

水性涂装

解决方案与实例分析

Waterborne Finishing solution & Case Study

2012家具行业水性化高峰论坛@深圳

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Industrial coatings 工业涂料

The final step in the process
生产中的最后一步

Why?

Protect the object 保护工件

Highlight the item 突出产品

Give the right color shade 赋予正确的色调

Different types of Coatings 涂料种类

○Solventborne coatings 溶剂型

Acid-curing coatings 酸固化漆

Polyurethane coatings 聚氨酯漆

Nitrocellulose coatings 硝基漆

○Waterborne coatings 水性漆

Conventional waterborne coatings 常规水性漆

Waterborne UV coatings 水性UV漆

Two component waterborne coatings 双组份水性漆

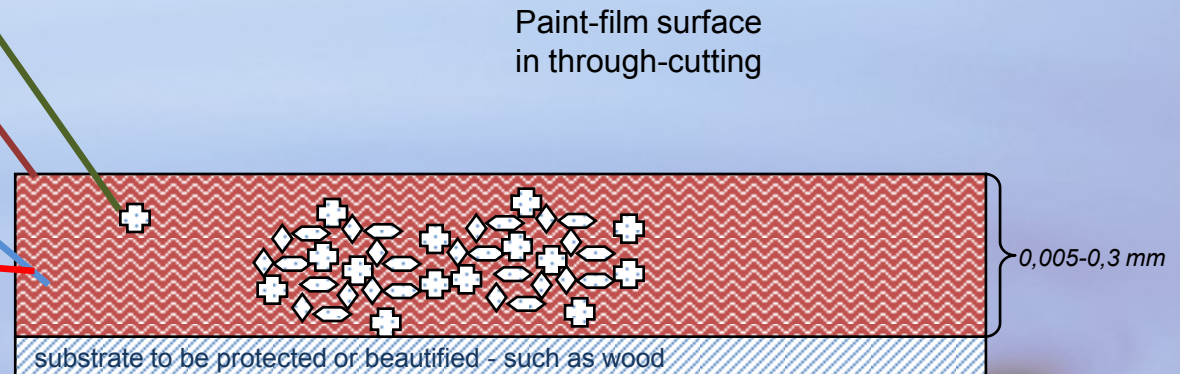
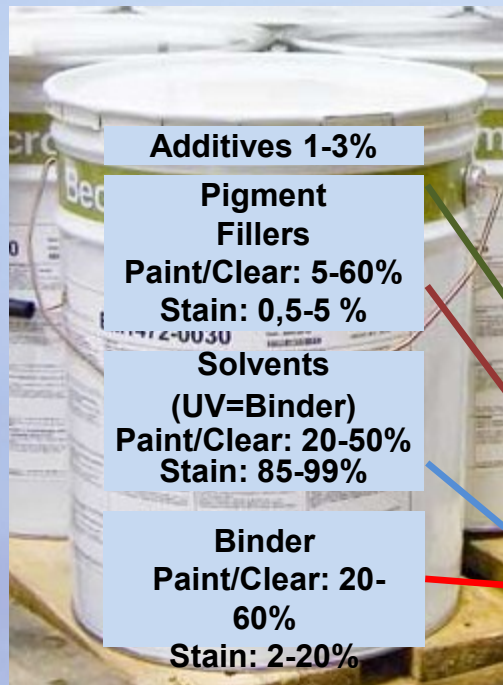
○100% UV coatings

○Oils and waxes 油、蜡

○Stains 着色剂

What is a coating 涂料的组成

What's in the can? 桶内的成分



Various systems 多样化体系

- **Residential Furniture**

- **室内家具**

- Waterborne sealer/primer 1 or 2 times
- 1-2道水性底漆
- Waterborne topcoat 1K or 2K
OR WBUV Topcoat
- 单/双组份水性面漆或水性UV

- **Kitchen Cabinets / Interior doors**

- **橱柜/室内门**

- Waterborne sealer/primer
- 水性底漆
- Waterborne-UV topcoat 水性UV面漆

- **Office & Hospitality furniture**

- **办公及酒店家具**

- 100% UV filler 100% UV腻子
- 100% UV sealer 100%UV底漆
- Waterborne PU or Waterborne UV topcoat
- 水性PU或水性UV面漆

- **Exterior windows/doors**

- **户外门窗**

- Waterborne impregnator
- 水性浸渗剂
- Waterborne primer 水性底漆
- Waterborne topcoat 水性面漆

Waterborne coatings水性涂料

- **Acrylic丙烯酸:**

Mostly used binder in furniture coatings. Different hardness and chemical structure gives different properties with various need of solvents for film formation.

- **PolyUrethane Dispersion聚氨酯分散体:**

Mainly used in floor lacquer and for adjusting properties of acrylic based coatings & lacquers, to improve stacking, hardness and abrasion. Relative expensive binder type (2-6 times higher price compared to Acrylic)

- **Alkyd emulsion醇酸树脂乳液:**

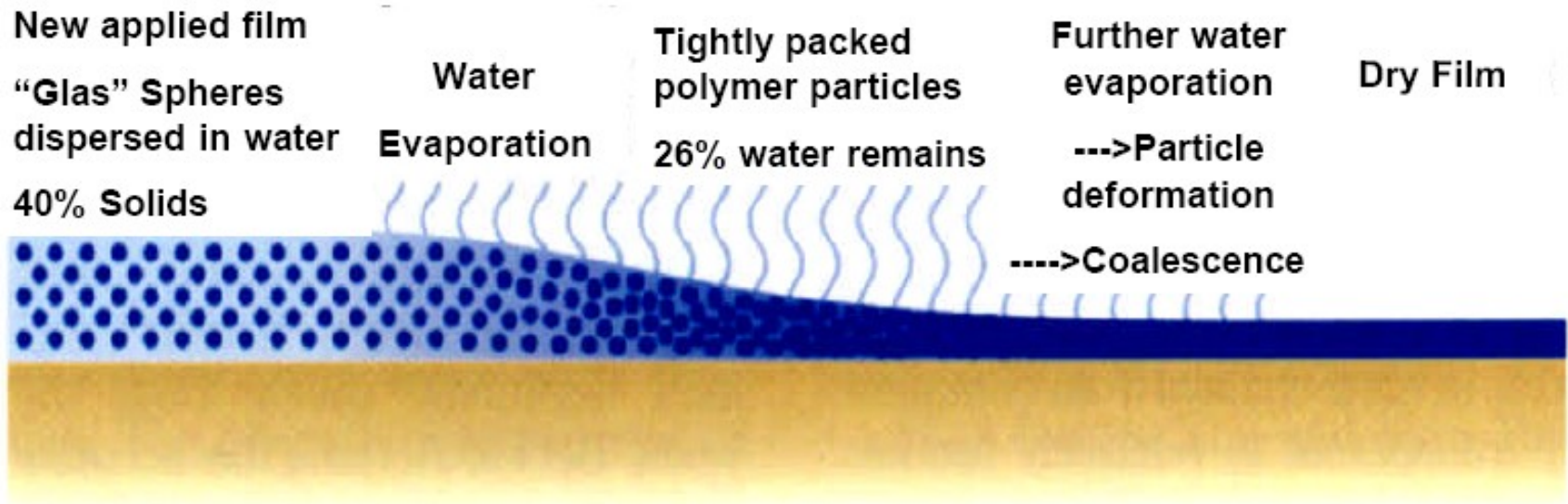
Alkyd are often used in impregnation sealers (carrier of fungicides). Also used in outdoor primers because of it's good water barrier properties. Alkyds are slow drying and not used in indoor coatings & lacquers

Waterborne products can contain: 水性涂料包括

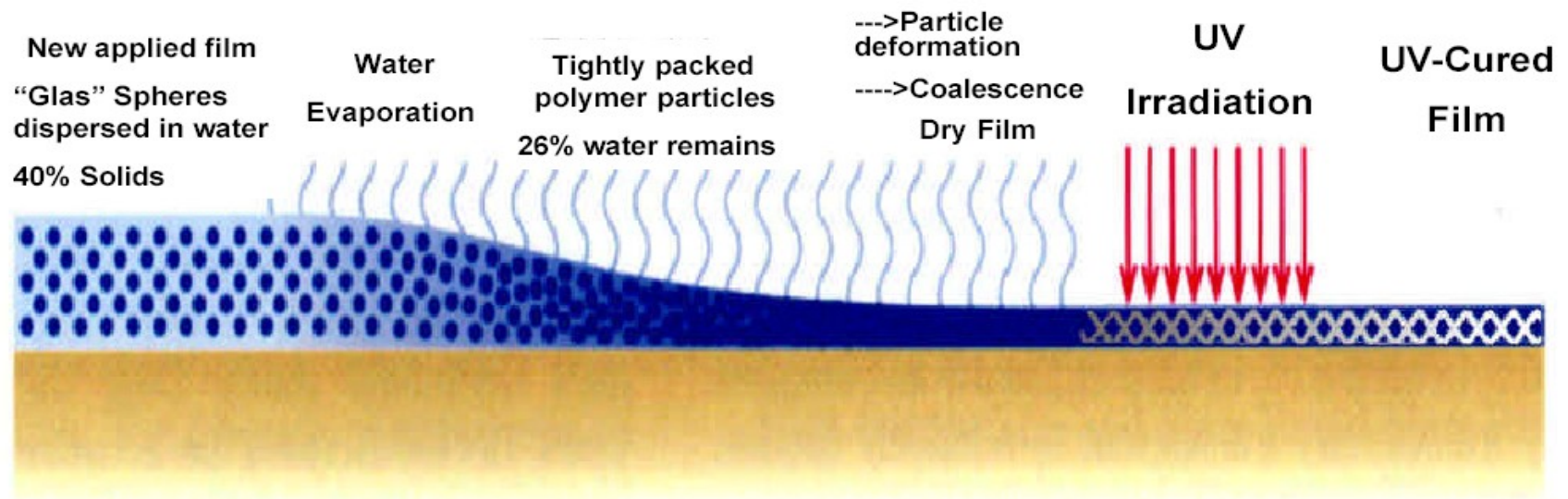
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|----------------------|--------------------|
| 1. Water | 10. Waxes |
| 2. Binders | 11. Matting agents |
| 3. Coalescing agents | 12. Plasticizers |
| 4. Amines or ammonia | 13. Defoamers |
| 5. Surfactants | 14. UV-initiators |
| 6. Wetting agents | 15. Fillers |
| 7. Thickeners | 16. Pigments |
| 8. Bactericides | 17. Cross linkers |
| 9. Fungicides | |

Drying of waterborne products

水性漆的干燥



Drying and curing waterborne UV 水性UV的干燥及固化



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Comparison between different types of coatings

不同油漆体系的性能比较

	WB	NC	PU	AC	UV
Ease of application 施工便利	Fair –good	Excellent	Fair-very good	Good- very good	Good-very good
Productivity 生产效率	Fair-good	Excellent	Fair-good	Good-very good	Excellent
Repairability 可修复性	Poor-good	Excellent	Poor-good	Poor-good	Poor
Clarity 透明度	Fair-good	Excellent	Very good	Excellent	Very good
Build 漆膜	Good-excellent	Poor	Good-excellent	Good-excellent	Good-excellent
Hardness 硬度	Poor-very good	Poor	Good-excellent	Good-very good	Excellent
Water resistance 耐水性	Poor-Excellent	Poor	Excellent	Excellent	Excellent
Solvent resistance 耐溶剂型	Fair-very good	Poor	Excellent	Excellent	Excellent
Chemical resistance 耐化学品性能	Fair-good	Poor	Excellent	Excellent	Excellent
Weathering 气候	Good-excellent	Poor	Fair-excellent	Fair-very good	Poor-very good
Heat resistance 耐温	Fair-very good	Poor	Very good	Very good	Excellent
Flammability 安全性	Excellent	Poor	Poor	Poor	Poor-very good
VOC level VOC 含量	Excellent	Poor	Fair-good	Fair-good	Excellent

Technical Bottlenecks for WB技术瓶颈

1. Clarity
透明度
2. Solvent borne-looking surface
油润性
3. Repair / re-coat ability
修补重涂性能

Application Bottlenecks for WB应用瓶颈

1. Temperature

温度

2. Sanding

砂光

3. Drying / Curing

干燥 / 固化

Switching from SB to WB 油转水

1. Learning/Education 学习/教育

- Get to know waterborne coating property 了解水性漆属性
- Understand the difference between SB & WB 了解油性与水性的差异

2. 评估Evaluation

- Application technology 施工设备
- Drying condition 干燥条件
- Temperature control (Winter and Summer)
温度控制（冬天/夏天）
- Humidity control 湿度控制
- Dust control 粉尘控制
- Storage and transportation 储存运输
- Preheating system 预热系统
- Workshop area for WB

3. Test & Investment

测试与投资

- Process 工艺
- Coating Performance 油漆表现
- Investment 投资

4. Continuous Improvement

持续改良

- Application/process 应用/工艺
- Machinery 设备
- Lacquer products 油漆产品
- RM suppliers 原材料供应商

Case Study 案例分享

1. Kun Shan Baiyulan, Kitchen Cabinets
昆山白玉兰, 美式橱柜



2. Alexandre Shenzhen, American antic furniture 深圳亚力山卓, 美式仿古家具



提问环节

Question?

