

DESIGNING FOOD FACTORY DOORS & WALLS

5 SANITARY DESIGN CONSIDERATIONS

1. MATERIAL SELECTION & SURFACE FINISH

- Use **stainless steel, high-density polyethylene (HDPE), or food-safe PVC** to resist moisture and microbial growth
- Install **reinforced panels and shatterproof doors** to withstand high-traffic and heavy equipment movement
- Prevent bacterial growth with **welded seams and rounded corners** on walls and doors
- Utilize **high-performance insulation** to maintain temperature stability and prevent condensation buildup
- **Avoid materials like untreated wood or standard drywall**, which can absorb moisture and degrade over time



2. HYGIENIC SEALING & JOINT DESIGN

- Install **fully sealed doors with minimal gaps** to prevent debris and pathogen infiltration
- Use **food-grade, antimicrobial gaskets** that are easy to replace and resistant to degradation
- Apply **anti-microbial and chemical-resistant coatings** for enhanced sanitation
- Ensure **air curtains or HEPA-filtered barriers** at doorways to prevent airborne contamination
- Design **doors with quick-release hinges and removable panels** for deep cleaning



3. DURABILITY & RESISTANCE TO HARSH ENVIRONMENTS

- Choose **impact-resistant doors** (e.g., stainless steel or heavy-duty FRP) to withstand frequent use, trolley movement, and sanitation procedures.
- Walls should have **protective coatings** (e.g., epoxy or polyurethane) that resist high-pressure washing, chemical exposure, and thermal fluctuations.
- Install **stainless-steel kick plates** on doors and wall guards to protect against mechanical damage.



4. EFFECTIVE DRAINAGE & MOISTURE CONTROL

- Ensure **properly sloped walls and hidden drainage channels** to prevent water stagnation
- Use **insulated wall panels and dehumidification systems** to minimize bacterial growth
- **Avoid step-up or recessed thresholds** that can trap food particles and hinder sanitation
- Ensure walls and doors withstand high-pressure and steam cleaning cycles
- Use **hygienic grommets and silicone-sealed conduit holes** to prevent pest entry



5. CLEANING & MAINTENANCE ACCESSIBILITY

- Doors should have **minimal hardware and smooth, non-porous surfaces to** facilitate thorough cleaning.
- Walls should be constructed with **large, seamless panels** to reduce joints and minimize bacterial buildup.
- **Modular wall panels or hygienic cladding** should be used for easy replacement in case of damage or contamination.
- Doors and walls should be **resistant to high-pressure washdowns and harsh cleaning chemicals** used in food processing environments.
- Ensure **wall-floor junctions are coved to prevent dirt accumulation** and allow easy cleaning.



OUR EXPERTISE

- PMG Engineering delivers **end-to-end engineering design and project management services** for the food manufacturing facilities globally
- We collaborate with stakeholders to define the quality objectives and criteria for the **turnkey solution project**
- We ensure that the quality requirements align with the project goals, stakeholder expectations, and relevant industry standards
- Our project management expertise contributes to the **successful development and implementation of the quality assurance plan in solutions**

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ABOUT PMG

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At PMG, we offer complete solutions from design to commissioning, specializing in food factory construction that meets global standards.

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