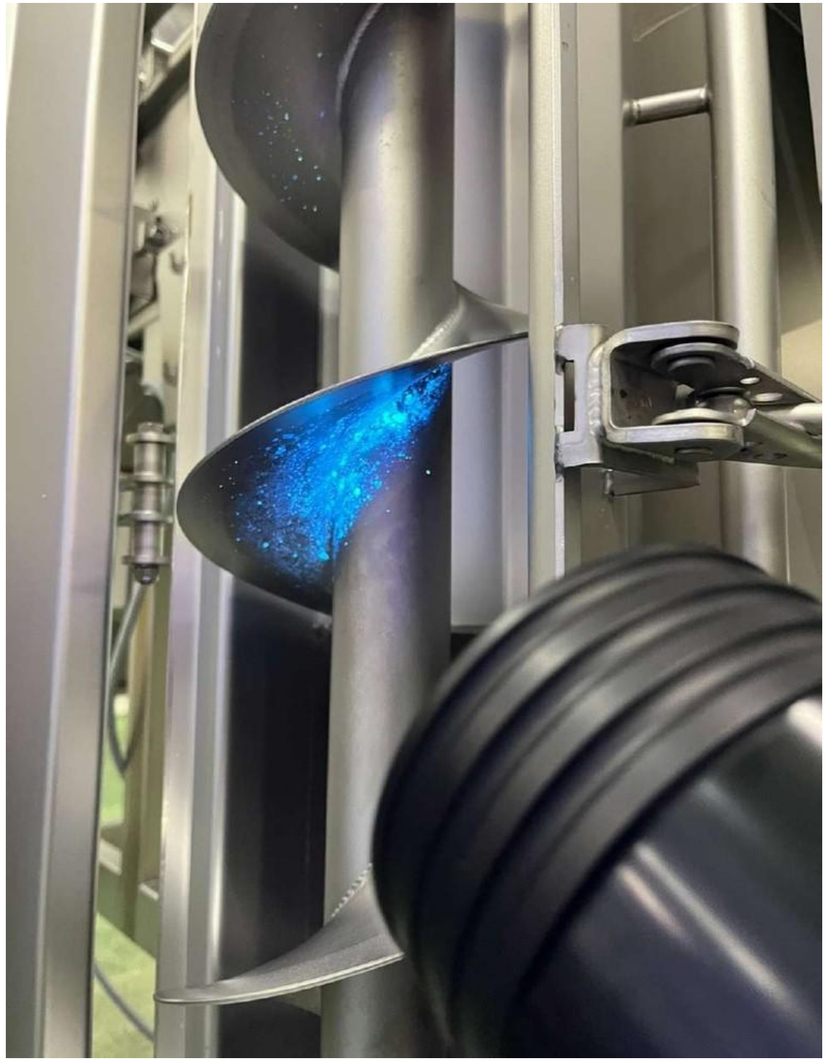

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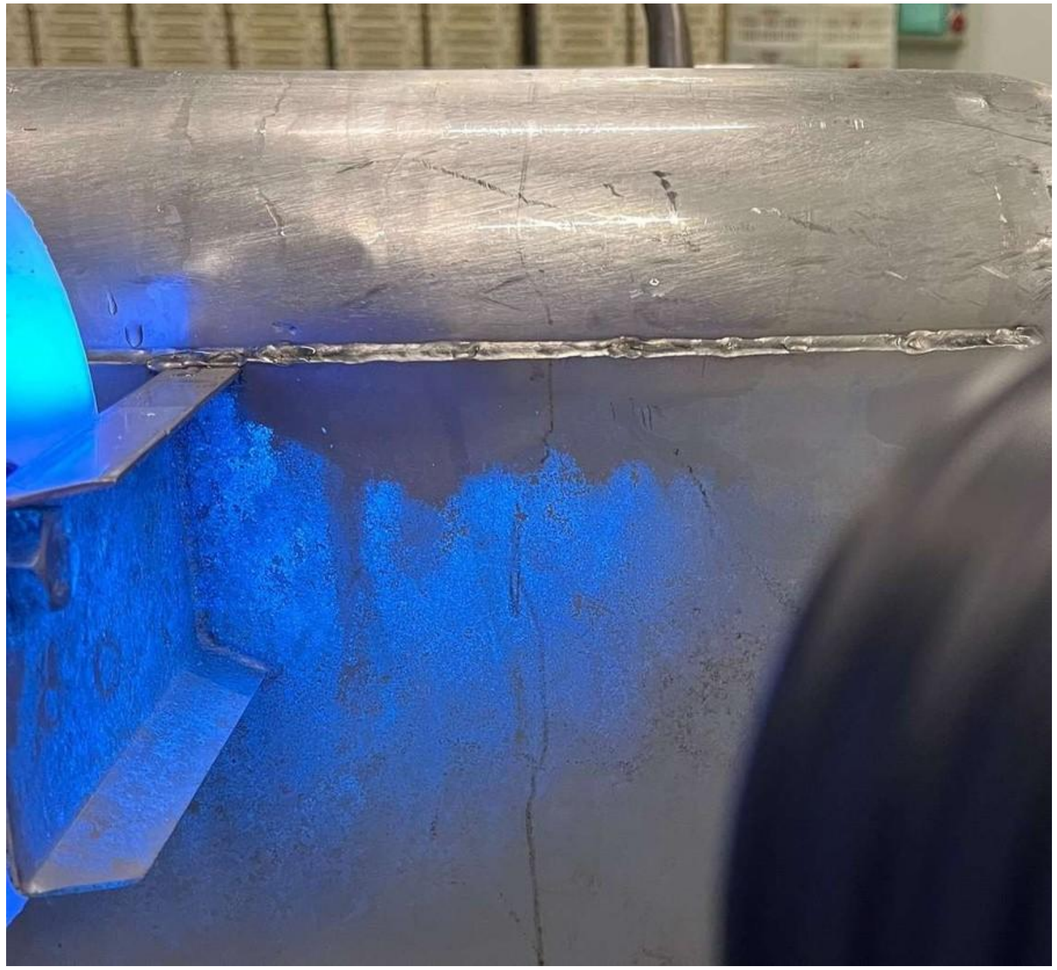


BIOFILM DETECTION ACROSS MATERIALS

This chart summarises the effectiveness of BioDtex UV detection on various material categories, ranging from metals to textiles and coatings. Each colour rating reflects the ease of detecting biofilms based on material properties:

🟢 Green: High visibility, very effective on smooth, reflective surfaces.

🟡 Yellow: Moderate visibility, detection is possible but with some challenges.

🟠 Orange: Limited detection due to surface texture or composition.

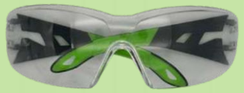
MATERIAL CATEGORY	UV SCORING	DETECTION COMMENTS
Metals	🟢 Green	Effective on stainless steel, aluminium; moderate on copper, limited on galvanised steel.
Polymers	🟢 / 🟡 Green / Yellow	Very effective on PTFE and PC; moderate on PE and PP; limited on PU and nylon.
Ceramics & Composites	🟢 / 🟠 Green / Orange	Very effective on ceramic; limited detection on fibreglass composites.
Glass	🟢 Green	Excellent on tempered and borosilicate glass due to smooth, transparent surfaces.
Wood	🟡 Yellow	Moderate detection on treated wood; porous surface presents some challenges.
Technical Textiles	🟡 Yellow	Moderate detection on technical fabrics, with some absorption challenges.
Rubber	🟡 Yellow	Moderate on natural and synthetic rubber, depending on texture.
Paints & Coatings	🟢 Green	Highly effective on epoxy and non-stick coatings; smooth surfaces reveal biofilms clearly.

LIST OF CONTENTS AND TECHNICAL CHARACTERISTICS

All elements for immediate use are provided with the lamp, which also integrates features that make it unique and suitable for professionals in the food, chemical, medical, pharmaceutical, and other industries.

1 x BioDtex Unit

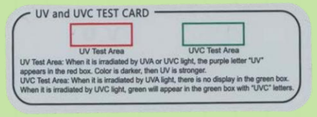
1 x UV safety glasses



1 x USB-C Charger and Cable

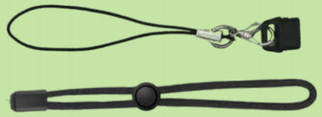
1 x Carry case

1 x UV Test Card



2 x Batteries

2 x Lanyards



- Standards : UKCA/CE/FCC
- Battery Life : Up to 4.5 hours of continuous use
- Recharge time : <3 Hours
- Lamp Weight : 1.3 lb (0.58 kg) with Battery
- Screen : 2.8" (7.1 cm) screen
- Drop test : 1.5 meters
- IP54

BioDtex™

For enquiries, quotations, or product demonstrations, please contact us at:

cs@ugenelab.com.sg