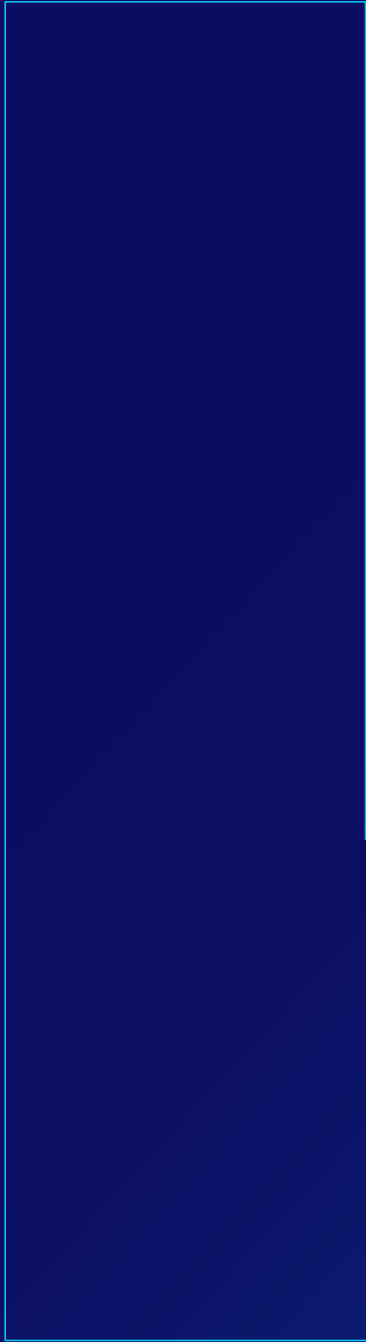


Cladding for Food-Grade Environment



Kleenclad

Commercial Kitchens & FPU

OVERVIEW

Why Kleenclad works for food processing

Kleenclad is a high-performance antimicrobial wall cladding system engineered for food-grade environments. From seafood and meat handling to dairy, fresh produce and bakery lines, Kleenclad helps facilities meet hygiene mandates while supporting operational efficiency and brand credibility.



Kleenclad™ hygienic cladding — installed

Ideal applications in food facilities



Seafood Processing Zones

Where cold-chain, moisture, and organic residue demand robust hygiene barriers.



Meat Cutting & Deboning

Where bacterial load and tool contact require durable antimicrobial surfaces.



Preparation & Production Areas

Core prep and processing zones operating within ambient and chilled ranges (-10°C to $+60^{\circ}\text{C}$).



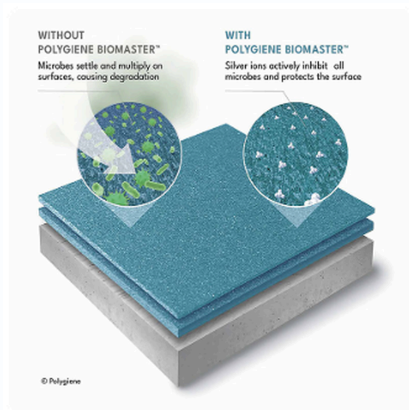
Personnel & Gowning Areas

The first line of defence against contamination entering the facility.

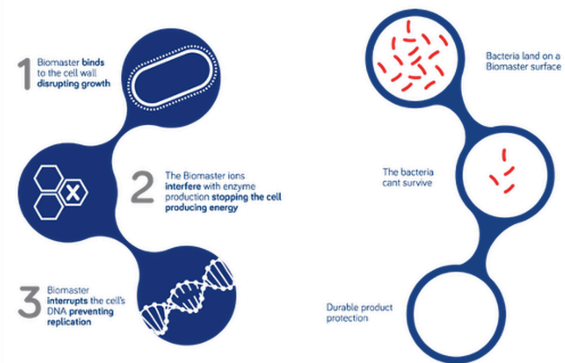
BUILT-IN PROTECTION

How Kleenclad works

Kleenclad is manufactured with **Polygiene Biomaster™** — a silver-ion antimicrobial technology built into the material, not applied as a surface coating. Silver ions inhibit the growth of bacteria, mould and fungi on the surface.



Surface protection — with vs. without Polygiene Biomaster™. © Polygiene



How the silver ions work — bacteria cannot survive on the surface. © Polygiene

- ✓ **Built into the material** — protection won't wash off or wear away.
- ✓ Lasts the lifetime of the panel; no reapplication needed.
- ✓ Reduces microbial load on surfaces between cleaning cycles.
- ✓ Inhibits growth of common foodborne organisms such as **E. coli**, **Listeria** and **Salmonella**.

Built-in. Long-lasting. No reapplication.

Antimicrobial action complements — but does not replace — routine cleaning and standard hygiene protocols.

SEGMENT FOCUS

Food segments we serve

Seafood & Meat

CHALLENGES

Moisture, salt, scales, high bacterial load, frequent tool contact and demanding export hygiene audits.

KLEENCLAD ADVANTAGE

- ✓ Moisture-resistant cladding for wet zones.
- ✓ Impact-resistant panels for high-traffic handling.
- ✓ Seam-welded joints for daily washdown.

Dairy

CHALLENGES

Frequent washdowns, fats and protein residues, fluctuating temperatures and mould/Listeria growth on surfaces.

KLEENCLAD ADVANTAGE

- ✓ Seam-welded, water-tight cladding for washdown areas.
- ✓ Antimicrobial finish that inhibits mould and bacteria.
- ✓ Coved junctions that eliminate dirt traps.

Vegetables & Fruits

CHALLENGES

High humidity, soil and organic residue, constant wet processing and cross-contamination across wash, sort and pack lines.

KLEENCLAD ADVANTAGE

- ✓ Moisture- and stain-resistant surfaces.
- ✓ Easy-clean panels that speed up sanitation.
- ✓ Zone-coded cladding for workflow segregation.

Bakery, Confectionery & RTE

CHALLENGES

Flour dust, sugar residue, heat and steam near ovens, and strict standards for high-care ready-to-eat handling.

KLEENCLAD ADVANTAGE

- ✓ Heat-tolerant cladding suitable to +60°C ambient.
- ✓ Wipe-clean surfaces resisting sugar and grease.
- ✓ Crevice-free finish for high-care RTE zones.

Operational impact

- ✓ Helps reduce contamination risks and product rejections.
- ✓ Supports audit readiness and visual hygiene perception.
- ✓ Durable surface that can lower long-term upkeep vs. tiles.
- ✓ Easy-clean surfaces help speed up cleaning cycles.

COMPLIANCE

Regulatory alignment & certifications

Kleenclad supports compliance with the standards food facilities are measured against — at home and across export markets.



FSSAI
India



HACCP & ISO 22000
Food safety management



Export Hygiene Mandates
EU · US · Middle East



Surface Durability Testing
Food-grade environments

INSTALLATION & TECHNICAL SUPPORT

Available in multiple sizes & finishes



- ✓ Flush-mounted or coved edges.
- ✓ Seam welding for wet zones.
- ✓ Custom colour coding for zone segregation.



- ✓ Site surveys and layout planning.
- ✓ Retrofit strategies for active facilities.
- ✓ Installation supervision and post-install audits.



TECHNICAL NOTE — SERVICE TEMPERATURE

Recommended for use in areas where service temperatures remain between -10°C and +60°C. Kleenclad PVC cladding suits ambient and chilled food environments within this range. It is not recommended for sustained temperatures above +60°C or below -10°C, including blast-freezing or deep-freeze chilling rooms. Confirm site conditions with our technical team before specification.

COMPLIANCE

Regulatory alignment & certifications

Kleenclad
Hygiene begins with us

ANTIMICROBIAL EFFICACY

Certificate of Antimicrobial Efficacy

ISO 22196 Surface Performance

This is to certify that

Kleenclad K-Bio PVC Sheets

TEST METHOD
Antimicrobial activity based on MOD ISO 22196

ORGANISM TESTED	LOG REDUCTION
Escherichia coli (E. coli)	> 99.91% — Passed
MRSA	> 99.91% — Passed

Proven antimicrobial activity — reduction > 99.91%

TEST METHOD
Antimicrobial activity, MOD ISO 22196
TEST DATE
03 July 2023
TEST NO.
304007185/1705
TESTED BY
RMSL, UK

Kleenclad Limited
Exeman Heath, 1 Lander Road,
London SE9 9BA, United Kingdom
info@kleenclad.com — KC-TC-AWE-001
www.kleenclad.com

Kleenclad
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FIRE CLASSIFICATION

Certificate of Fire Classification

Reaction to Fire Performance

This is to certify that

Kleenclad K-Bio, K-Ultra & K-Guard PVC Sheets

CLASSIFICATION STANDARD
BS EN ISO 13501-1:2018

CLASSIFICATION	RESULT
Reaction to fire classification	B-s3, d0 — Classified

Fire classification B-s3, d0

CLASSIFICATION STANDARD
BS EN ISO 13501-1:2018
TEST DATE
16 March 2024
TEST REFERENCE
2706336A-V0324
TESTED BY
BTTC Testing & Certification Ltd, UK

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INGRESS PROTECTION

Certificate of IP66

Water & Dust Ingress Protection

This is to certify that

Kleenclad K-Bio, K-Ultra & K-Guard PVC Sheet

TEST STANDARD
UKAS — BS EN 60528:1992 + A2:2013

CLASSIFICATION	RESULT
IPX6 — Water Ingress	No water Ingress — Certified
IP6X — Dust Ingress	No dust Ingress — Certified

Certified IP66 — dust-tight & protected against powerful water jets

TEST STANDARD
UKAS — BS EN 60528:1992 + A2:2013
TEST DATE
06 February 2024
TEST REPORT NO.
4E3387
TESTED BY
PARC, UK

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Kleenclad
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PHYSICAL PERFORMANCE

Certificate of Impact Resistance

IK10 Mechanical Impact Performance

This is to certify that

Kleenclad K-Bio, K-Ultra & K-Guard PVC Sheet

TEST STANDARD
UKAS — BS EN 62262:2002, Impact Code IK10

- Impact energy: 20.0 Joules ± 5%
- Test mass: 5.0 kg ± 2% steel weight, vertical hammer method, 400mm ± 1% drop height — per BS EN ISO 6506B-2:75001a, Test Eth
- Test conditions: Conducted at lab ambient conditions
- Number of impacts: Five on each exposed face
- Test surface: EUT placed against a rigid surface covered by a sheet of polyamide

Good impact resistance — no visible damage

TEST STANDARD
UKAS — BS EN 62262:2002, IK10
TEST DATE
06 November 2023
TEST REPORT NO.
4E3387-2
TESTED BY
PASC, UK

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Kleenclad
Hygiene begins with us

DURABILITY

Certificate of Salt & Mist Durability

Corrosion & Weathering Resistance

This is to certify that

Kleenclad K-Bio, K-Ultra & K-Guard PVC Sheet

TEST STANDARD
BS EN 60068-2-11:1999

PARAMETER	RESULT
Salt & mist exposure	No changes observed — Passed

No changes due to salt & mist exposure

TEST STANDARD
BS EN 60068-2-11:1999
TEST DATE
06 February 2024
TEST REPORT NO.
4E3387-1
TESTED BY
PASC, UK

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Kleenclad
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MATERIAL SAFETY

Certificate of Chemical & Heavy Metal

Material Composition Safety

This is to certify that

Kleenclad K-Bio, K-Ultra & K-Guard PVC Sheet

CLASSIFICATION STANDARD
EN 19102:2007 + A1:2011

TEST	RESULT
Test A — Heavy metals	< 0.2 mg/kg — Passed
Test B — Vinyl chloride (VCM)	< 0.2 mg/kg — Passed
Test C — Formaldehyde	< 0.5 mg/kg — Passed

Compliant with all tested material safety limits

CLASSIFICATION STANDARD
EN 19102:2007 + A1:2011
TEST METHODOLOGY
EN 12469
TEST DATE
31 August 2023
TESTED BY
Independent Laboratory (EN 12469)

Kleenclad Limited
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www.kleenclad.com

Kleenclad
Hygiene begins with us

VOC CONTENT

Certificate of VOC Content

Low-Emission Material Compliance

This is to certify that

DUOBOND 2-Part Adhesive

TEST DIRECTIVE
Directive 2004/42/EC

DUOBOND 2-Part Adhesive has been tested in accordance with EU Directive 2004/42/EC and certified for VOC-free status, with a measured volatile organic compound content of less than 1%.

Certified VOC free (< 1%)

TEST DIRECTIVE
Directive 2004/42/EC
TEST DATE
21 November 2023
TEST REFERENCE
Stockmeier
TESTED BY
Stockmeier

Kleenclad Limited
Exeman Heath, 1 Lander Road,
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www.kleenclad.com

Kleenclad
Hygiene begins with us

ADHESIVE STRENGTH

Certificate of Adhesive Strength

Lap Shear Bond Performance

This is to certify that

DUOBOND 2-Part Adhesive

TEST METHOD
Lap Shear Adhesive Strength Test

SURFACE PREPARATION	ADHESIVE STRENGTH
Plain Kleenclad sheets	140.69 N/mm
Etched Kleenclad sheets	288.34 N/mm
Solvent-wiped Kleenclad sheets	294.39 N/mm
Etched & solvent-wiped Kleenclad sheets	326.89 N/mm

Certified adhesive strength up to 326.89 N/mm

TEST METHOD
Lap Shear
TEST DATE
26 November 2023
TEST REPORT NO.
1399
TESTED BY
Independent Laboratory (Lap Shear), UK

Kleenclad Limited
Exeman Heath, 1 Lander Road,
London SE9 9BA, United Kingdom
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www.kleenclad.com

Kleenclad
Hygiene begins with us

CHEMICAL REGULATION

Certificate of REACH Compliance

Regulation (EU) 1907/2006

This is to certify that

Kleenclad K-Bio, K-Ultra & K-Guard PVC Sheets

REGULATION
REACH — Regulation (EU) 1907/2006

Kleenclad K-Bio, K-Ultra and K-Guard PVC wall cladding sheets have been classified and assessed in accordance with the REACH European directive on chemicals (EU 1907/2006), and do not contain substances of very high concern (SVHC) above the regulatory threshold.

Fully REACH compliant

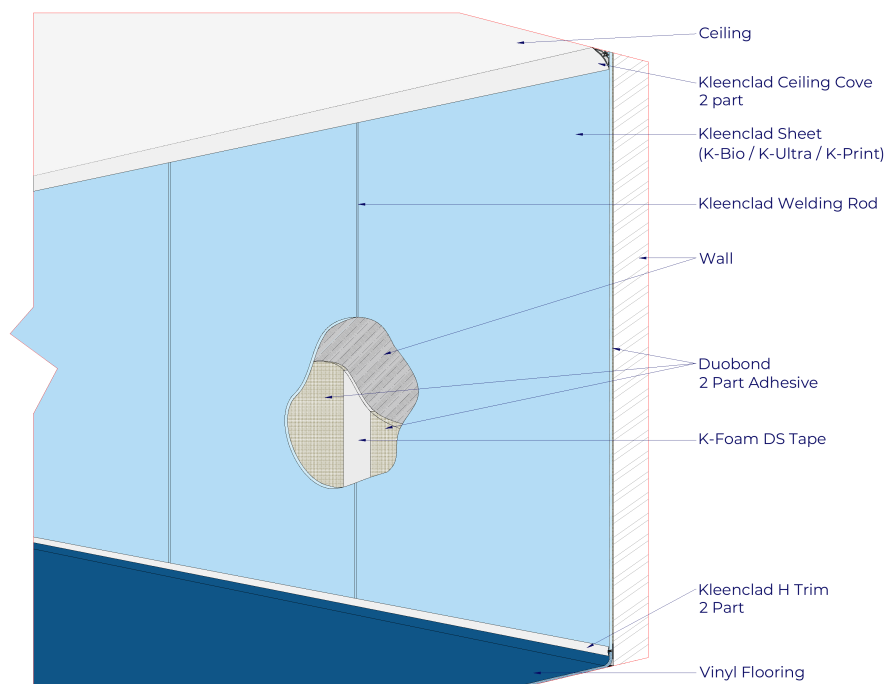
REGULATION
Regulation (EU) 1907/2006
FRAMEWORKS
REACH — European directive on chemicals
SCOPE
SVHC below regulatory threshold
TESTED BY
Kleenclad Limited (Compliance Assessment)

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INSTALLATION & TECHNICAL SUPPORT

Installation system detail

A complete Kleenclad installation integrates panels, trims, adhesives and welded joints into one continuous hygienic envelope — with coved junctions at wall-to-ceiling and wall-to-floor to eliminate dirt traps and support full washdown.



System components

- ✓ **Kleenclad Sheet** — K-Bio / K-Ultra / K-Print hygienic PVC panels.
- ✓ **Kleenclad Welding Rod** — heat-welded seams for water-tight wet zones.
- ✓ **Kleenclad Ceiling Cove (2-part)** — coved wall-to-ceiling junction.
- ✓ **Kleenclad H-Trim (2-part)** — clean wall-to-floor termination.
- ✓ **Duobond 2-Part Adhesive** — high-strength panel-to-wall bond.
- ✓ **K-Foam DS Tape** — double-sided tape for instant initial hold.
- ✓ **Coved junctions** — eliminate 90° dirt traps at floor and ceiling.
- ✓ **Vinyl flooring compatible** for a fully sealed hygienic envelope.



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