

# *Floor Grain*<sup>TM</sup> *Medium SHP4080-1*

NON-SLIP ADDITIVE  
Professional Grade

## Key Benefits

- Non-Slip effect
- Anti-Noise effect  
that eliminates tire squeal
- Excellent abrasion resistance  
& Extended coating life
- Matte finish & Easy to clean
- Cost saving

## Product Description

### *FloorGrain™ Medium* SHP4080-1

thermoplastic high molecular weight polymer powders are designed for use as an additive in **paints and coatings** for high performance flooring applications.

This unique very high molecular weight polymer powder material exhibits exceptional mechanical toughness & chemical resistance.

### *FloorGrain™ Medium* SHP4080-1

can be used in a wide variety of painting system such as epoxy, polyurethane, acrylic and water borne paint formulations.

## Features

*FloorGrain™ Medium* SHP4080-1 offers a unique combination of properties :

- Uniform surface finish
- Excellent non-slip & anti-noise effect
- No fall out of the powder from paint
- Durable surface (abrasion and impact resistance)
- Semi-transparent clear white that can be used in all paint colors
- Easy to clean
- Ease of application by roller, brush, or spray gun
- No extra steps for application
- Extended coating life
- Cost saving compared to other additives or techniques

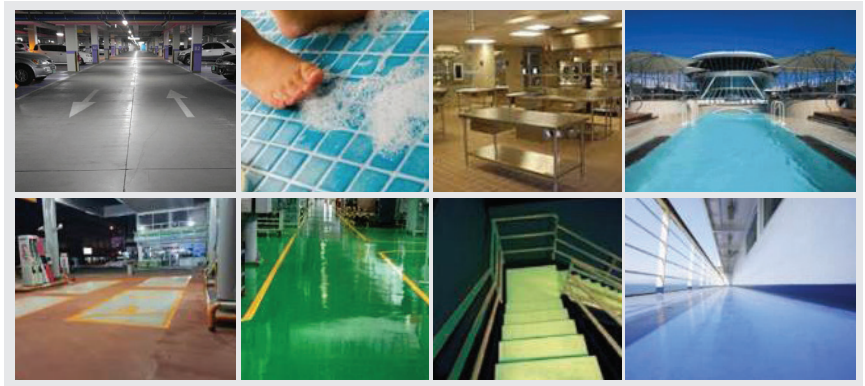
*FloorGrain™ Medium* SHP4080-1 polymeric powder additives can be easily dispersed with normal standard paint mixing equipment. There is little or no change in viscosity and no reaction with paint and coating formulations.



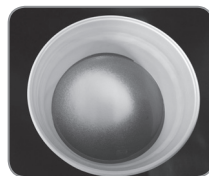
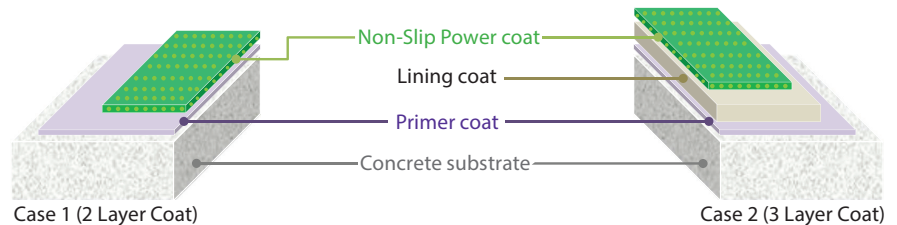


## Broad & Various Applications

- Parking garages & heavy duty industrial flooring
- Outdoor & Indoor flooring paint
- Swimming pool & bathroom's floor
- Kitchen flooring
- Gas station flooring
- Marine & ship's floor, stairs and deck



## Simple 2~3 Layers Application Method



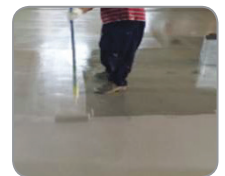
### Step 1. Adding

Add *Medium* SHP4080-1 powder into paint (epoxy, urethane etc.) before mixing with hardener



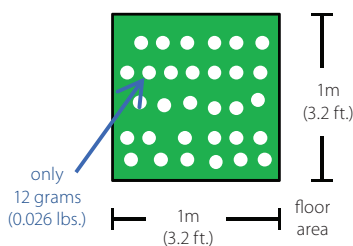
### Step 2. Mixing

Just needs stirring



### Step 3. Painting

Standard equipment can be used for rolling, brushing or spraying



## Coverage

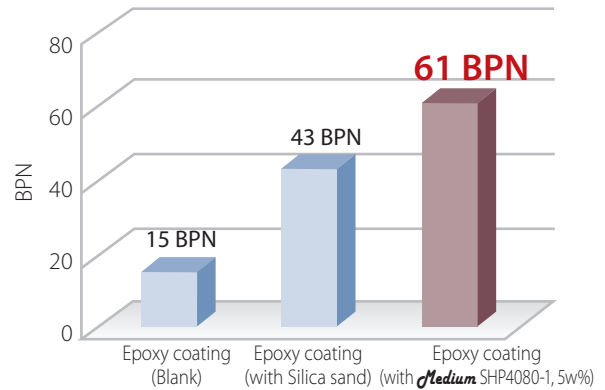
Just add 5~7 % by weight of *Medium* SHP4080-1 into the paint and mix.

Coverage Example: 5% by weight of *Medium* SHP4080-1

1 kg (2.5 lbs.) of *Medium* SHP4080-1 in 20 kg (5 gallon) of a typical paint formulation covers 80 m<sup>2</sup> (1,033 ft<sup>2</sup>)

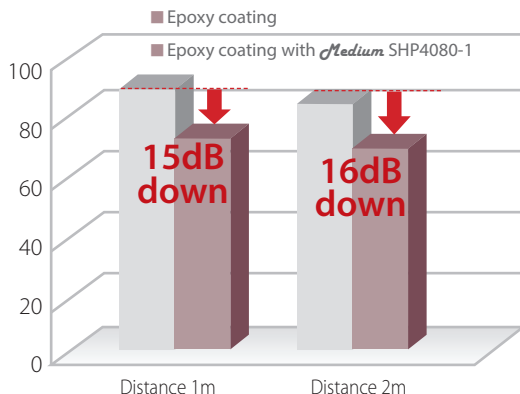


## Slip Resistance on Epoxy Coating Floor



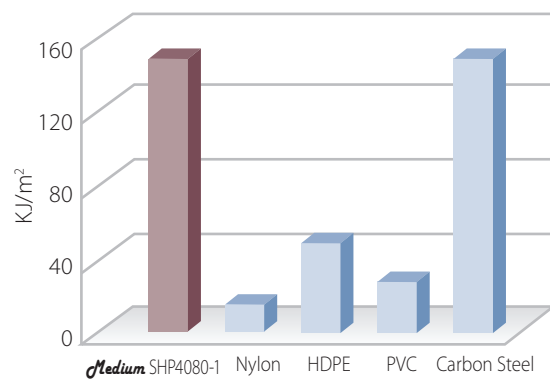
Test Method : KS F 2375  
BPN=British Pendulum Number

## Anti-Noise Effect



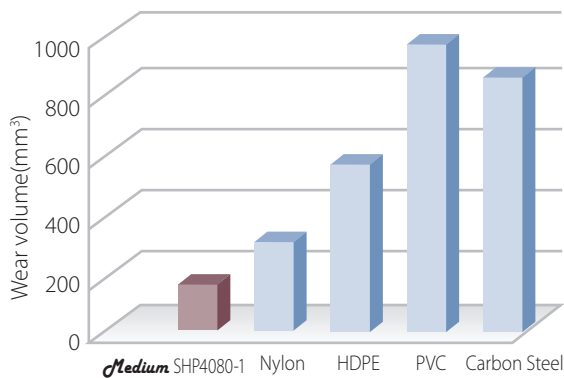
Test Method : HH method

## Impact Resistance

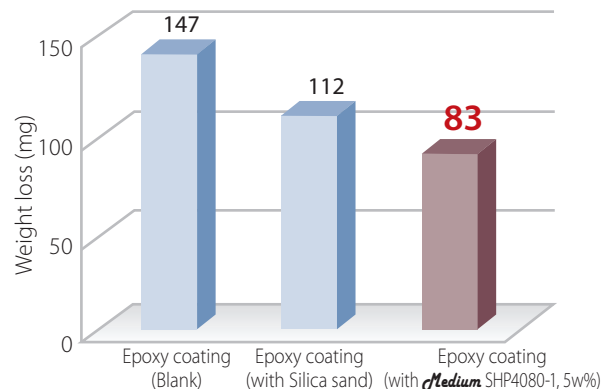


Test Method : ASTM D256  
Izod Impact Test

## Abrasion Resistance of *Medium* SHP4080-1



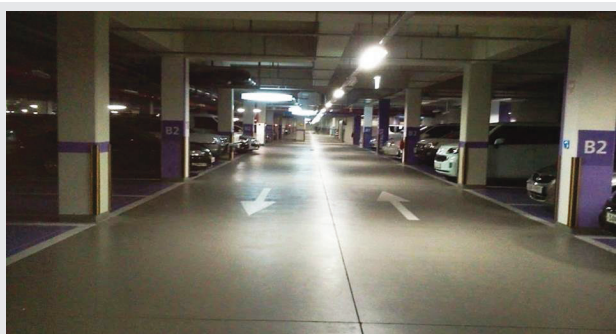
Test Method : HH method  
Sand Slurry Test



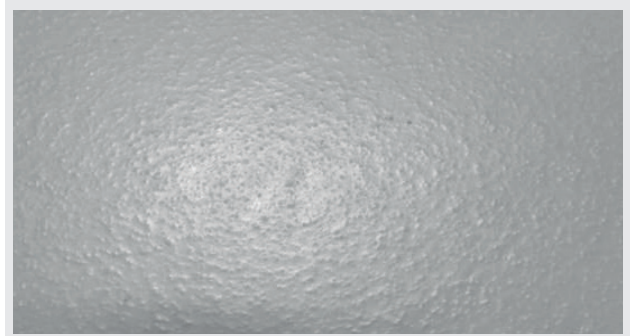
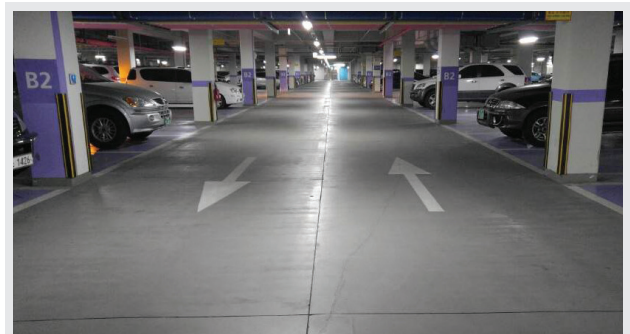
Epoxy Coating Floor  
Test Method : ASTM D4060(CS-17, 1,000g, 1,000cycle)

## Extended Coating Life

Just after coated (June. 2012)



4 years after coated (June. 2016)

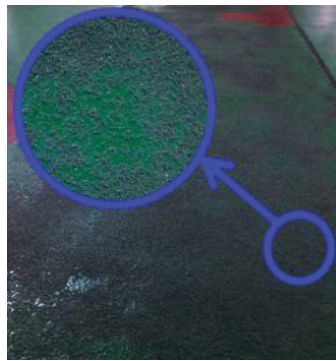


Heavily traveled crossroads show some epoxy coating wear. However, there is no fallout of anti-slip particles from the remaining epoxy coating. Coating aesthetics and anti-slip performance nearly the same as it was 4 years earlier.

## Comparison of non-slip floor coatings



Medium SHP4080-1

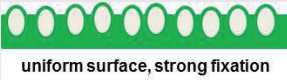




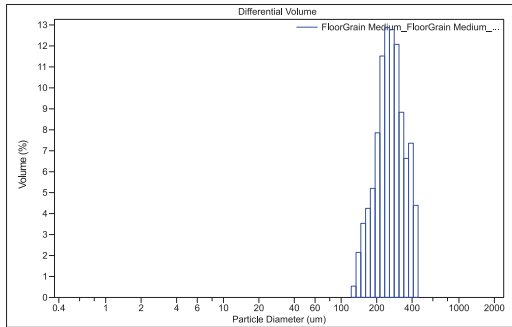
Silica Sand



Emboss Roller



Features	<ul style="list-style-type: none"> <li>• Specific gravity : 0.95</li> <li>• No fall out of the polymer powder from paint</li> <li>• Excellent non-slip &amp; anti-noise effect</li> <li>• Low cost</li> </ul>	<ul style="list-style-type: none"> <li>• Specific gravity : 2.7</li> <li>• Easy fall out of the silica sand from paint</li> <li>• Need a large volume of paint</li> <li>• Possibility of abrasion of the skin when contact to the rough &amp; sharp surface</li> </ul>	<ul style="list-style-type: none"> <li>• Low non-slip &amp; anti-noise effect</li> <li>• Need a large volume of paint (thick &amp; high viscosity)</li> <li>• Inefficient coating process due to the limits of area for coating</li> </ul>
Workability	<ul style="list-style-type: none"> <li>• Simple coating process</li> <li>• No need extra process &amp; special equipments (roller, spray, airless gun)</li> <li>• Short lead time</li> </ul> <ol style="list-style-type: none"> <li>1. Primer coating</li> <li>2. Non-Slip coating</li> </ol>	<ul style="list-style-type: none"> <li>• Complicated coating process</li> <li>• Long lead time</li> </ul> <ol style="list-style-type: none"> <li>1. Primer coating</li> <li>2. Middle coating</li> <li>3. Scattering of silica sand</li> <li>4. Removal of silica sand</li> <li>5. Top coat</li> </ol>	<ul style="list-style-type: none"> <li>• Complicated coating process</li> <li>• Long lead time</li> <li>• Need special embo roller</li> </ul> <ol style="list-style-type: none"> <li>1. Primer coating</li> <li>2. Middle coating</li> <li>3. Embo rolling</li> </ol>
Durability	<ul style="list-style-type: none"> <li>• Long-term performance and durability (abrasion &amp; impact resistance)</li> </ul>	<ul style="list-style-type: none"> <li>• Short-term durability</li> <li>• Need maintenance (re-coating)</li> </ul>	<ul style="list-style-type: none"> <li>• Mid-term durability</li> </ul>
Surface Characteristics	<ul style="list-style-type: none"> <li>• Uniformly embossed surface (narrow particle size distribution)</li> </ul>  <p>uniform surface, strong fixation</p>	<ul style="list-style-type: none"> <li>• Nonuniformly embossed surface</li> <li>• Excessively rough surface</li> </ul>  <p>non uniform &amp; sharp surface</p>	<ul style="list-style-type: none"> <li>• Nonuniformly embossed</li> <li>• Large &amp; deep surface</li> </ul>  <p>non uniform &amp; coarse surface</p>
Cleaning Characteristics	<ul style="list-style-type: none"> <li>• Easy to clean (homogenized embo surface)</li> </ul>	<ul style="list-style-type: none"> <li>• Difficult to clean</li> <li>• Easy contamination on the surface</li> </ul>	<ul style="list-style-type: none"> <li>• Difficult to clean</li> <li>• Easy contamination on the surface</li> </ul>
Total Cost Comparison	<b>30%</b>	100%	83%



Narrow particle size distribution

## Surface Characteristics

Acceptable for a wide choice of non-slip floor flooring products. Provides a durable non-slip and anti-noise effect as a result of the very high molecular weight polymer powders.

Provides a uniform surface finish as a result of **Medium SHP4080-1** narrow particle size distribution. Narrow particle distribution provides visual evenness that imparts the look of quality while hiding imperfections on the painted surface.

## Mechanical & Chemical Characteristics

- Excellent abrasion and scratch resistance
- Significantly improved impact resistance
- No chipping
- Excellent chemical resistance

## Physical Properties of **Medium SHP4080-1**

Property	Test Method	Unit	Test Value
Melt Index (190 °C / 2.16kg)	ISO 1133 ASTM D1238	g/10min	< 0.1
Density	ISO 1183-3 ASTM D1505	g/cm <sup>3</sup>	0.950
Mean Average Volume Weighted Particle Size	Laser Diffraction	µm	275
Powder Bulk Density	ISO 60 ASTM D1895	g/cm <sup>3</sup> lb/ft <sup>3</sup>	0.45 28.1
Tensile Strength	ASTM D638	kg/cm <sup>2</sup>	> 300
Elongation	ASTM D638	%	> 500
Powder shape	-	-	Solid Rounded Particle

The above data and results obtained are average values from laboratory testing and are not to be construed as specifications.

# Floor Grain™

## Medium SHP4080-1

offers a unique combination of properties

- ✓ Excellent non-slip & anti-noise effect
- ✓ Durable surface (abrasion and impact resistance)
- ✓ No fall out of the powder from paint
- ✓ Extended coating life
- ✓ Uniform surface finish
- ✓ Easy to clean
- ✓ Semi-transparent clear white that can be used in all paint colors
- ✓ Ease of application by roller, brush, or spray gun
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- There is little or no change in viscosity and no reaction with paint and coating formulations.



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