

# JOABOA Water Based Floor Hardening System

Jack Song



# CONTENTS

**1 Current Situation of Floor Hardening System**

**2 Introduction of JOABOA Floor Hardening System**

**3 Design and Application of JOABOA System**

**4 Main Advantages of JOABOA System**

**5 Landmark Projects**

# 1/ Current Situation of Floor Hardening System

## Functions of floor hardening system

### Practical Function



**Solid**

**Safe**

**Clean**

**Fire-proof**

### Decoration Function



**Comfortable**

**Long-lasting**

**Dustless**

### Application Performance

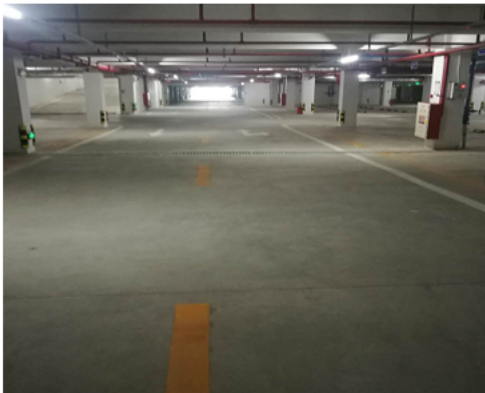


**Environment-friendly**

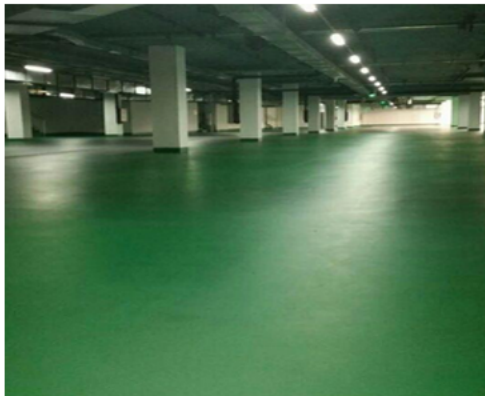
**Easy to Maintain**

# 1/ Overview of Various Floor Hardening Systems

## Cement Based Floor Hardening Systems



**Exposed Concrete  
Floor Hardener**

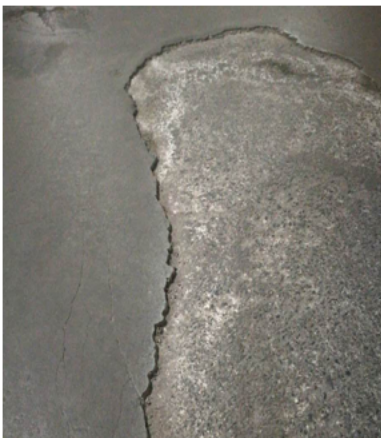


**Emery Floor Hardener**

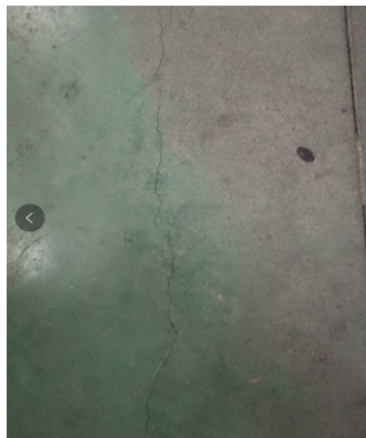
# 1/ Defects of Cement Based Floor Hardening Systems



Powdering and Sanding



Hollowing and Peeling Off



Color Fading

# 1/ Current Situation of Floor Hardening System

## Problem Analysis

3mm thickness Emery Floor Hardening System as example

Spread 3mm thickness carborundum material

Handle the Concrete by Extracting

50mm Fine Stone Concrete with C25 Strength

Low strength of extracted concrete layer, easy to have powdering issue

Various flatness, prone to cracking

# Overview of Various Floor Hardening Systems

## Coated Floor Hardening Systems

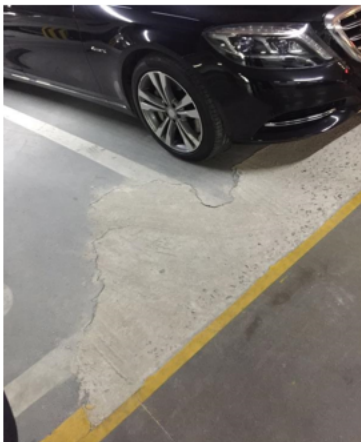


Epoxy Floor Coatings



Polyurethane Floor Coatings

# Defects of Coated Floor Hardening Systems



Frazzle



Hollowing



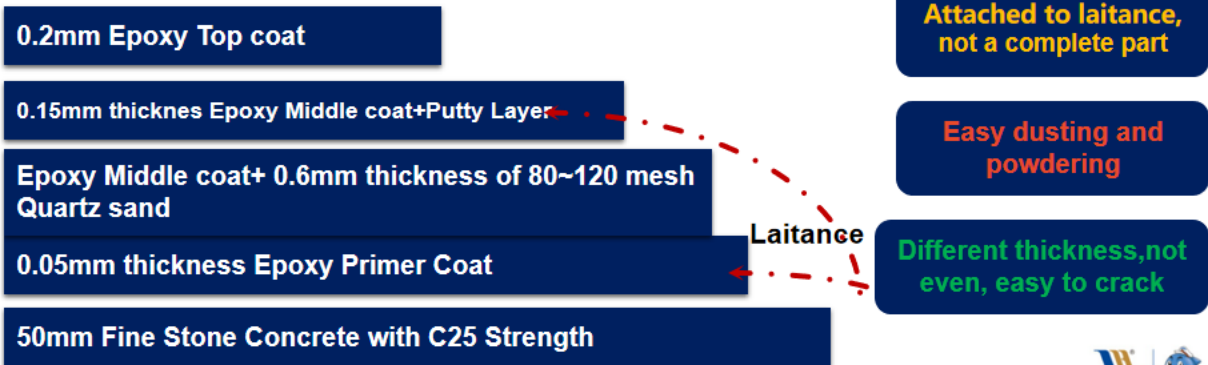
Color Difference  
of Repair



# 1/ Current Situation of Floor Hardening System

## Problem Analysis

1mm thickness Epoxy System as example



# 1/ Current Situation of Floor Hardening System

## Problems Conclusion



**Poor in Durability**

**Slippery, Dangerous**

**Easy to Fade Away**

**Difficult to Maintain  
High Maintenance Fees**

# CONTENTS

1 Current Situation of Floor Hardening System

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4 Main Advantages of JOABOA System

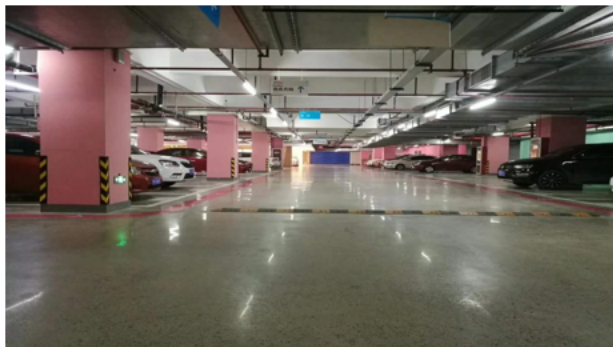
5 Landmark Projects

## 2/Introduction of Water-based Floor Hardening System

### Water Based Crystalline Floor Hardener

Plastic Drum 20KG

Inorganic / Alkali / Transparent



# Principles of Systems

Hardener+Ca<sup>+</sup>、Mg<sup>+</sup>  
=Silicate Crystallization

Capillary Pores in  
Concrete

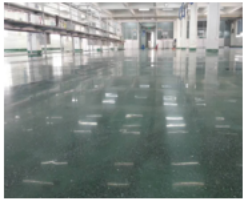
Concrete  
Structure

Hardener

# Application Range



Car Park



Factory



Warehouse



Mall

# CONTENTS

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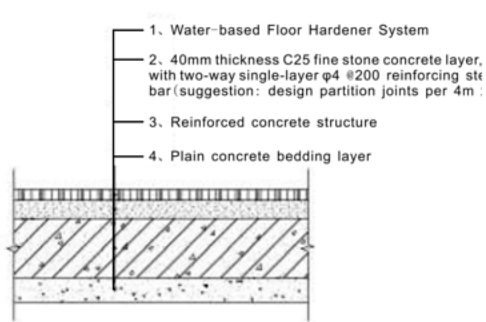
4 Main Advantages of JOABOA System

5 Landmark Projects

## 3/ Design and Application of JOABOA System

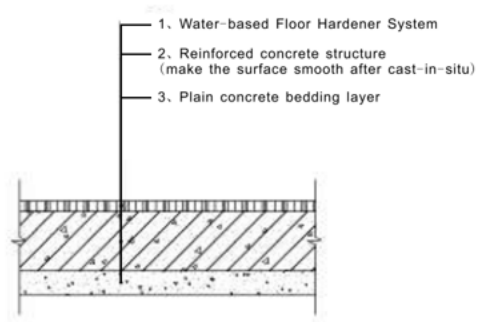
### System Design Plan 1

Applied on fine aggregate concrete surface



### System Design Plan 2

Applied on plain concrete bedding layer





## 3/ Design and Application of JOABOA System



① Substrate Treatment



② Initial Grinding with Water



③ Penetration



④ Second Grinding



⑤ Second Penetration



⑥ Third Grinding



⑦ Detailed Polishing

# 目录

CONTENTS

**1 Current Situation of Floor Hardening System**

**2 Introduction of Joaboa Tech Liquid Floor  
Hardening System**

**3 Design and Application of the System**

**4 Main Advantages of the System**

**5 Landmark Projects**

## 4/ Main Advantages of JOABOA Floor Hardening System

### Technical Performance



**Moh's Hardness:  $\geq 7$  Level**

**Abrasion Resistance  $\geq 400\%$**

**Coefficient of Friction:  $\geq 0.56$**

**Glossiness  $\geq 10GU$**

## 4/ Main Advantages of JOABOA Floor Hardening System



## 4/ Main Advantages of JOABOA Floor Hardening System

### Abrasion Resistance

Abrasion resistance of  
Emery Floor Hardening  
System  $\geq$  150%

Abrasion resistance of  
Emery Floor Hardening  
System  $\geq$  400%

## 4/ Main Advantages of JOABOA Floor Hardening System

Standard of Coating and Decoration for basement GBT22374-2008

项目		指标		
		水性	溶剂型	无溶剂型
容器中状态		搅拌均匀后均匀。无硬块		
涂膜外观		涂膜外观正常		
干燥时间/h	表干<	8	4	6
	实干<	48	24	48
硬度	铅笔硬度>	H		
	邵氏硬度(D型)	-		高定
附着力/级<		1		-
拉伸粘结强度/Mpa	标准条件>	-		2.0
	浸水后>	-		2.0
抗压强度/mpa>		-		45
耐磨性(750g/500)g<		0.050		0.030
耐冲击性	I级	500g 钢球高 100cm 涂膜无裂纹、无剥落		
	II级	1000g 钢球, 高 100cm, 涂膜无裂纹、无剥落		
防滑性(干摩擦系数)>		0.50		

0.5

<

Slip Resistance of Joaboa Tech Floor Hardening System

0.56

## 4/ Main Advantages of JOABOA Floor Hardening System

Grade 1 0.56-0.64

Grade 3 0.41-0.50

Small difference in data but big in technical performance

摩擦指数	抗滑性能	实际摩擦系数	对应路面状况
1级	良好	$\geq 0.65$	常温、干燥、无杂质
	正常	0.56-0.64	潮湿、少量积水、低温
2级	稍差	0.51-0.55	积水、低温
3级	较差	0.41-0.50	积水、浮雪、霜
4级	很差	0.31-0.40	积雪
5级	极差	$\leq 0.30$	结冰

路面摩擦气象指数分为5个等级：

1级，路面摩擦性能良好或正常，车辆可正常行驶；

2级，路面抗滑性能稍差，车辆须适当减速慢行；

3级，路面摩擦性能较差，车辆必须减速慢行并保持车距；

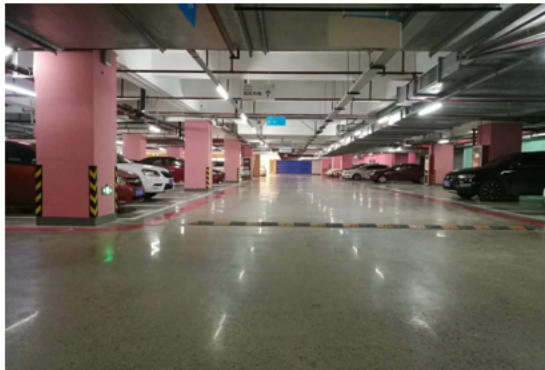
4级，路面摩擦性能很差，严重影响车辆行驶和道路通行，在路况复杂的地段，尤其要注意行车安全，必要时需关闭公路；

5级，路面状况极差，无法保障车辆安全行驶，必须关闭公路。当路

况恶劣，路面状况极差，无法保障车辆安全行驶，必须关闭公路。当路

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## 4/ Main Advantages of JOABOA Floor Hardening System



The glossiness of system is higher than 10GU when finished.

The glossiness will increase after practical use.



# 4/ Main Advantages of JOABOA Floor Hardening System

## VOC Test

**MA** 广东省建材产品质量检验中心  
2016190427M 检验报告

委托单位: 佛山市爱家地板有限公司  
样品名称: 991-308 水性地板硬化剂  
型号/规格: ---  
生产单位: 佛山爱家地板有限公司  
工程名称/部位: ---

检测机构: 广东省建材产品质量检验中心  
样品编号: MA16190427M  
检测标准/依据: GB 18582-2008  
委托日期: 2017年11月27日  
检测日期: 2017年11月28日  
报告日期: 2017年11月28日  
报告编号: JC/T 2159-2012  
检测地址: 惠州惠德

共 1 页 第 1 页

序号	检验项目	标准要求	检测结果	判定结果	备注
1	VOC g/L	<10	GB 18582-2008	合格	

以下空白

备注: 依据 JC/T 2159-2012《漆膜型水性硬化剂》进行实验, 检测结果合格。

备注:  
1. 本报告, 盖章  
2. VOC 按国标 GB 18582  
3. VOC 100%

检测: 1889 审核: 1889 检验: 1889

Non-toxic and non-volatile

## Fireproof Test

**MA** 广东省建材产品质量检验中心  
2016190427M 检验报告

委托单位: 佛山市爱家地板有限公司  
样品名称: 991-308 水性地板硬化剂  
规格/型号: 2009-2009960 1:1:1.5 漆  
生产单位: 佛山爱家地板有限公司  
工程名称/部位: ---  
检测标准: ---  
委托日期: ---  
检测地址: 惠州惠德

检测机构: 广东省建材产品质量检验中心  
样品编号: MA16190427M  
检测标准/依据: GB 8624-2012  
委托日期: 2017年11月27日  
检测日期: 2017年11月28日  
报告日期: 2017年11月28日  
报告编号: JC/T 2159-2012  
检测地址: 惠州惠德

共 1 页 第 1 页

序号	检验项目	检测方法	标准要求	检测结果	判定结果
1	烟气温度 ℃	GB/T 14664-2013	<300	12.2	合格
2	质量损失率 %		<30	18.9	合格
3	持续燃烧时间 s		0	0	合格
4	总热值 kJ/m <sup>2</sup>		GB/T 14660-2007	<1.5	0.81

以下空白

备注: 按照项目符合 GB 8624-2012《建筑材料及制品燃烧性能分级》中 B (1) 级的判定要求。

备注:  
1. 本试验结果仅指所检测的试样在特定试验条件下的性能, 不能将其作为评价该材料在实际使用中发生火灾危险性唯一依据。  
2. 样品名称为水性型。  
3. 本报告, 盖公章第二页。  
4. 代码: 1022。

检测: 1889 审核: 1889 检验: 1889

Safe & Non-flammable

## 4/ Main Advantages of JOABOA Floor Hardening System

**Long  
Duration**

**Safe  
eco-friendly**

**Saving  
project  
period**

**Saving  
cost**

# 目录

CONTENTS

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# Landmark Projects- New Car Parking

## Substrate Condition



# Landmark Projects- New Car Parking

## Finished Floor



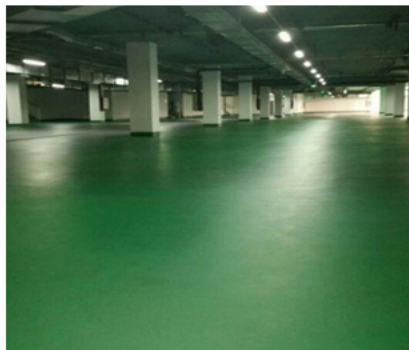
# Renovation Project

## Renovation of Old Epoxy Floor Hardening System



## Renovation Project

### Renovation of Old Emery Floor Hardening System 30000m<sup>2</sup>



# Renovation Project

## Renovation of Old Concrete Floor







# THANK YOU

卓宝科技 高品质防水系统引领者!

Joaboa Tech, Pioneer of High Quality  
Waterproofing System!