

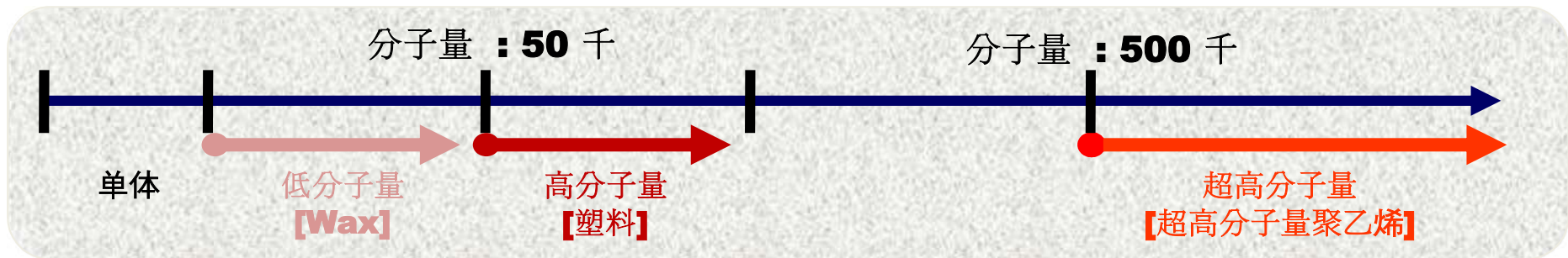
*Floor Grain™ Medium*

防滑抗噪音  
聚合物粉装添加剂  
用于建筑地坪漆

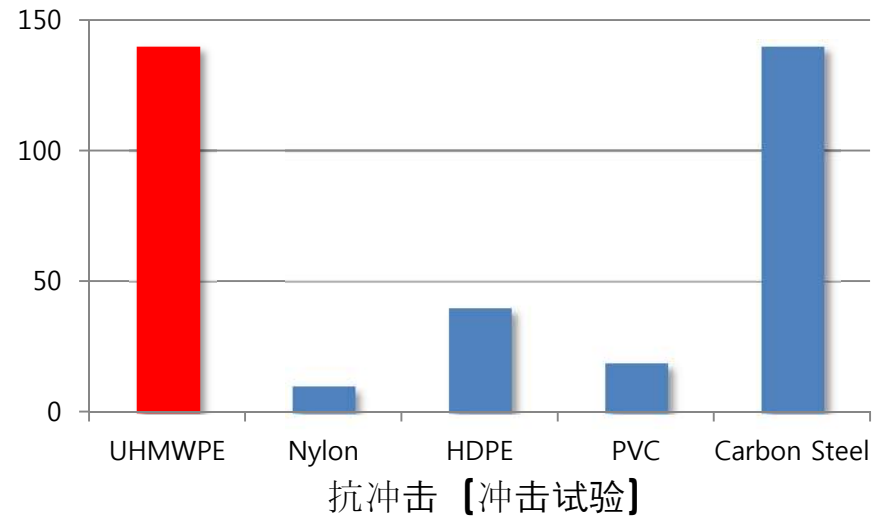
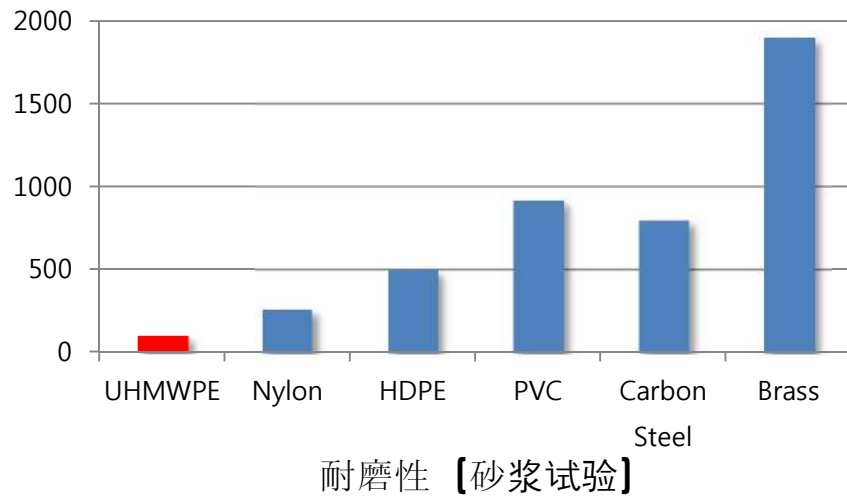
 **TWO H Chem Ltd.**

# 为什么选择超高分子量聚乙烯？ *FloorGrain™* SHP4080-1

## 分子量范围



超高分子量聚乙烯具有最高的机械强度和耐化学性能

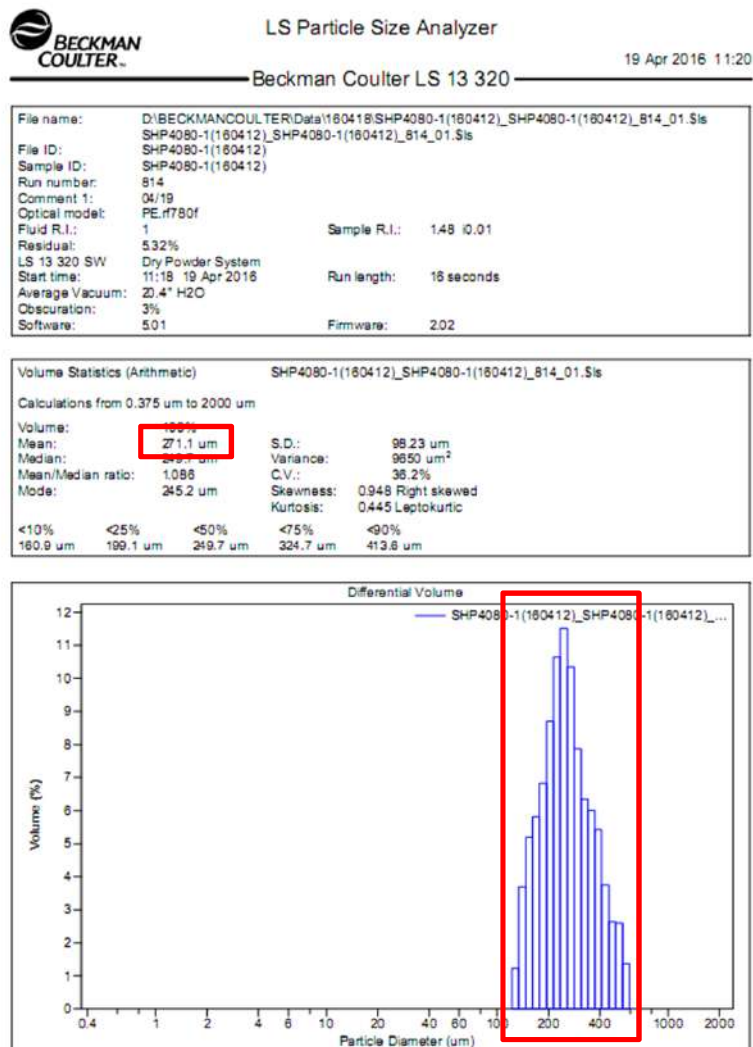


● **UHMWPE : Ultra High Molecular Weight Polyethylene, 超高分子量聚乙烯**

# 粒径

# Floor Grain™ SHP4080-1

## 径非常一致



## 非常安全和无害的材料



Test Report No. F690101/LF-CTSAYAA16-24204R1

Issued Date : 2016. 04. 22

Page 2 of 6

Sample No. : AYAA16-24204R1.001  
 Sample Description : SHP4080-1  
 Item No./Part No. : N/A  
 Materials : Plastic powder

### Heavy Metals

Test Items	Unit	Test Method	MDL	Results
Cadmium (Cd)	mg/kg	With reference to IEC 62321-6:2013 (Determination of Cadmium by ICP-OES)	0.5	N.D.
Lead (Pb)	mg/kg	With reference to IEC 62321-6:2013 (Determination of Lead by ICP-OES)	5	N.D.
Mercury (Hg)	mg/kg	With reference to IEC 62321-4:2013 (Determination of Mercury by ICP-OES)	2	N.D.
Hexavalent Chromium (Cr VI)	mg/kg	With reference to IEC 62321:2008 (Determination of Hexavalent Chromium by spot test/Colorimetric Method using UV-Vis)	1	N.D.

### Flame Retardants-PBBs/PBDEs

Test Items	Unit	Test Method	MDL	Results
Monobromobiphenyl	mg/kg	With reference to IEC 62321-6:2015 (Determination of PBBs and PBDEs by GC-MS)	5	N.D.
Dibromobiphenyl	mg/kg	With reference to IEC 62321-6:2015 (Determination of PBBs and PBDEs by GC-MS)	5	N.D.
Tribromobiphenyl	mg/kg	With reference to IEC 62321-6:2015 (Determination of PBBs and PBDEs by GC-MS)	5	N.D.
Tetrabromobiphenyl	mg/kg	With reference to IEC 62321-6:2015 (Determination of PBBs and PBDEs by GC-MS)	5	N.D.
Pentabromobiphenyl	mg/kg	With reference to IEC 62321-6:2015 (Determination of PBBs and PBDEs by GC-MS)	5	N.D.
Hexabromobiphenyl	mg/kg	With reference to IEC 62321-6:2015 (Determination of PBBs and PBDEs by GC-MS)	5	N.D.
Heptabromobiphenyl	mg/kg	With reference to IEC 62321-6:2015 (Determination of PBBs and PBDEs by GC-MS)	5	N.D.
Octabromobiphenyl	mg/kg	With reference to IEC 62321-6:2015 (Determination of PBBs and PBDEs by GC-MS)	5	N.D.
Nonabromobiphenyl	mg/kg	With reference to IEC 62321-6:2015 (Determination of PBBs and PBDEs by GC-MS)	5	N.D.
Decabromobiphenyl	mg/kg	With reference to IEC 62321-6:2015 (Determination of PBBs and PBDEs by GC-MS)	5	N.D.
Monobromodiphenyl ether	mg/kg	With reference to IEC 62321-6:2015 (Determination of PBBs and PBDEs by GC-MS)	5	N.D.
Dibromodiphenyl ether	mg/kg	With reference to IEC 62321-6:2015 (Determination of PBBs and PBDEs by GC-MS)	5	N.D.
Tribromodiphenyl ether	mg/kg	With reference to IEC 62321-6:2015 (Determination of PBBs and PBDEs by GC-MS)	5	N.D.
Tetrabromodiphenyl ether	mg/kg	With reference to IEC 62321-6:2015 (Determination of PBBs and PBDEs by GC-MS)	5	N.D.

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F401 Version2

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Test Report No. F690101/LF-CTSAYAA16-24204R1

Issued Date : 2016. 04. 22

Page 3 of 6

Sample No. : AYAA16-24204R1.001  
 Sample Description : SHP4080-1  
 Item No./Part No. : N/A  
 Materials : Plastic powder

### Flame Retardants-PBBs/PBDEs

Test Items	Unit	Test Method	MDL	Results
Pentabromodiphenyl ether	mg/kg	With reference to IEC 62321-6:2015 (Determination of PBBs and PBDEs by GC-MS)	5	N.D.
Hexabromodiphenyl ether	mg/kg	With reference to IEC 62321-6:2015 (Determination of PBBs and PBDEs by GC-MS)	5	N.D.
Heptabromodiphenyl ether	mg/kg	With reference to IEC 62321-6:2015 (Determination of PBBs and PBDEs by GC-MS)	5	N.D.
Octabromodiphenyl ether	mg/kg	With reference to IEC 62321-6:2015 (Determination of PBBs and PBDEs by GC-MS)	5	N.D.
Nonabromodiphenyl ether	mg/kg	With reference to IEC 62321-6:2015 (Determination of PBBs and PBDEs by GC-MS)	5	N.D.
Decabromodiphenyl ether	mg/kg	With reference to IEC 62321-6:2015 (Determination of PBBs and PBDEs by GC-MS)	5	N.D.

NOTE: (1) N.D. = Not detected, (<MDL)  
 (2) mg/kg = ppm  
 (3) MDL = Method Detection Limit  
 (4) - = No regulation  
 (5) Negative = Undetectable / Positive = Detectable  
 (6) \*\* = Qualitative analysis (No Unit)  
 (7) \* = a. The sample is positive for CrVI if the CrVI concentration is greater than 0.13 ug/cm2. The sample coating is considered to contain CrVI.  
 b. The sample is negative for CrVI if CrVI is n.d. (concentration less than 0.10 ug/cm2). The coating is considered a non-CrVI based coating.  
 c. The result between 0.10 ug/cm2 and 0.13 ug/cm2 is considered to be inconclusive - unavoidable coating variations may influence the determination.

符合欧盟RoHS规定

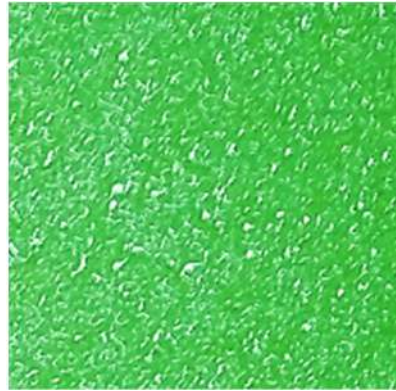
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F401 Version2

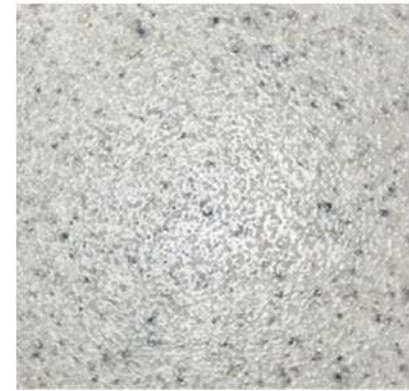
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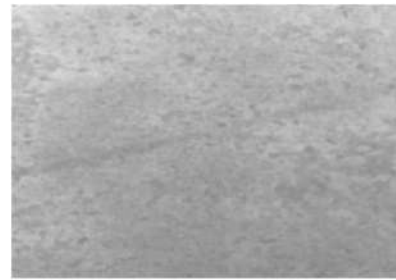
## 半透明的白色，可用于所有的涂料颜色



用于彩色环氧树脂和氨基甲酸酯

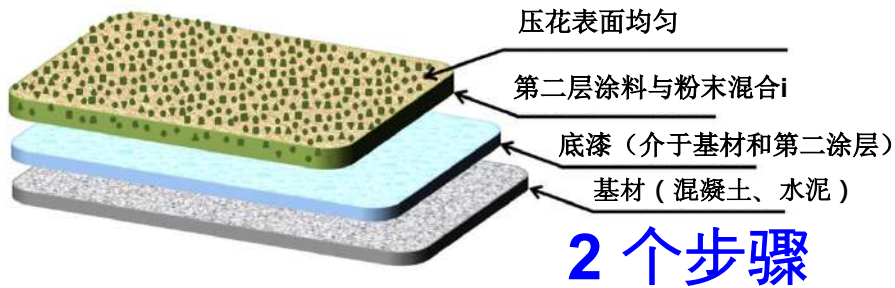


用于透明的环氧树脂和氨基甲酸酯



用于基础底板的颜色

## 粉末防滑涂层工艺

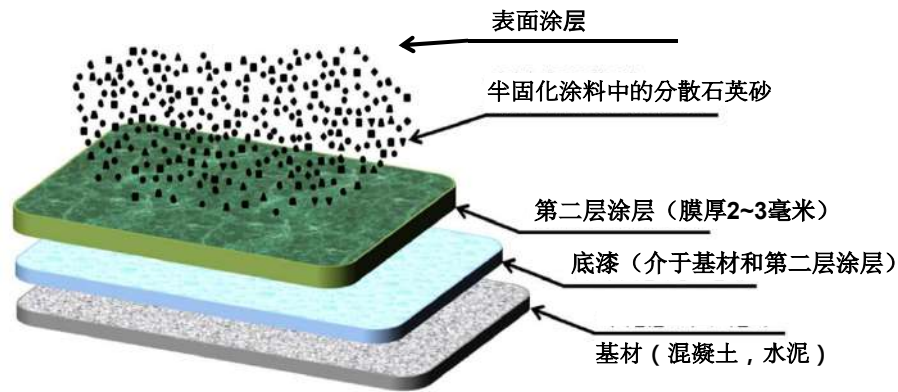


- 2. 第用混合粉末进行二次涂覆
- 1. 底漆（可选择使用顶层清漆）

### “2层涂层”



## 石英砂防滑涂装工艺

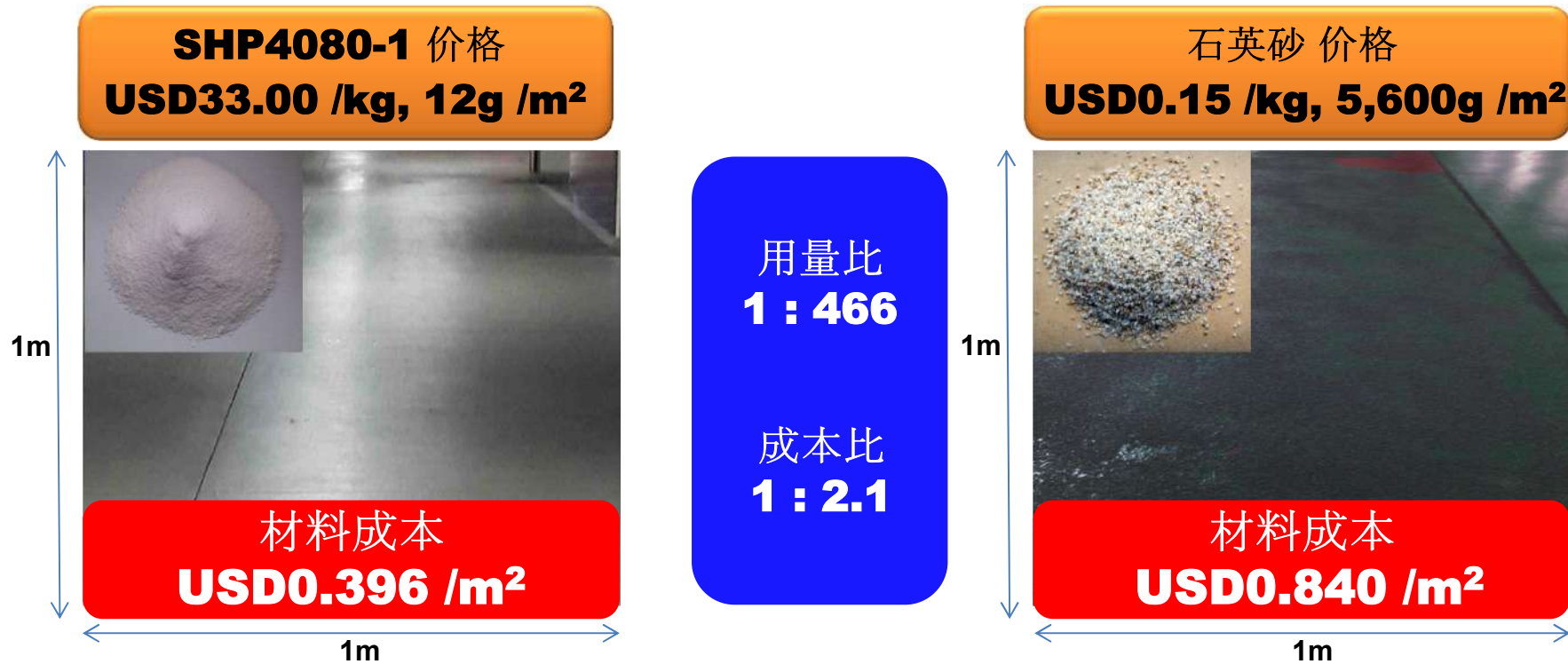


### 5个步骤

1. 底层涂料
2. 第二涂层 2~3mm
3. 人工撒石英砂
4. 去除不粘结的石英砂
5. 表面涂层 [必须]



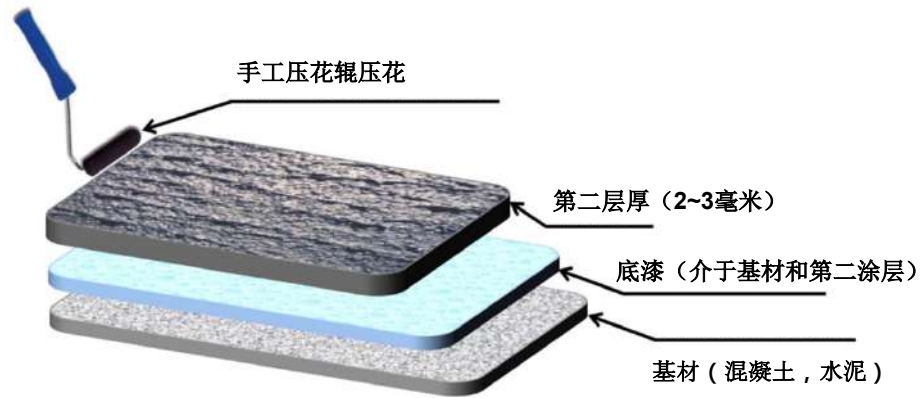
## SHP4080-1 比石英砂便宜53%



**SHP4080-1 对 石英砂  
每平方米材料的成本比较**



## 压花辊防滑涂料工艺



### 3个步骤

1. 底漆
2. 第二涂层  
2~3mm
3. 手工压花辊压花



大而均匀的压花

## 防滑地板涂料的成本比较

[Unit : USD]

成本/m2		环氧体系使用 石英砂	环氧体系使用 防滑粉末涂料	底漆上使用 环氧涂层	底漆上使用 防滑粉末涂料
材料成本 /m2	环氧底漆	0.60	0.60	0.60	0.60
	中间涂层 (面漆)	6.40 (2.0 T)	6.40 (2.0 T)	0.96 (0.3 T)	0.96 (0.3 T)
	面漆 (面漆)	0.32 (0.1 T)	0.32 (0.1 T)	-	-
	更薄的	0.04	0.04	0.04	0.04
	石英砂	0.84	-	-	-
	防滑粉	-	0.396*		0.396*
材料成本/m <sup>2</sup>		8.20	7.756	1.60	1.996
人工成本/m <sup>2</sup> (涂1000m <sup>2</sup> 的基础上)		5.00	4.00	2.00	2.00
总涂装成本		13.20	11.756	3.60	3.996
比较成本的百分比		100%	89.1%	27.3%	30.3%

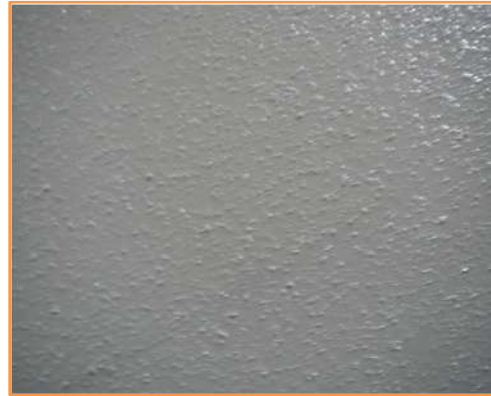
上述数据是平均值，不应被解释为标准。

★ 按照5%比例掺入  
SHP4080-1 小卖价格 :USD33.00/kg

# 参考I

*FloorGrain™* SHP4080-1

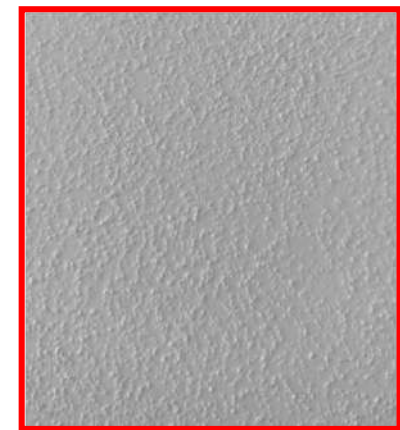
韩国清州市 2012年，使用SHP4080-1的防滑涂料



# 参考 II

Floor Grain™ SHP4080-1

## 2015年，UNIVESIADE GWANGJU 用于各楼层和游泳池楼梯的 SHP4080-1 防滑涂料



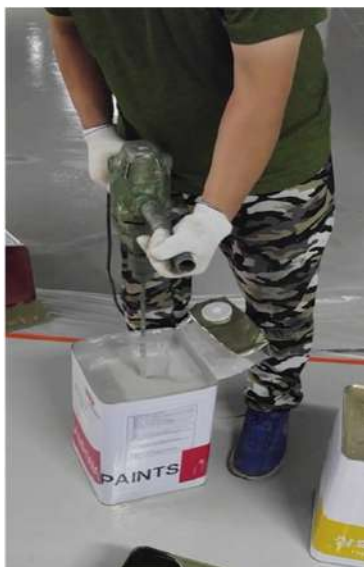
# 参考 III

*FloorGrain™* SHP4080-1



在 **Naju Innovation City** ,  
**5层停车场**

总**防滑涂料**涂装**面积**  
**40,000m<sup>2</sup>**



## 级别，添加比例和附加的表层清漆

级别	平均粒径范围	应用实例	在油漆或涂料中的添加比例 (主剂 + 硬化剂)	表层清漆
<i>Fine</i> <b>SHP8015-1</b>	120~170 微米	浴室地板 直接接触赤脚或者皮肤	4~8 % 重量比	不需要
<i>Medium</i> <b>SHP4080-1</b>	250~300 微米	停车场, 人行道	4~8 % 重量比	不需要
<i>Large</i> <b>SHP1530-2</b>	390~490 微米	有油的潮湿地板	7~9 % 重量比	建议使用
<i>Extra Large</i> <b>SHP1530-1</b>	530~630 微米	有稠油的潮湿地板和甲板	9~11 % 重量比	建议使用

★上述指南仅仅是一份指导说明，用户可以通过简单测试和经验就能轻松发现它们各自的用途。

★在快干油漆或快速固化涂料中使用FloorGrain或其他防滑粒子时，颗粒可能会结块。所以当使用快速固化油漆或涂料时，建议在标准的固化时间内涂刷标准的添加有FloorGrain的表层漆。



联系方式

*FloorGrain*<sup>TM</sup> **SHP4080-1**

*FloorGrain*<sup>TM</sup>

*Non-slip, Anti-noise, Extended Coating Life, Simple Process, Low Cost*

Videos on You Tube

Non-slip Coating Process with *FloorGrain*<sup>TM</sup> <https://youtu.be/9edqTGDc758>

Anti-noise Effect of *FloorGrain*<sup>TM</sup> <https://youtu.be/AIORfs0PX40>

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