GNDEC SOA
GILL PARK, LUDHIANA

SUBJECT – BUILDING MATERIALS

TOPIC – INDUSTRIAL FLOORING

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BARCH 4th SEM

Introduction

Today industrial floorings plays a very vital role in productivity, safety & housekeeping which has gradually with time changed from the conventional cement flooring, tiles etc., to dust free monolithic floors. We have varied range of floor coverings systems that are suitable for different applications. We recommend suitable floor coverings systems to match the applications. There are different types of industrial floorings with their own different merits viz:

- Vacuum Dewatered Flooring/ Trimix
- PU Flooring
- PE Foam Flooring
- Epoxy Flooring

VACUUM DEWATERED FLOORING/TRIMIX

- The Vacuum Dewatered (VD) Flooring method, is a system for laying high quality concrete floors with superior cost-effectiveness. The key to the use of this method is the dewatering of concrete by vacuum process. Surplus water from the concrete is removed immediately after placing and vibration, reducing the water-cement ratio to an optimum level.
- Adopting the VD flooring method facilitates use of concrete with better workability than what is normally possible.
- A lowered water to cement ratio due to vacuum dewatering leads to improvement in each of the properties of concrete like wear resistance, compressive strength, less shrinkage and minimum water permeability.
- Through the vacuum treatment, it is possible to reduce the water content in the concrete by 15-25% which greatly increases the compressive strength.
- By lowering the water-cement ratio, the tendency of shrinkage and subsequent cracking is greatly reduced.
- Since the water-cement ratio is lowered through vacuum dewatering, concrete of high initial slump can be used while pouring.

Laying Process

The method involves the laying of concrete in the following sequence:

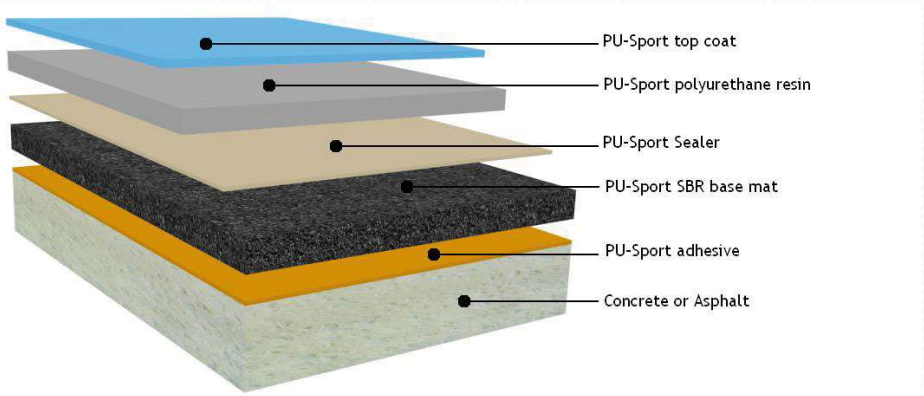
- Concrete in the conventional way but with a higher slump so that the workability is good and concrete pouring and spreading is done fast.
- Poker Vibration (specially on both sides of the panel) is always essential for floor thickness of 100mm and above.
- Surface Vibration using Double Beams Surface Vibrator
- Leveling the vibrated surface with a straight edge.
- Vacuum Dewatering using Vacuum Pump and Suction Mat Top Cover & Filter Pads.
- Floating and Troweling of the concrete pavement using Skimfloaters.

Advantages

- The vacuum treated concrete floor/pavement, exhibits inherent advantages viz.
- Monolithic, Shrinkage free pavements.
- Single panel without joints upto 100 sq. meters (depending on design specifications)
- Very high splitting strength.
- Very high quality pavements in terms of strength of the pavement is increased giving flexibility to adopt wither leaner mix or design a slab of lesser thickness giving the required strength.
- Controlled and uniform surface finish.
- Very high output exceeding 100 to 200 sq. meters. in a day (depending on the configuration of Vacuum Dewatering System and other site conditions like concrete mixing and pouring speed)

PU FLOORING

- Polyurethane Concrete floors are very tough, durable floors that give a much longer service life. Their unique chemistry gives them a combination of high flexural strength and high durability which makes them especially recommended for variety of dimensions in different industries.
- Specialized chemical agent are used as specific flooring system and these flooring systems are then laid on site.



Advantages

- Good impact resistance due to higher flexural strength
- Better scratch resistance
- Tough, durable finish
- Lesser chance of cracking
- Can withstand subzero temperature
- Fast setting time
- Long lasting service life
- Dissipates static electric charge as per antistatic flooring specifications
- Ideal for removing stubborn stains by steam cleaning
- Better stability to thermal variations
- Excellent bond strength

PE FOAM FLOORING

- This flooring is composed of a lightweight, closed cell, extruded polyethylene foam and is acoustically engineered to isolate sound vibrations and impact noises. With good compressive strength, it's resilient enough to absorb impact vibrations. It retains its acoustic properties over time while also being resistant to moisture, mold & fungus. Lightweight.
- A subfloor is first prepared and then the PE Foam is laid over the subfloor and the top layer is then laid over.

Advantages

- Higher strength
- Higher bear and impact resistance
- Provide a moisture barrier
- Provides cushioned comfort under laminate and floating wood floors
- Eliminates minor subfloor imperfections
- Suitable for use with radiant heat flooring systems
- 100% recyclable, environmentally friendly
- Naturally resistant to mold and mildew

Epoxy Flooring

- Epoxy is an engineering adhesive that bestows the industrial floor with durability, rejuvenates it and amplifies its value. Epoxy Coating can be applied to the existing floors and also the newly paved ones. It gives a fantastic look with increased strength and durability.
- Surface is first prepared in a way that a rough and porous surface is obtained for the proper penetration and bonding of the epoxy primer.
- Epoxy Primer is then laid over the surface.

Advantages

» Protects your concrete from wear, making it last longer.
» Controls concrete dusting.
» Protects the substrate from chemical and physical degradation.
» Cuts down on amount of lighting needed.
» Reduce the maintenance and cleaning costs.
» Uplift in Aesthetics.
» Easy wash ability
» Provides a cleaner and more pleasant place.
» Useful for the definition of certain areas, or to designate the presence of hazards

Thanks