Chameleon Pigment

Properties：

iSuoChem® Chameleon series Pearlescent Pigment is manufactured by coating homogeneous multi-layer metal oxides on high-quality synthetic mica or borosilicate with narrow particle size distribution and high radius-thickness ratio. Multi-layer coating technique is applied and the whole processes are precisely controlled, finally forming striking visual effect and color changing. This type of pigment generates unique optical illusions, showing multi-colors at different viewing angles with strong mirror effect.

Features:

1. Use well-chosen, high quality synthetic mica or borosilicate as substrate.
2. Bright color-changing effects
3. Pure and fresh color shade
4. Precise control of coating process
5. Environmental-friendly, nontoxic, harmless to human bodies.

Applications:

1. Paint: decorative paint, automobiles, home appliances, toys, leather, etc.
2. Ink: For gravure ink, offset ink, screen printing ink, packaging ink, anti-counterfeiting ink and flexo ink.
3. Cosmetics: eyeshadow, nail polish, nail art, markup, etc.
4. Coating on any material of products.

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Chameleon Pigment Color list

iSuoChem® Three-color series

Code	Transparent color	Code	Solid color
02S045K	Gold/Red/Violet	02S045K	Gold/Red/Violet
03S045K	Red/Violet/Blue	09S045K	Brown/Red/Violet
11S045K	Green/Blue/Violet	10S045K	Red/Blue/Green
04S045K	Violet/Blue/Green	12S100CK	Green/Yellow/Orange
05S045K	Blue/Green/Gold	14S100CK	Red/Green
08S045K	Gold/White/Red	07S100K	Green/Gold
06S100K	Green/Gold/Red		

iSuoChem® Four-color series

Code	Transparent color	Code	Solid color
1S180X	Cyan/Blue/Purple/Red	1S80X	Cyan/Blue/Purple/Red
2S180X	Blue/Purple/Red/Orange	2S80X	Blue/Purple/Red/Orange
3S180X	Indigo/Purple/Red/Orange Yellow	3S80X	Indigo/Purple/Red/Orange Yellow
4S180X	Mauve/Red/Orange/Yellow	4S80X	Mauve/Red/Orange/Yellow
5S180X	Red/Orange/Yellow/Kelly	5S80X	Red/Orange/Yellow/Kelly
6S180X	Golden/Kelly/Green/Blue	6S80X	Golden/Kelly/Green/Blue
		7S80X	Green/Blue/Purple/Red

Specifications:

Particle Size available: 5-25um, 10-45um, 30-120um, 80-180um, 100-260um, etc.

See TDS of each series.

Color available: see iSuoChem® color list.

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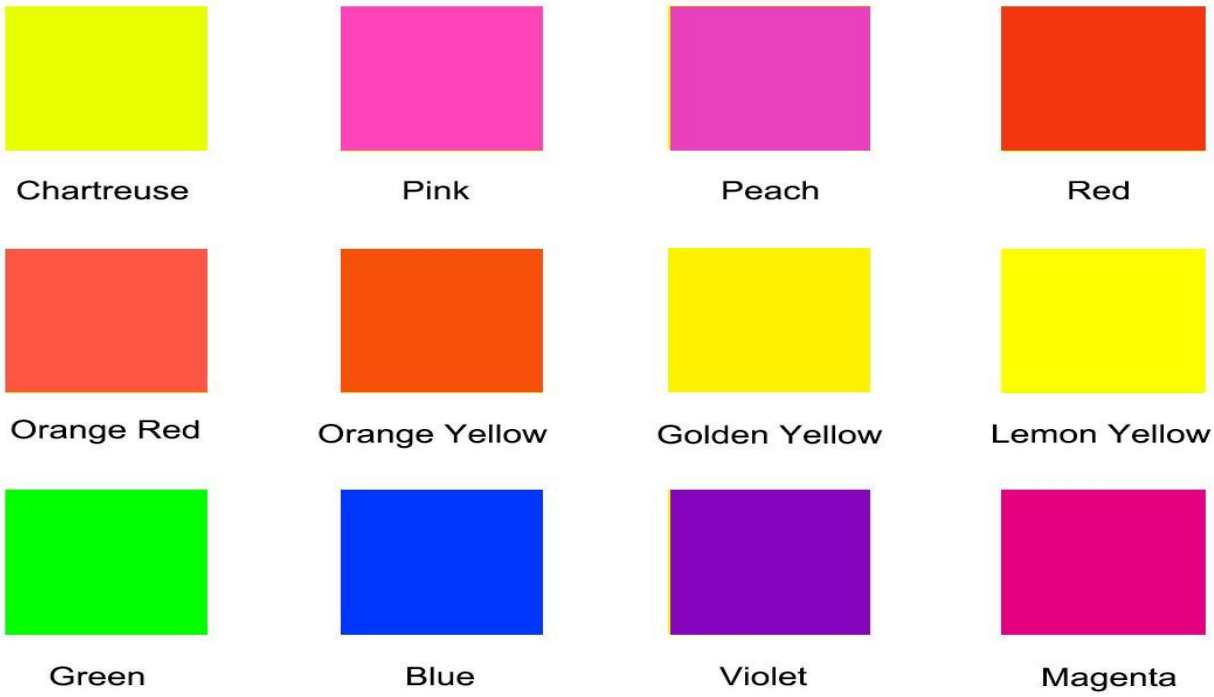
Fluorescent pigment

Description

iSuoChem® Fluorescent pigments have the incomparable vividness and brightness of ordinary pigments, which are three times higher than traditional pigments under ordinary light, and still have very good effects under low light conditions. Can be widely used in coatings, paints, inks, plastics, printing, textiles and other industries.

Main color



Type Features and recommend application

1. **AP Series:** Micro Sphere shapes, Thermoset resin, High temperature resistance, High light-fastness, Universal in various applications.

Suitable for both solvent-based and water-based applications.
Such as Paints, inks and silkscreen painting inks, textile printing inks, Paper coatings, powder coatings, aerosol paints, Nail polish, waxes, candles, balloons, leather, rubber/latex, EVA and all kinds of masterbatches &plastics coloring. (Low plate-out in PP/PE/PVC extrusion, injection molding, blow molding & film blowing)

2. **AH series:** Thermo-plastic polyamide resin base, Formaldehyde free, High temperature resistance.

Suitable for high temperature extrusion, injection molding, blow molding, film blowing in various masterbatches & plastic, such as PP, PE etc.
Min processing temp: 160℃ Max processing temp: 260℃

3. **AM series:** Formaldehyde-free, thermoplastic polyester resin base, For middle and high temperature plastic.

Suitable for extrusion, injection molding, blow molding, film blowing in various plastics, such as PP and PE ect. Especially recommend for masterbatch coloring, plastic-wire drawing.
Min processing temp: 150℃ Max processing temp: 240℃

4. **AL series:** Solid solution of dyestuffs in a thermoplastic resin, for low temperature plastic.

Especially recommended for processes, such as extrusion, injection molding, film blowing in various masterbatches & plastic, such as PP, PE and PVC etc.
Min processing temp: 120℃ Max processing temp: 190℃

5. **AB series:** thermosetting resin base. Water base system. Heat resistance: 130℃

Textile printing color paste, water-based coatings, paper coatings, water-based and nonpolar solvent-based paints.

6. AT series: thermosetting resin base, Solvent resistant. Heat resistance: 150℃

Solvent-based paints and inks, screen inks, solvent-based gravure inks, paper printing inks and paper coatings, powder paints, aerosol paints, waxes and candles.

Package:
10kg/bag or15kg/bag or 25kg/bag (Composite paper bag lined with PE flim)
50 bags/wooden pallet

Thermochromic Pigment

Other names:
Temperature sensitive pigment, temperature changing material, thermochromic powder.

Description
iSuoChem™ Thermochromic pigment is developed by micro-encapsulation technology. It adopts temperature sensitive microcapsules to encapsulate dye and enable color change by temperature rising or falling in a certain range. It can be used repeatedly. It can change color quickly and the color could be fresh and vivid. It has good solvent resistance and dispersion. The color change could be reversible or irreversible.

Through shrinking and expanding of the microcapsules, it will change color by 3 ways:
1) It shows color by temperature rising and hides color by temperature falling.
2) It changes from one color to another.
3) It changes from colorful to colorless.

Characteristics
Particle size: 3 – 10um.

Base Temperature: 5℃, 10℃, 16℃, 31℃, 33℃, 43℃, 45℃, 50℃, 65℃.
The highest temperature resistance is about 200℃ - 230℃ (less than 10 minutes).

Base color

Golden	Grass green	Water blue
Orange red	Golf green	Dark blue
Vermilion	Dark green	Sea blue
Red	Green	Sapphire
Pink	Peacock green	Violet
Rose red	Turkish blue	Purple blue
Purple	Sky blue	Black

Tips
Storage: It is light fugitive. Sealed packaging and storing in cool & dry conditions are required. For ocean transportation, freezing container is preferred.

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Application

Thermochromic Paint: Suitable for all kinds of plastic products, surface coating. Including ABS, PE, PP, PS, PVC, EVA and other plastic materials.

Thermochromic Ink: suitable for all types of printing, coated screen, gravure and letterpress print, can be printed on all kinds of materials, including textiles, paper, synthetic film, glass, ceramics and wood.

Thermochromic Plastic: high color concentration of the common grade masterbatch can be mixed with PE, PP, PS, PVC, EVA, PET, and Nylon for injection or extrusion process.

Other Applications: Can be used for yarn, fabric, leather, ceramic, decoration, etc.

Recommend dosage

Water-based ink or paint	Oil-based ink or paint	Plastic injection or extrusion
2% ~ 30% W/W	2% ~ 30% W/W	2% ~ 30% W/W

Leather

Ceramic

Fabric

Plastics

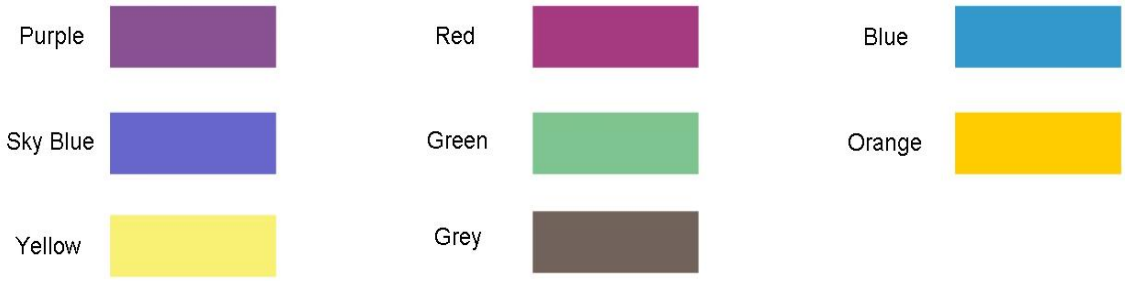
Photochromic Pigment

Other names:
Light sensitive pigment; photosensitive color material; light powder
Photosensitive discoloration material; sunlight coloring pigment.

Description
iSuoChem™ Photochromic pigment is a new product developed by micro-encapsulation technology. It adopts UV-sensitive microcapsules to encapsulate pigment and enable color change below UV light. Through shrinking and expanding, the pigment or its downstream products will show color under sunlight or UV light and hide the color after leaving sunlight or UV light. It can be used repeatedly. It can change color quickly and no residual color after changing.

Basic color: Red, yellow, blue, purple.

Other color: Purple, sky blue, green, grey, orange, rose red etc. We can also customize color as your request.



Characteristic
Average particle size: 3 -10 microns; 3% moisture content; heat resistance: 225℃;
Good dispersion; good weather fastness.

Remark
Prolonged exposure to strong ultraviolet light can lead to damage to microcapsules, and influence the effect of color change.

Suggested usage amount

Water-based ink/paint	Oil-based ink/ paint	Plastic injection/ extrusion
3%~30% W/W	3%~30% W/W	0.2%~5% W/W

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Application

It can be used for textiles, clothing printing, shoe materials, handicrafts, toys, glass, ceramic, metal, paper, plastic, etc.

Tips

1. Substrate selection: PH value of 7 ~ 9 is the most suitable range.

2. Excessive exposure to UV light, acid, free radicals or over humidity could lead to light fatigue. It is generally recommended to add UV absorbers and antioxidants to improve light fatigue resistance.

3. Additives like HALS, antioxidants, heat stabilizers, UV absorbers and inhibitors can improve light fatigue resistance, but a wrong formulation or unsuitable selection of additives could also accelerate light fatigue.

4. If condensation happens in the water emulsion with photochromic pigment, it is recommended to heat and stir, then reuse after dispersing.

5. Photochromic pigment does not contain harmful substances to humans. It conforms to the safety regulation of toys and food packaging.

Optical Variable Pigment (OVP)

Introduction:

iSuoChem® Optical Variable Pigment is one of the most fashionable and high-end pigment. It offers brilliant color change effect like natural soap bubbles or butterfly wings. It is formed by thin film interference, which is different from the conventional chameleon pearlescent pigments. Optical Variable Pigment is composed by multi-layer optical nano-films. The special film structure forms strong interference color and high gloss effect. It can achieve obvious dynamic color change and metallic luster. Based on the uniqueness of product manufacturing and gorgeous color change characteristics, it is widely used in banknotes, automobiles, home appliances, cosmetics, anti-counterfeiting packages, etc.

Applications:

Paint: decorative paint, automobiles, home appliances, toys, leather, etc.
Ink: For gravure ink, screen printing ink, packaging ink and anti-counterfeiting ink.
Cosmetics: eyeshadow, nail polish, nail art, markup, etc.
Coating on any material of products.

Properties:

It shows different colors seeing from different viewing angles. The color range is wider than normal.
Non-toxic, odorless, environment friendly, excellent weather resistance；
Safety: It can’t be reproduced by duplication machine, scanner and other equipment.
Easy: It has a simple identifiable feature that meets the requirements of public identification.

Advantages:

iSuoChem® HC series: Super shinning; High vivid color, Good hiding power, Good saturation; Wider color change range; Good durability.
iSuoChem® HT series: High Transparency; Heavy metal free. Combined with different base color, it shows thaumaturgic color effect.
iSuoChem® H3D series: Super shinning color with magnetic; According to the distribution of magnetic field lines, it shows strong dynamic color change effect and 3D visual effect. It represents the latest high tech product in optical fields.
iSuoChem® Cosmetic series: heavy metal free and pathogenic bacteria free, safe for skin.

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Optical Variable Pigment (OVP)

iSuoChem® HC series

Code	Color	Code	Color
HC01	Gold/Green/BLUE	HC10	Bronze/Green/Blue
HC02	Purple/yellow/ Green	HC11	Purple/ Red
HC03	Purple/Copper/ Rose Red	HC12	Violet /Gold
HC04	Rose red/ Gold/ Green	HC13	Purple/ Dark blue
HC05	Green/ Gold	HC14	Brown/ Red
HC06	Green/Yellow	HC15	Black/Red
HC07	Green/Grey/Violet	HC16	Grass green/ yellow
HC08	Green/Gold/Blue	HC17	Purple/kingfisher/Blue
HC09	Gold/Green	HC18	Fuchsia/ Gold

iSuoChem® HT Series

Code	Color	Code	Color
HT04	Orange/Gold/ Green	HT03	Green/Blue/ Purple
HT05	Orange/Violet/Green	HT14	Blue/ Purplish Red
HT06	Red/Yellow/Green	HT07	Purplish blue/Orange

iSuoChem® H 3D Series

HC Series can make into 3D color.

iSuoChem® Cosmetic Series

Code	Color	Code	Color
Wonderland H2205S	Gold/Green/Blue shift	Wonderland H2223S	Blue-Sapphire shift
Wonderland H2217S	Orange/Gold shift	Wonderland H2224S	Royal Blue/Sapphire shift
Wonderland H2215S	Red/Gold shift	Wonderland H2235S	Emerald/Blue/Violet shift
Wonderland H2218S	Violet/Gold/Green shift		

Specifications:

Particle Size available: 5-25um; 10-60um,20-100um, 200-300um etc. See TDS of each series.

Color available: see iSuoChem® color chart.

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Reflective Pigment

Other names:
Reflective powder, high shining glass beads, high index glass beads

Reflective mechanism:
When the light irradiates on the microbeads, it is concentrated on the special reflective layer of the microbeads due to the high refraction effect of the microbeads. And the reflective layer of microbeads re-reflects the light to the vicinity of light source through the transparent microbeads, so that strong reflected light can be seen at the light source. When the refractive index of the microbeads is over 1.9IOR, a good retroreflective effect can be formed.

Usage:
iSuoChem® Reflective powder has the characteristics of retroreflective reflection and thus produces a strong retroreflective effect without external power supply. It can be widely used for the following applications:
1. Reflective fabric, reflective film, reflective signs, advertising materials
2. Reflective coatings, reflective paints.
3. Textile, apparel materials, shoes & hats, school bags, rescue products (water, land and air).
4. Safety signs for roads, ports, mines, firefighting, etc.

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High Index Glass Beads

Specifications:

High Shining White Series

Code	Size	Gravity	Reflection Performance (cd.lx-1.m2) 0.2/5	Observation angle / Incident angle 1.0/5
HW1520	150-200 mesh	4.2mt/m³	530（≥450）	46.3
HW2030	200-300 mesh	4.2mt/m³	488（≥400）	44.7
HW3035	300-350 mesh	4.2mt/m³	402（≥330）	38
HW3540	350-400 mesh	4.2mt/m³	330（≥250）	41.2
HW4050	400-500 mesh	4.2mt/m³	260（≥200）	47.8
HW5070	500-700 mesh	4.2mt/m³	102（≥50）	52.2
HW6080	600-800 mesh	4.2mt/m³	102（≥50）	52.2

Silver Grey Series

Code	Size	Gravity	Reflection Performance (cd.lx-1.m2) 0.2/5	Observation angle / Incident angle 1.0/5
AG1520	150-200 mesh	4.2mt/m³	530（≥450）	46.3
AG2030	200-300 mesh	4.2mt/m³	488（≥400）	44.7
AG3035	300-350 mesh	4.2mt/m³	402（≥330）	38
AG3540	350-400 mesh	4.2mt/m³	330（≥250）	41.2
AG4050	400-500 mesh	4.2mt/m³	260（≥200）	47.8
AG5070	500-700 mesh	4.2mt/m³	102（≥50）	52.2

High Shining Silver Grey Series

Code	Size	Gravity	Reflection Performance (cd.lx-1.m2) 0.2/5	Observation angle / Incident angle1.0/5
HG2030	200-300 mesh	4.2mt/m³	488（≥400）	44.7
HG3035	300-350 mesh	4.2mt/m³	402（≥330）	38
HG3540	350-400 mesh	4.2mt/m³	330（≥250）	41.2
HG4050	400-500 mesh	4.2mt/m³	260（≥200）	47.8

More colors for your choice: Red, orange, yellow, blue, Green, Pink, etc.
Size range is 300-400mesh or as customer's request.

Other types of glass beads for your choice:

High refractive index glass beads for Road marking
Rainy night reflective glass beads
Colored reflective anti-skid particles
Reflective marking paint (Liquid reflective film)

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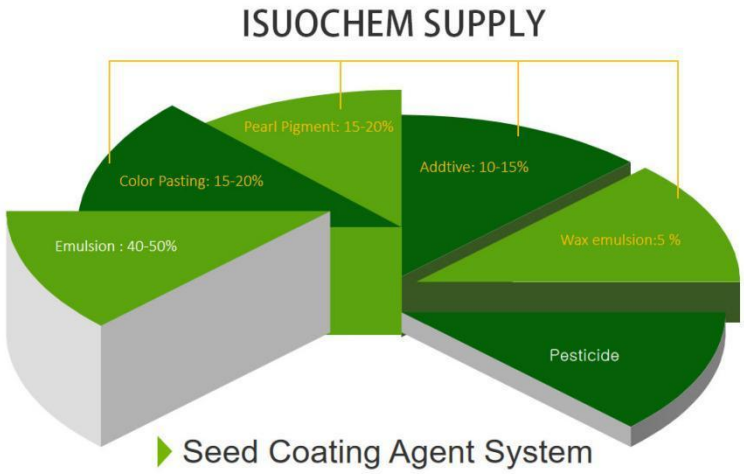
Seeds Coating

iSuoChem® focus on one-stop supply of seeds coating colorants, **Pearlescent Pigment**, **Color paste, Wax Emulsion** and **Additives**.



Technical indicators

Fastness:
Increase the film-forming property of seeds coating and effectively prevent the coating from falling off.
Suspension:
Special additives can effectively improve the suspension performance of the film-forming agent and prolong the storage period.
Safety:
Adopt "bio-based" system, green and environmental protection.

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Pearlescent Pigment

iSuoChem® Code	Color	Particle size	Recommend dosage
AS100	Silver White	10-60um	15-20%
AS103	Silver White	10-60um	15-20%

Color Paste

iSuoChem® Code	Color	CAS NO	Solid Content
SDO 13	P.O 13P.	3520-72-7	42%
SDG 7	G 7	1328-53-6	45%
SDB 15	P.B 15P.	147-14-8	42%
SDR 112	R 112P.	6335-46-2	50%
SDB 7	B 7	1333-86-4	50%
SDR 2	P.R 2	6041-64-7	40%

Wax Emulsion

Code: Seeds M115

Appearance	White Emulsion
Smell	Light
Wax melting point ℃	115
Solid content %	35-37
PH value	10-13

Additives

Wetting agent

Deformer agent

Dispersing agent

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Soft-touching PU Powder

Brief Introduction

iSuoChem® PU Powder, also called Fluff powders or PU Beads, is cross-linked polyurethane micro beads, with various colors and sizes. It provides high value-added visual and tactile properties for coatings.

Application

PU Powder has rubber elasticity, good heat resistance, solvent resistance, acid and alkali resistance and scratch resistance, and can be widely used in various flat, colored and soft coatings, inks, etc. for wood, hardware, leather, plastic, shoe materials, etc. Cooperate with the same amount of elastic resin to make the coating film have a suede feel. This series of fluff powder can be water-based and oil-based. Water-based paint should be added in an appropriate amount.

Product Features

1. The surface-treated PU powder is evenly dispersed and will not fly and pollute the site.
2. Has excellent solvent resistance and heat resistance.
3. With a variety of colors for your choice, or you can customize special colors.
4. It does not contain poison, heavy metals and volatile substances.
5. Made into paint, the coating film can get a soft and thin feeling.
6. Excellent dispersibility, can be directly dispersed by using agitator and mixer.
7. Diameter of 8μm~100μm can be provided according to customer requirements.
8. Good effect of delustering. Compared with inorganic matting powder, PU powder has better combination with paint and better scratch resistance.

Usage

Generally it's used as an additive. Before use, stir 1 part of PU powder into 2 parts of solvent (Dibutyl ester or xylene) or water for about 10 minutes, and then add this solvent to 1 part of resin. It can be hardened. There are two hardening methods. One is a single-liquid type, that is, no hardener is added, and the other is a two-liquid type with hardening agent. The fluff paint made is added with some anti-settling agents and waxes.

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Soft-touching PU Powder

Products list

Model	Particle size	Appearance	Performance	Application
APU10	About 10μm	1. Transparent 2. White 3. Black 4. Dry powder.	1. Soft & Suede touch. 2. Matting. 3. Sleek. 4. Scratch resistance. 5. Chemical resistance.	1. Wood coatings 2. Plastic coatings 3. Metal coatings 4. Wall coatings 5. Inks 6. Natural and artificial leather
APU20	About 15μm			
APU30	About 30μm			
APU50	About 50μm			
APU80	About 80μm			

Remarks: Fine particles are used for high-end products such as lipstick tube, notebook case, etc. Medium particles are used for leather or PU leather surface, car interiors, etc. Coarser particles are used for tennis racket grips, etc.

Dosage

And the addition amount of PU powder is divided into different purposes and there are different addition amounts. For example, it is used for leather surface treatment to add about 10% to 20%, while for plastic material surface to add about 25-35%, and surface treatment (generally refers to PU leather) to add 5% to 8%. The general purpose of PU powder is mostly to increase its added value.

Tips

1) Scratch resistant not enough?
2) Dry and cracked?
3) Rough surface?
4) Surface blooming?
5) No velvet feeling?

Please email us to get specific solutions and best fluffy effect that you want.

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