


General Introduction to Floor Coatings

Speaker: Tan Rui Zhi 

Company: Sto SEA Pte Ltd  Building with conscience.

Title: Head of Sales & Business Development





Floor Coating
Industry Sectors

- **Automotive / Car Parks**
- **Aerospace**
- **Chemical**
- **Food Processing**
- **Electronic / Semiconductor**
- **Cleanrooms / Pharmaceutical**
- **Public facilities**
- **Warehousing**



Automotive / Car Parks Industry Requirements:

- Abrasion / Wear Resistant
- Slip Resistant

General Challenges:

- Rising Dampness (Leading to blistering)
- Crack Bridging (Leading to cracking of coating). Normally happens where there is high difference / changes in temperature



Aerospace Industry Requirements:

- Mechanical Resistant
- Chemical Resistant
- Slip Resistant

General Challenges:

- Rising Dampness (Leading to blistering)
- High Mechanical strength requirement



Chemical Industry Requirements:

- Chemical Resistant
- Ground water protection (i.e Tight against hazardous liquids)

General Challenges:

- Varying levels of chemical resistance required.
- Understanding the level of resistance a floor can endure after contact



Food Processing Industry Requirements:

- Hygienic / HACCP Approved
- High / Low Temperature Resistant
- Chemical Resistance
- Slip Resistant

General Challenges:

- Thermal shock resulting in coatings cracking



Electronic / Semi-conductor Industry Requirements:

- Electrostatic Discharge Flooring (ESD)
- Chemical Resistant

General Challenges:

- Understanding ESD requirements and selecting the right coating
- Repairing of damaged ESD floors



Cleanrooms / Pharmaceutical Industry Requirements:

- Cleanroom approved material
- Abrasion resistant
- Chemical resistant
- Ease of cleaning

General Challenges:

- Developing system criteria of cleanrooms and the test procedures



Public Facilities Requirements:

- Low VOC
- Appealing
- Ease of maintenance



Warehousing / Manufacturing Plant Industry Requirements:

- Mechanical Resistant
- Abrasion / Wear Resistant
- Impact Resistant

General Challenges:

- Rising Dampness (Leading to blistering)

Examples of Automotive / Car Park Industry



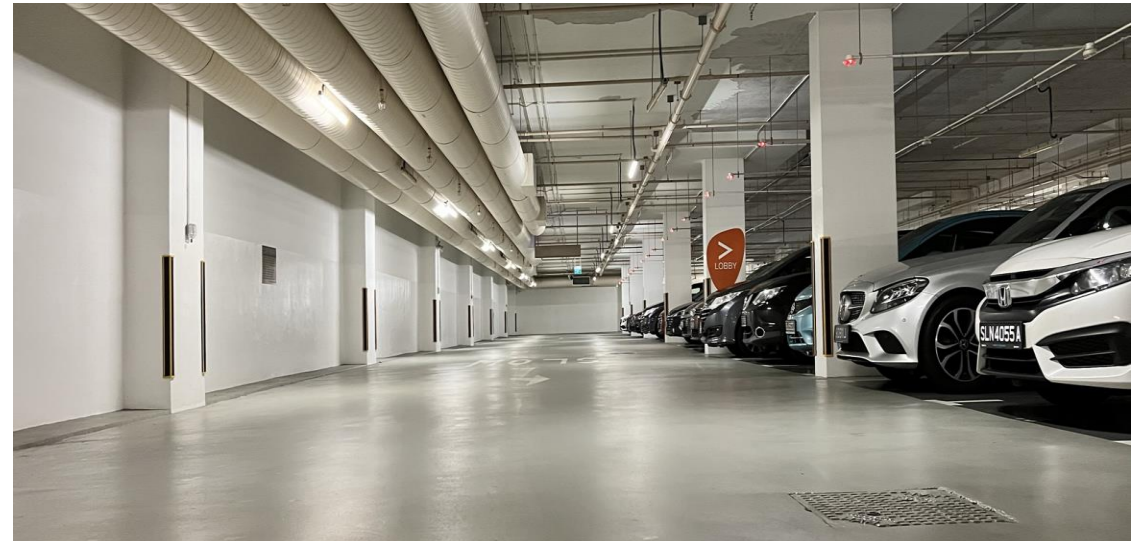
Car Maintenance Workshop



Exposed Carpark Deck



Car Showroom



Basement Carpark

Examples of Aerospace Industry



Military Hangar



Airplane Maintenance Workshop

Examples of Chemical Industry



Incineration Plant (Liquid Tight Coating)



Wastewater Treatment Plant



Greenhouse Research Facility



Chemical Storage Facility

Examples of Food Processing Industry



Food Packaging



Distillation Plant



Flour Processing Plant with ESD



Food Processing Warehouse

Examples of Electronics / Semiconductor Industry



Car Manufacturing Plant



Measuring Device Manufacturing Plant



Data Hall



Phone Repair Benches

Examples of Cleanrooms / Pharmaceutical Industry



Pharmaceutical Production Plant Walkway



Pharmaceutical Production Plant



Cleanroom Facility

Examples of Public Facilities Industry



Public Library



School Sports Track



Arts / Events Showroom



Holiday Resort Guestroom

Examples of Warehousing / Manufacturing Plant Industry



Warehouse with ESD requirement



FRP Manufacturing Plant

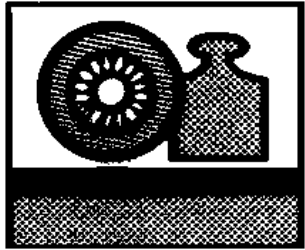


Storage Facility

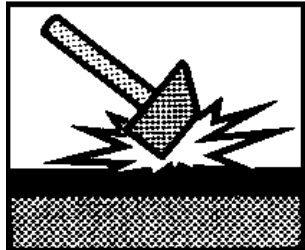


Packaging & Warehousing Facility

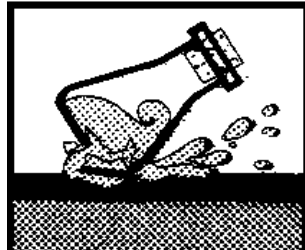
General considerations when selecting a floor coating



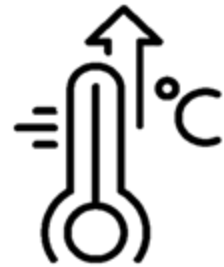
Wear Resistant



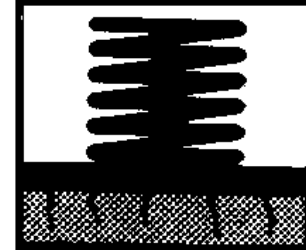
Impact Resistant



Chemical Resistant



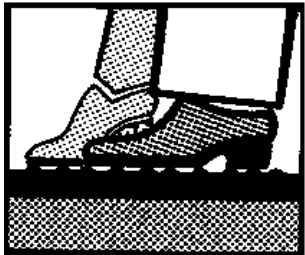
Heat Resistant



Crack Bridging



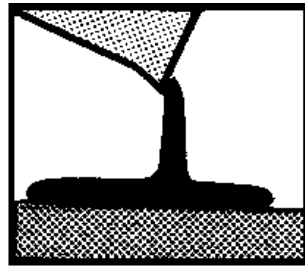
**Electrically
Conductive**



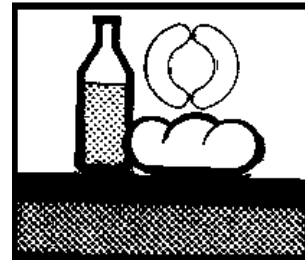
Skid Resistant



Low VOC Emission



Tight Against Liquid



**Indirect contact
with food**



Ease of Maintenance

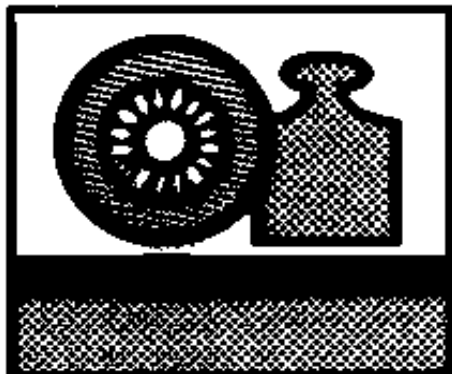


**Aesthetically
Appealing**



UV Resistant

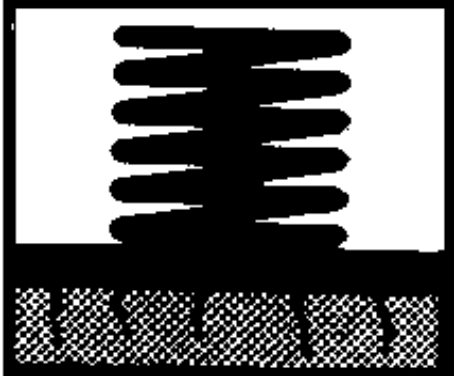
Requirements



Abrasion resistance



Requirements



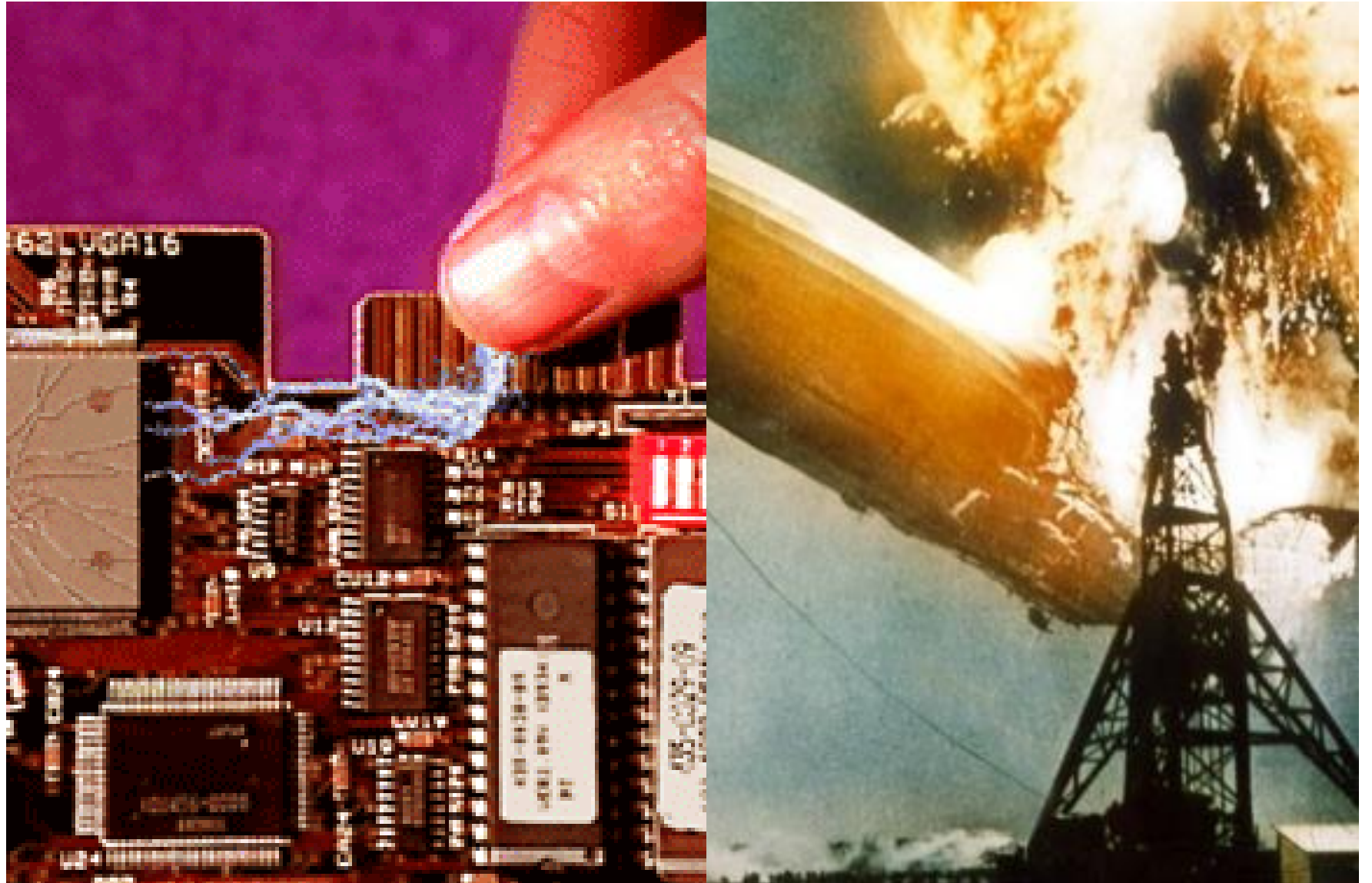
Crack Bridging



Requirements



Electrically
Conductive



Requirements



Chemical Resistance



Requirements



UV Resistance



Before UV Exposure

After UV Exposure

Summary

- Not all coatings are made equal
- Types of stress subjected to the floor needs to be considered for making decisions on the choice of system to be applied. These stresses can be:
 - Mechanical Stress
 - Chemical Stress
 - Rising Dampness
 - Abrasion Resistant
 - Skid Resistant
 - Impact Resistant
 - UV Resistant
 - Temperature Resistant
 - Liquid Tight requirement
 - Conductive properties
 - Crack Bridging