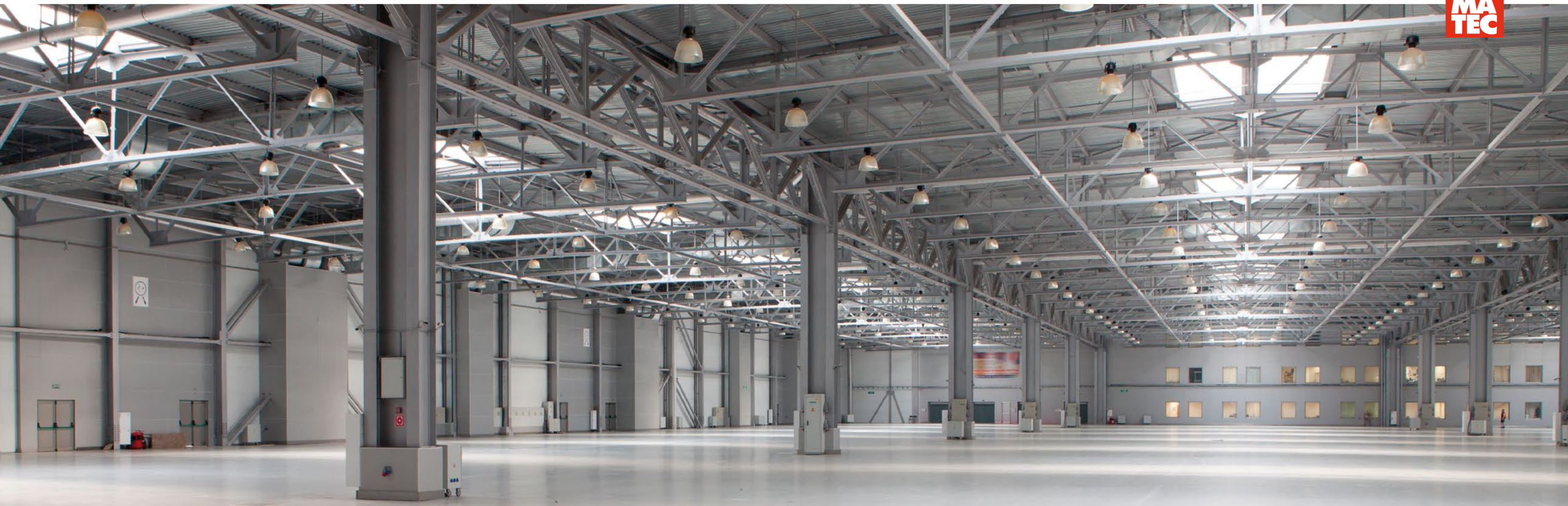
EPOXY SYSTEMS
INDUSTRIAL FLOORS

VIMEPOX
SYSTEMS



VIMATEC provides the solution to the problem of construction of industrial floors, which perfectly meet the requirements of their respective use, with the most modern epoxy systems combined with the great experience and know-how of their application.

REQUIREMENTS

Classical industrial floors, that is to say, slabs of reinforced concrete that have been smoothed to their surface by a “helicopter” (power trowel), only meet the basic requirements of an industrial or storage facilities floor:

1. Receiving static and dynamic loads of mechanical equipment and any kind of pedestrian and vehicle traffic
2. Smooth, flat surface
3. Surface hardness, more or less satisfactory

However, the requirements of industrial floors are clearly more. E.g. for floors as well as for food business walls, Regulation (EC) 852/2004 on food hygiene prescribes the application of materials that are

- **non-toxic**
- **waterproof**
- **non-absorbent**

so that the surfaces can be easily washed and disinfected.

A concrete surface does **not** offer:

• **Long lasting resistance to abrasion:** The floor over time is rubbed and creates dust

• **Resistance to chemical stresses:** Concrete does not withstand acids, alkalis, fats, mineral oils, solvents, cleaning and disinfection materials.

• **Fluid impermeability due to porous structure and unavoidable cracks:** This creates a hygienic problem due to the growth of microorganisms but also a risk of disintegration of the concrete due to ice in freezing chambers (ice fatigue).

ADVANTAGES

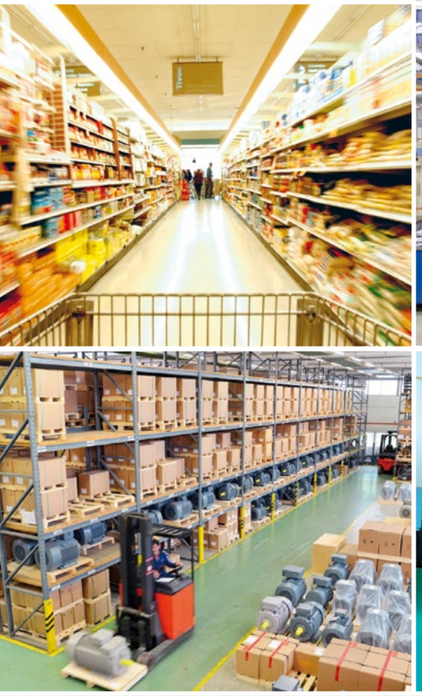
Epoxy floors ensure:

- **High mechanical strengths,** greater than those of concrete, to carry the loads smoothly on the substrate (which must have the required durability) and to withstand traffic abrasion
- **Adequate elasticity** to overcome cracks, reduce joint demand and withstand impacts
- **Excellent - monolithic adhesion** to the substrate provided they follow the rules of application: preparation - concrete treatment, substrate and ambient humidity and temperature, pot life and hardening times, etc.
- **High chemical resistance** to organic and inorganic acids, alkalis, salts, mineral oils, oils, solvents. Concentration of chemicals, duration of chemical stress and ambient temperature and humidity conditions should be checked where appropriate.
- **Creating a glossy, matte and non-slip surface** (more or less) for dry or wet environments
- **Color scheme** adapted to space requirements
- **No emission of fumes or migration of hazardous substances** because they are systems that do not contain toxic ingredients.
- **Fast construction** and delivery to use
- **Economically tolerable** solution due to their long life

APPLICATIONS

Epoxy industrial floors are suitable for applications in:

- Food and beverage industries
- Pharmaceutical and chemical industries
- Repair shops, workshops of all kinds
- Craftsmanship and storage areas
- Car stations
- Department stores, hypermarkets and showrooms

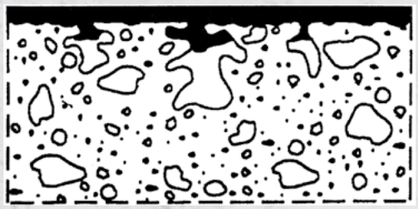


TYPES OF EPOXY FLOORS

NAME	THICKNESS	PROPERTIES
Impregnation of concrete surfaces (Priming)	< 50 µm = 0,05 mm	**Lightweight filling of pores**, creation of thin, transparent, durable film. It gives surface strength for small-medium stresses, impermeability and mainly stabilization to prevent dust build-up. This treatment is also the first coating (primer) for any subsequent epoxy coating. One or two coatings are applied.
Sealing Spread (Coating)	0,1 – 0,3 mm	**Overall filling of pores**, creates a transparent film resistant to moderate mechanical and chemical stress. Two or three spreads are applied. And this coating can act as a primer for subsequent epoxy coating on very porous substrates.
Brushable coating (Paint)	0,3 – 1,0 mm	Colored coating in two to three spreads after priming. Suitable for more than moderate chemical or mechanical stresses.
Self levelling resin mortar of one layer (Coating)	1,0 – 3,0 mm	Colored, pourable, self-leveling glossy coating, matte or slightly non-slip for large chemical or mechanical stresses.
Self levelling resin mortar of multiple layers (Multilayer flooring)	3,0 – 6,0 mm	Combination of pourable self-leveling coating, sand blasting of coarse-grained quartz sand and finishing of colored, self-leveling (or brushable) coating. To create a smooth (or non-slip) floor, with very high chemical, mechanical or temperature stresses.
Resin mortar rich in aggregates	> 6,0 mm	Coatings with high resistance to mechanical stress. They lack in chemical resistance and waterproofing due to low epoxy resin content.

Figured representation
Concrete impregnation

Figured representation
Concrete coating



OTHER APPLICATIONS OF EPOXY SYSTEMS **APART FROM FLOORS**

Epoxy systems have many other construction applications besides floors:

1. **Brushable wall coatings** according to the requirements of hygiene rules, which create an enamel surface and can replace porcelain tiles.
2. **Brushable coatings of concrete or steel surfaces** requiring anti-corrosion protection in

- Food and beverage industries (buckets, tanks or drinking water tanks, juices, wine, jams, etc.)
- Chemical industries (storage areas of acid or alkaline solutions)
- Agricultural facilities (silos, grain warehouses, animal feed, etc.)
- Water treatment facilities (aqueducts, desalination, biological treatment)

3. **Bonding and jointing of ceramic tiles in areas** with high chemical, mechanical or temperature stresses.
4. **Repair of concrete elements**
   4.1 **Surface restoration of concrete damage** with epoxy resin mortar, such as cracks, craters, beam edges, columns, steps, etc.
   4.2 **Bonding of concrete elements,** stabilization of cracked rocks, filling gaps under concrete slabs, floor slabs, etc. with thin epoxy resin injection systems.
5. **Fastening-bonding of concrete and steel.**
   Adhesion of plates on concrete for static reinforcement, implantation of reinforcing concrete beams, fixing-folding of machines with epoxy paste.
6. **Waterproofing of concrete surfaces** for positive or negative water pressures, mainly before the application of epoxy coatings on wet surfaces, with epoxy-hydraulic mortar of three components.
7. **Bonding of new-old concrete surfaces.**

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