



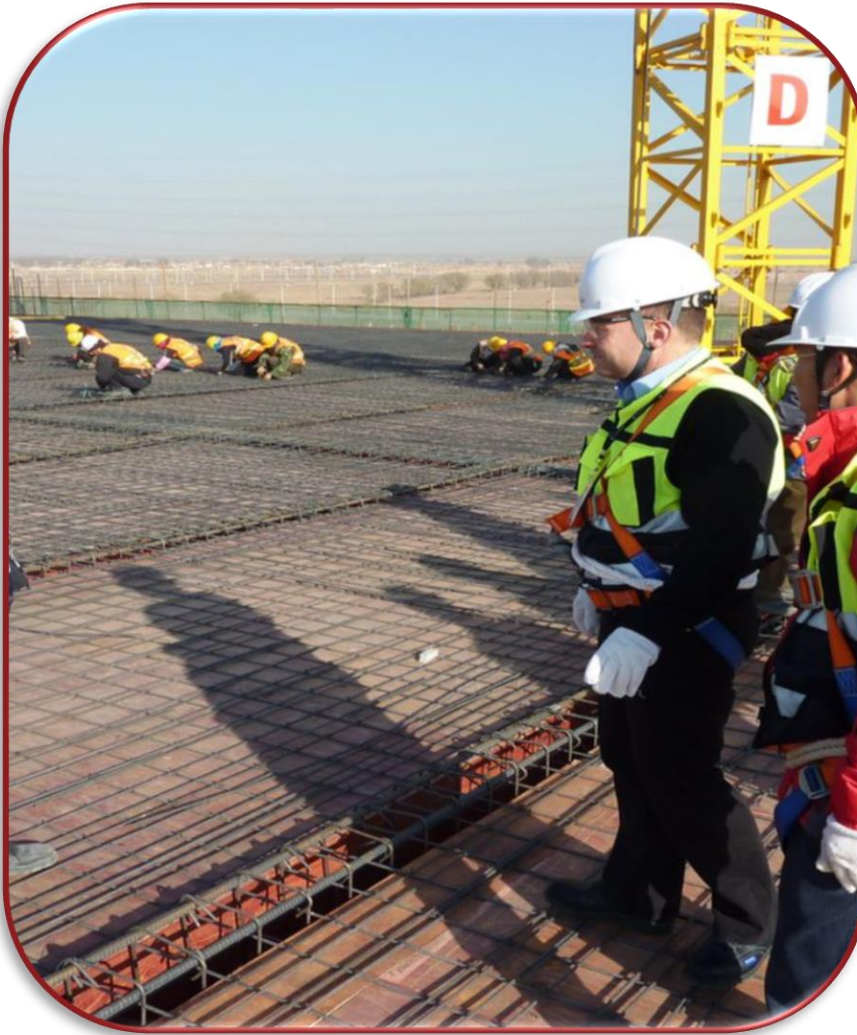
Civil Component and Material Selection for Hygienic Construction



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1. Introduction



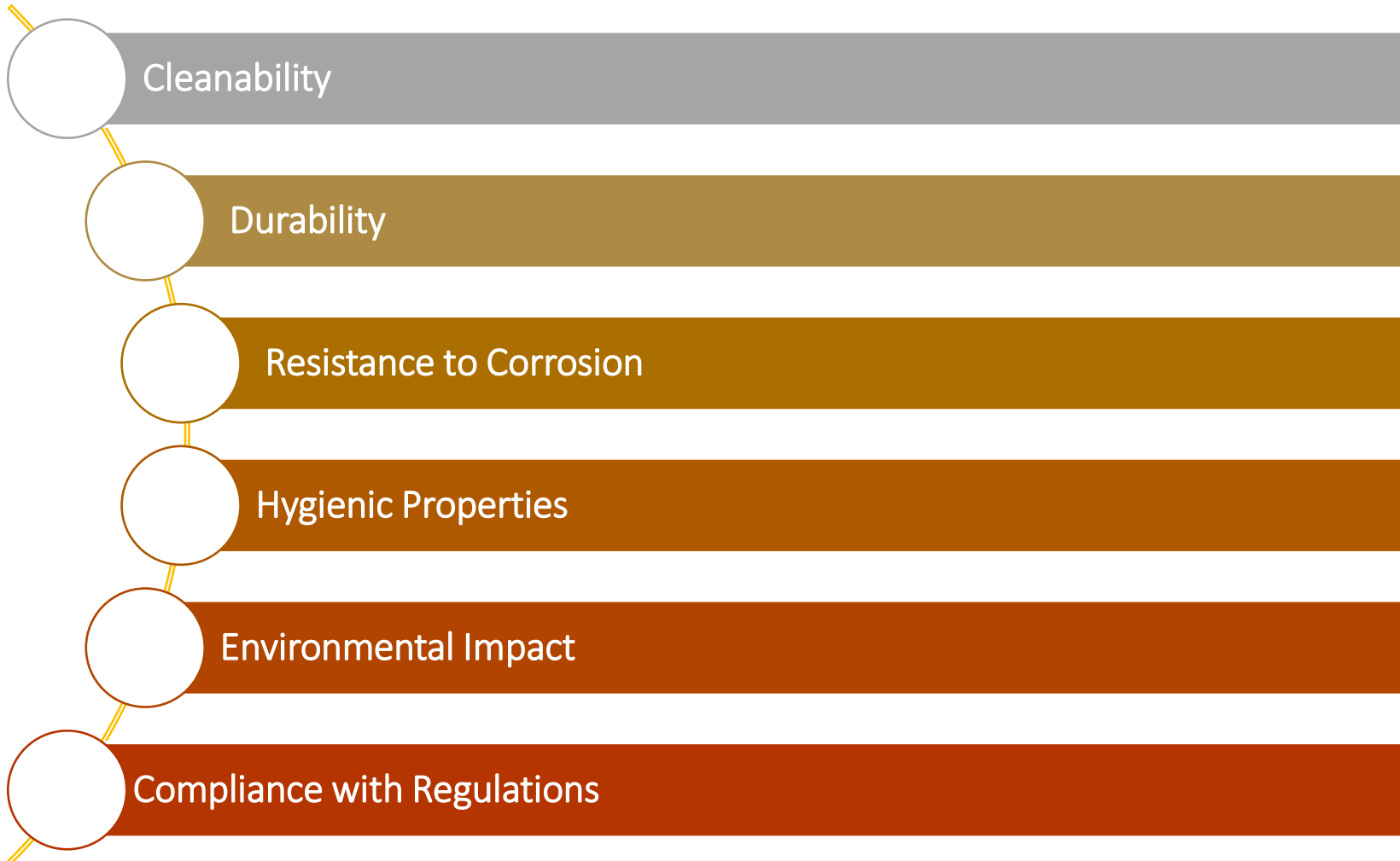
- Material selection is a critical aspect that impacts both the safety and functionality of the built environment.
- Involves choosing materials that are durable, easy to clean, and resistant to corrosion and microbial growth.

2. Importance

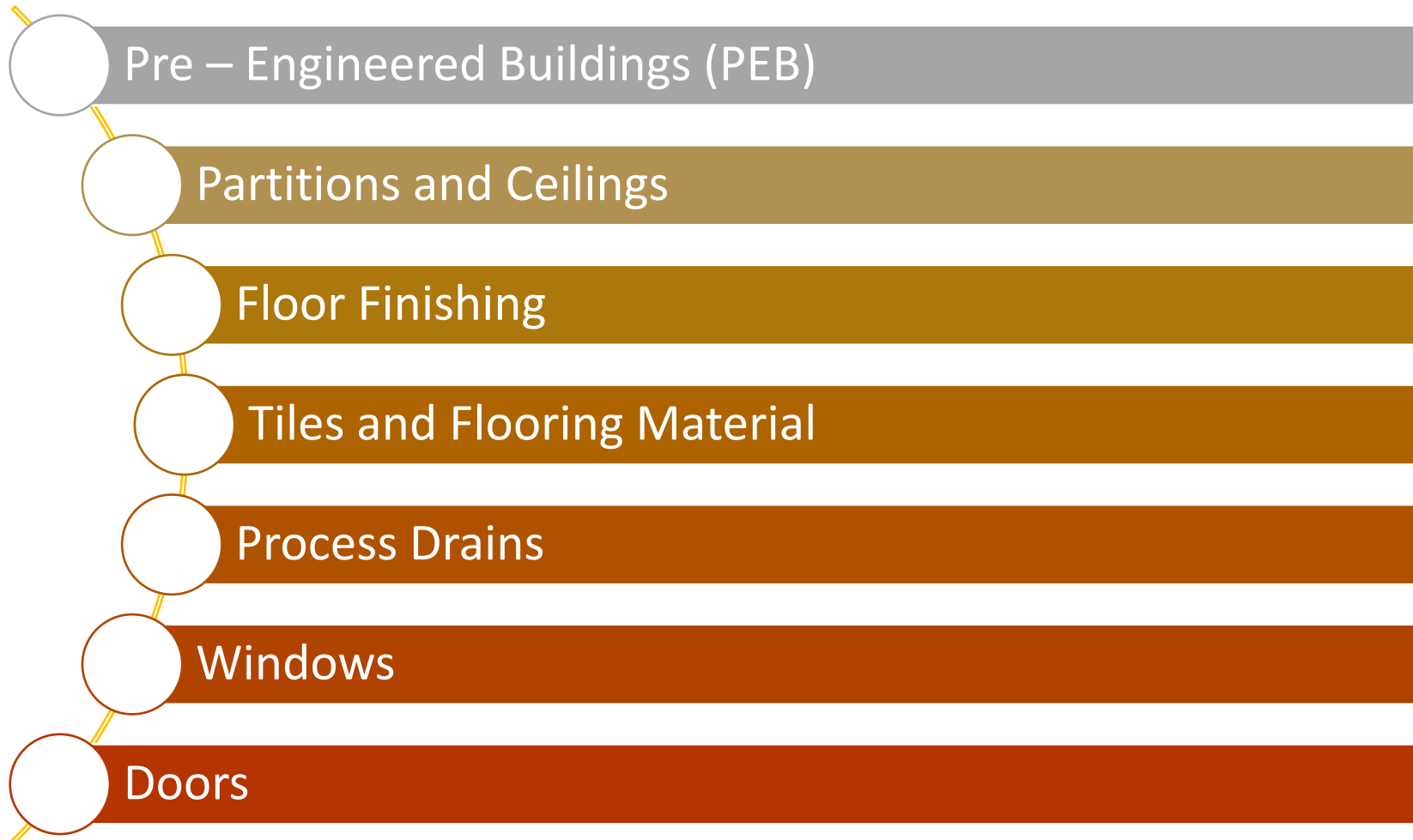
- Health and Food Safety
 - crucial for maintaining high cleanliness levels and preventing contamination in hygienic environments.
- Long Term Cost Savings
 - reduce maintenance and replacement costs over the lifespan of a building or facility.



3. Factors to Consider



4. Materials Used in Hygienic Construction



4.1 Pre-Engineered Buildings (PEB)



Buildings – Pre-Engineered Building

PEB with wide flange/I section are widely used in Beverage processing factories.

PEB with hollow structural steel are popularly used in food processing factories.

4.2 Partitions and Ceilings



Partition and Ceiling – PUF Panels

Polyurethane Foam (PUF) Panels are widely used in the pre-fabricated construction technology.

It has numerous advantages like:

1. Thermal Capacity
2. Low Cost
3. Strong and Durable
4. Easy Maintenance
5. Aesthetic Appealing

4.3 Floor Finishing

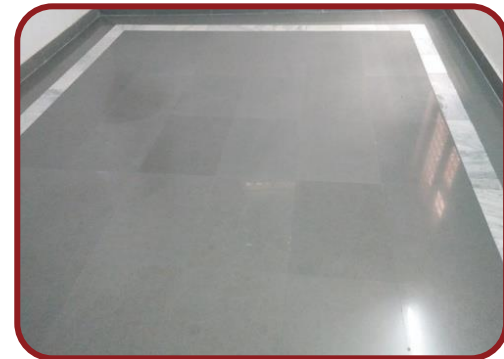


Floor Finishing – PU Flooring

Polyurethane (PU) Flooring is an inimitable floor coating system.

It protects the base substrate from heavy foot traffic and chemicals.

4.4 Tiles and Flooring Material



Acid-Alkali Resistant Tiles

Used in the chemical prone areas. It protects the base substrate from the chemical attack.

Ceramic Vitrified Tiles

Used in the underground water tanks to avoid the contamination of the water.

Granites/Marbles /Kota Stone

These are heavy duty flooring material used for decorations purpose.

4.5 Process Drains



Open channel drains with perforated covers are preferred for the beverage industries due to the high discharge of the effluent.

Open Channel Drains

4.6 Windows



Windows - UPVC

UPVC Windows are highly recommended in the food factories to maintain hygienic environment

Based on the requirement, these can be:

1. Fixed
2. Sliding
3. Openable

4.7 Doors



Doors – Steel Doors

Steel doors with fire rated capacity are widely used in the food and beverage factories.

Based on the requirement, these can be:

1. Single Leaf
2. Double Leaf
3. Sliding

5. Conclusion & Key Takeaways

Key Factors

- Consider cleanability, durability, and regulatory compliance when selecting materials.

Impact

- Material selection significantly influences hygienic standards and operational influences.

PMG Engineering Private Limited

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