

## KLEENCLAD™

PVC anti-microbial panels are increasingly popular due to their durability, hygiene, and ease of maintenance.

### KEY BENEFITS

#### Superior Hygiene & Food Safety

- Active Anti-Microbial Protection
- HACCP / FDA / EU 10/2011 compliant
- No grout lines
- Easy to clean

#### Waterproof & Moisture-Resistant

- 100% impermeable
- Ideal for wet processing areas

#### Durable & Impact-Resistant

- Does not crack or chip
- Resists corrosion

#### Easy & Fast Installation

- Lightweight (can be installed over existing walls)
- Modular systems (minimal downtime during retrofits)
- No curing time (unlike tile grout)

#### Cost-Effective Long-Term

- Lower maintenance costs
- 15-20 year lifespan with minimal upkeep

#### Compliance with Industry Standards

- Meets HACCP, BRCGS, GMP, and EHEDG guidelines
- Audit-friendly (smooth surfaces pass sanitation inspections easily)

#### Key Uses in Food Processing Industries

1. Raw Meat & Poultry Processing
  - Walls & ceilings in slaughterhouses, deboning room
  - Prevents bacterial cross-contamination (e.g., Salmonella, E. coli)
2. Dairy & Beverage Plants
  - Milk processing & cheese aging rooms
  - Washdown areas (handles frequent cleaning with caustic agents).
3. Ready-to-Eat (RTE) Food Zones
  - Sandwich, salad, and meal prep areas (anti-microbial protection).
  - Packaging rooms (allergen control).
4. Seafood & Fish Processing
  - Wet processing zones (waterproof, no rust or degradation).
  - Cold storage walls (prevents condensation-related mold).



#### 5. Bakery & Confectionery

- Sugar & flour-dense areas
- Dough mixing rooms

#### 6. Pharmaceutical & Nutraceutical Facilities

- Cleanrooms & GMP zones

## WHERE SHOULD PVC ANTI MICROBIAL PANELS BE AVOIDED?

Extreme heat zones (e.g., near ovens, fryers)  
Areas with heavy mechanical abrasion (forklift traffic)

## CONCLUSION: WHY CHOOSE PVC ANTI-MICROBIAL PANELS?

FACTOR	PVC PANELS	STEEL	CERAMIC TILES
Hygiene	Best (active anti-microbial)	Good (but passive)	Poor (grout traps bacteria)
Durability	High (no cracks/chips)	Highest (but dents)	Brittle
Maintenance	Easiest (wipe clean)	Moderate (polishing)	High (grout cleaning)
Cost	Moderate	Moderate	Cost effective (but labor-heavy)



PARAMETER	PVC ANTI-MICROBIAL	PANELS PPGI (PRE-PAINTED GALVANIZED IRON)	IDEAL FOR FOOD INDUSTRY
Material Composition	Rigid PVC with silver ions	Galvanized steel + polyester/epoxy coating	PPGI lacks food-grade safety
Hygiene & Microbial Control	Active (kills bacteria/mold)	Passive (coating can scratch, harboring bacteria)	PVC required for high-care zones
Water/Chemical Resistance	Impermeable; pH 1-14 resistant	Coating degrades with acids/chlorine (rust risk)	PPGI fails in wash down areas
Surface Smoothness (Ra)	0.2-0.5 µm (EHEDG-compliant)	0.5-1.2 µm (prone to pitting)	PVC better for clean ability
Temperature Range	-20°C to +60°C	-40°C to +120°C (coating burns >120°C)	PVC limited near heat
Impact Resistance	Flexible (no cracks)	Dents easily, exposing galvanized layer	PVC more durable
Lifespan	15-20 years	5-10 years (coating peels)	PPGI high replacement cost
Compliance	FDA/HACCP, EHEDG	Not food-contact approved	PPGI banned in food zones

## KEY BENEFITS

- PPGI is NOT a stainless steel substitute in food processing.
- Coatings degrade, exposing zinc (toxic in food contact) and risking rust.
- Where it's used: Dry storage, exterior cladding, or non-food structural parts.
- PVC is superior for hygiene-critical zones:
- Walls/ceilings in meat, dairy, and ready-to-eat (RTE) areas.
- Compliant with HACCP, FDA, EHEDG, and BRCGS standard

## STAINLESS STEEL (304/316L) REMAINS MANDATORY FOR

- Direct food contact surfaces
- High-heat or heavy-abuse zones
- Thinner-gauge stainless steel (430/201) – Lower cost than 316L for non-corrosive zones
- Food-grade FRP (Fiberglass Reinforced Plastic) – For walls in medium-hygiene areas.
- PVC-coated steel – Rare, but offers better corrosion resistance than PPGI.

## FINAL RECOMMENDATION

- For walls/ceilings: Use PVC anti-microbial panels (best hygiene/cost balance).
- For food-contact surfaces: Stainless steel (304/316L) is non-negotiable.

**Never use PPGI in food zones – It violates food safety regulations.**

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