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Our suggestions do not relieve our customers of the need to test our products at their own responsibility to establish whether they are suitable for the intended purpose.

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Fujian Kuncai Material Technology Co. Ltd.,
Haicheng Rd., Yuanhong Investment Zone, Fuqing,
ZIP: 350314, China
T: +86 (0) 4001-603826
Mail: deng@fjkuncai.com
<http://www.fjkuncai.com>

Kuncai Americas LLC,
130 E. Wilson Bridge Rd Suite 210, Worthington,
OH 43035, USA
T: +1 (0) 614-547-7424
Mail: customerservice@kuncaius.com
<http://www.kuncaius.com>

Kuncai Europe B.V.
Linie 506, 7325 DZ Apeldoorn, The Netherlands
T: +31 (0) 55-2100000
Mail: customerservice@kuncaeurope.com
<http://www.kuncaeurope.com>

Kuncai International India PVT. Ltd.,
No.04 Malbary Building, Plat no. TP-1, Ganeshwadi,
Thane, ZIP: 400604, India
T: +91 (0) 222 5363 981
Mail: kuncaiinternationalindia@gmail.com
<http://www.fjkuncai.com>

WELL EQUIPPED FOR TOUGH CONDITIONS

Effect pigments for
automotive and
exterior applications

BENEFITS FOR OUR CUSTOMERS

The added value we offer

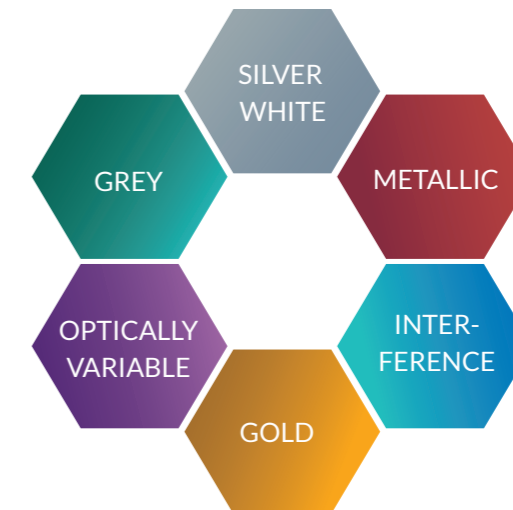
Based on a holistic self-development approach, we focus on being a reliable, solution-orientated, global supplier of effect pigments. This translates into benefits for our customers, more choice and strategic innovation in our application areas.

- Global availability of products
- Local support by global sales network
- Broad range of effect pigments from a single source
- Continuous product innovation
- Future-safe production and technology infrastructure based on our own in-house raw material engineering
- Multi-site production capability
- Outstanding value-in-use ratio due to exceptional product quality
- International experience coupled with the flexibility of a medium-sized company

A GLOBAL ORGANIZATION

On hand where you need us

Kuncai offers a wide range of weatherproof effect pigments based on different substrates. Based on advanced production and process technology, Kuncai offers best-in-class products especially when it comes to color intensity, high chroma and high reflection effect pigment characteristics. We supply special products for demanding outdoor applications, the cosmetics industry and specialized industry applications.



With our global organization present in all major regions of the world, we ensure the global availability of our products for global customers. A local distributor network furthermore supplies products to meet the demand of local customers.



WEATHERPROOF EFFECT PIGMENTS FOR EXTERIOR APPLICATIONS

by Kuncai

Kuncai is one of the leading manufacturers of effect pigments for highly demanding coating applications. Our range of pigments for exterior applications offers superior weathering resistance. By using a multilayer-coating technology and different dedicated surface treatments, we can provide the right choice of pigments for different coating systems. Our range of pigments for exterior use is characterized by a strictly controlled particle size distribution and meets stringent process inspection requirements for accurate and stable color control, weathering resistance and adhesion.

FEATURES OF WEATHERPROOF EFFECT PIGMENTS

High performance effect pigments for exterior application use various substrates such as natural mica and synthetic mica .

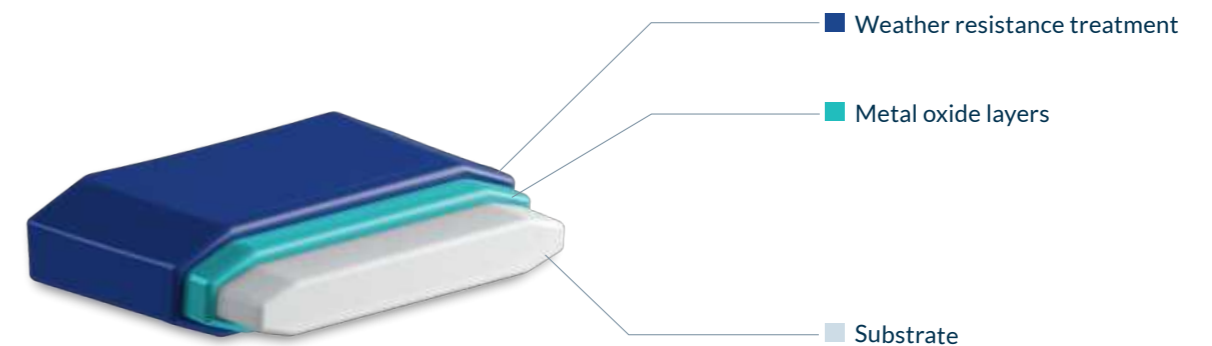
Around 20 years ago, Kuncai started to produce pearlescent pigments based on natural mica . Since then, the company has developed into one of the major manufacturers of mica based effect pigments.

A strong R&D department, investment in a fully automated, state-of-the-art production plant, a patented production technology developed by the company and the establishment of in-house raw material production of synthetic mica clearly demonstrate Kuncai's focus on innovation and sustainability.

+ PRODUCT FEATURES

- Fine and narrow particle size distribution
- Pure silver white, strong interference and intense metallic luster effects
- Superior weather-resistance performance
- Suitable for water- or solventborne application systems
- Eco-friendly production process

CROSS-SECTION OF A WEATHERPROOF EFFECT PIGMENT STRUCTURE DIAGRAM



APPLICATION AREAS FOR WEATHERPROOF EFFECT PIGMENTS

Effect pigments enable any application system to turn the used object into something special. Whether in automotive coatings, dispersion paints or plastic applications, floor coatings or artist paints, effect pigments have established and proven themselves time and time again. They have been used in:

- Automotive OEM Coatings
- Refinish Coatings
- Powder Coatings
- Plastic Coatings
- Floor Coatings
- Leather Coatings
- Wood Coatings
- Industrial Coatings
- Bicycles, Motorcycles
- Aviation Industry
- Mechanical Engineering

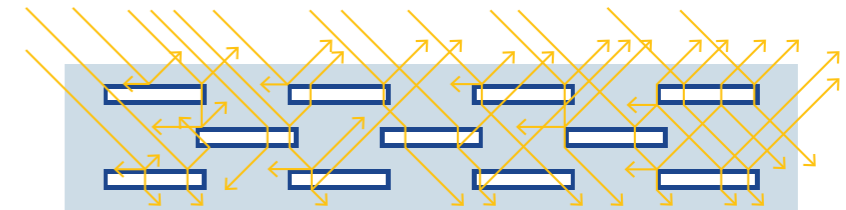
NATURAL MICA Based Pigments

Pearl luster pigments are produced from thin platelets of the natural mineral, mica. The platelets are covered with a thin layer of metal oxides such as titanium dioxide and/or iron oxide. Through the interaction with light refraction, reflection and interference, this creates unique luster and color effects.

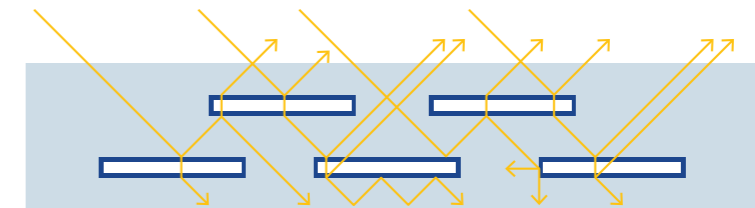
It is possible to achieve silver white and colored pearl luster effects, as well as gold and metallic luster effects. The iridescence allows for the creation of angle dependent color designs. Depending on the size of the effect pigment particles, the effect varies from silky matt to sparkling.

EFFECT PIGMENTS FOR SHIMMER OR SPARKLE

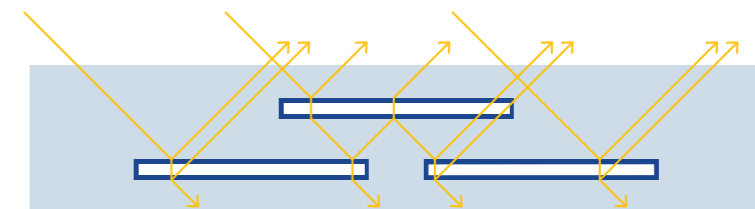
KC9119*
Smooth shimmering effect
High hiding power
Fine
5 - 25 µm



KC9103*
Typical Pearlescent
Medium hiding power
Medium
10 - 45 µm
10 - 60 µm



KC9153*
Glittering effect
Low hiding power
Coarse
< 100 µm



*available in different weather-treated versions: SW/WR/FC and also with Synthetic Mica as base material

KC Pearl pigments can produce distinctive designs with individual effects when applied on different undercoat/background colors. Moreover, by directly combining colorants with effect pigments in a single coat, this opens up a wide range of styling options.

SYNTHETIC MICA Based Pigments

Our portfolio of natural mica based Pearls are also available as synthetic mica-based versions. The transparency and properties of synthetic mica as a substrate ensure the effect pigment has limited influence on the background color and just gives it greater color intensity.

Kuncai has also furthermore developed a premium product range that meets the coatings industry's specialist requirement for small particle sizes, intense colors in all color areas, good resistance properties and interesting color effects.



SYNTHETIC MICA – Setallic High Color Saturation in Reds and Earth Tones

Based on advanced production technology, Setallic offers a range of red and earth tones based on synthetic mica multilayer pigments. Defined coating layers of Fe_2O_3 give this product range pronounced color intensity, saturation and a three-dimensional appearance in saturated strong earth tones and shades of red with good coverage.

SYNTHETIC MICA – XillaMaya The Paradox of Combining Sparkle at Fine Particle Sizes

The XillaMaya product range appears to defeat the laws of physics. Kuncai has managed to combine a strong sparkle with high color intensity and small particle size.

A smart combination of different reflective oxide coatings and the selection of a specific synthetic mica as base material ensure an intense glitter effect, extraordinary color saturation and excellent hiding power. Direct light has a positive influence on the sparkle effect and the product series exhibits a 3D sparkle look under these conditions. XillaMaya is furthermore straightforward to apply as its particle size of 6 – 30 μm makes it easy to use in nearly every application system. XillaMaya is available in: Silver white, interference color and metallic colors.

SUMMARY OF FEATURES

Characteristics/ Pigment base	Natural Mica	Synthetic Mica 1 st Generation	Synthetic Mica 2 nd Generation
Particle size range	<ul style="list-style-type: none"> • Fine • Medium • Coarse 	<ul style="list-style-type: none"> • Fine • Medium • Coarse 	<ul style="list-style-type: none"> • Fine • Medium • Coarse
Hiding power*	High	Low	Medium
Effect characteristics	Typical Pearlescent effects	Purer colors	More vivid and sparkling colors
Effect possibilities	<ul style="list-style-type: none"> • Silver white • Interference • Metallic effects 	<ul style="list-style-type: none"> • Silver white • Interference • Metallic effects 	<ul style="list-style-type: none"> • Silver white • Interference • Metallic effects
Transparency of pigment**	Low	High	Medium
Product Series	KC Pearls***	Crystal***	Kyntaline*** XillaMaya*** Setallic***

* related to same particle size

** in relation between the different product substrates

*** available in exterior grades (SW , WR, and FC)

WEATHERPROOF EFFECT PIGMENTS

SW, WR AND FC

The quality requirements for exterior applications are considerably higher than for other indoor applications. For these applications, Kuncai therefore offers weather resistance versions of most of its standard pigment ranges, which also meet the high demands of modern automotive coating systems. An additional finishing layer on the pigment itself ensures outstanding weather resistance for all external applications.

Our weather resistance effect pigments series fulfill the standard testing procedure DIN EN ISO 6270-2 for humidity resistance and SAE J 2527 for accelerated weathering.

For weatherproof pigments used in outdoor applications, Kuncai pigments also come with particular specifications, such as narrower distribution and overall smaller particle size and a tighter color tolerance. We have developed the right pigment weather treatment for different exterior application areas:



SW – FOR SOLVENT AND WATERBORNE SYSTEMS Chromium Free



PRODUCT FEATURES

- Final coating of the effect pigment with cerium hydroxide to achieve desired weather resistance
- Coating with coupling agent to improve compatibility
- Excellent UV yellowing resistance
- Very good high-temperature resistance
- Very good humidity resistance



APPLICATION PROPERTIES

- Meets the automotive industry regulations
- Suitable for waterborne and solventborne systems
- Easily dispersible
- Highly recommended for use in OEM and refinish coatings

WR – FOR POWDER-PLASTIC COATING AND OTHER APPLICATION SYSTEMS Chromium III based coating



PRODUCT FEATURES

- Final coating of the effect pigment with chromium hydroxide to achieve desired weather resistance
- High humidity resistance
- Extremely high temperature resistance



APPLICATION PROPERTIES

- Suitable for waterborne and solventborne systems
- Easily dispersible
- Suitable for exterior coatings due to excellent weather resistance properties
- Suitable for interior applications due to outstanding humidity resistance and UV resistance properties

FC – FOR COIL, HIGH-TEMPERATURE COATINGS High performance for all applications



PRODUCT FEATURES

- Specially designed dense inorganic encapsulation of the effect pigment particle to protect the titanium hydroxide layer and improve UV stability
- Chromium hydroxide coated to improve weather resistance
- Outstanding UV resistance
- Outstanding weather resistance
- Very good high-temperature resistance



APPLICATION PROPERTIES

- Suitable for both waterborne and solventborne coatings
- Easily dispersible
- Ideal for high-temperature exterior fluorocarbon coatings

Kuncai recommends the use of weather resistance pigments also for interior applications when there are higher requirements for the performance of a product such as protection against humidity or UV light. Typical examples for this type of application are furniture or bathroom or kitchen interiors which are exposed to moisture or water.

NATURAL MICA

Silver white

Code	Product Name	Particle Size (µm)	SW*	WR*	FC*
KC9108	Exterior Silver Fine Satin	< 15	X		
KC9111	Exterior Silver Fine Satin	< 15	X	X	X
KC9119	Exterior Polar White	5-25	X	X	X
KC9123	Exterior Polar White	5-30	X		
KC1303Z	Exterior Sterling Silver	8-40	X		
KC139	Exterior Sterling Silver	8-45		X	
KC9103	Exterior Sterling Silver	10-45	X	X	
KC9103	Exterior Sterling Silver	10-60			X

* Weather resistance treatments



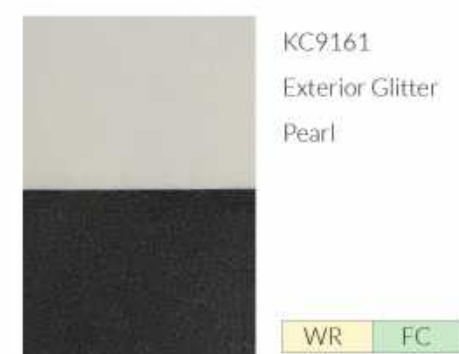
The color panels are only intended as a color guides for the respective pigment. Depending on the weather resistance treatments (SW, WR or FC), the color may change slightly, which should be tested by each customer.

NATURAL MICA

Silver white

Code	Product Name	Particle Size (µm)	SW*	WR*	FC*
KC1303D	Exterior Sterling Silver	10 - 45	X		
KC9151	Exterior Shining Pearl	10 - 100	X		X
KC9153	Exterior Flash Pearl	10 - 100	X		
KC9153	Exterior Flash Pearl	20 - 100		X	
KC139S	Exterior Glitter Pearl	20 - 120		X	
KC9161	Exterior Glitter Pearl	20 - 140		X	X
KC9163	Exterior Shimmer Pearl	40 - 200		X	

* Weather resistance treatments



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NATURAL MICA

Interference

Code	Product Name	Particle Size (µm)	SW*	WR*	FC*
Yellow					
KC9201	Exterior Gold Satin	5 - 25	X		
KC9201	Exterior Gold Satin	5 - 30		X	
KC2303Z	Exterior Super Gold	8 - 40	X		
KC2303D	Exterior Platinum Pearl	10 - 45	X		
KC9205	Exterior Platinum Pearl	10 - 45	X		
KC9205	Exterior Platinum Pearl	10 - 60		X	
Red					
KC4303V	Exterior Fine Red Satin	5 - 25	X		
KC9211	Exterior Red Satin	5 - 25	X		
KC4303Z	Exterior Super Red	8 - 40	X		
KC4303D	Exterior Red	10 - 45	X		
KC9215	Exterior Red Pearl	10 - 45	X		
KC9215	Exterior Red Pearl	10 - 60		X	

* Weather resistance treatments



 <p>KC9201 Exterior Gold Satin</p> <p>SW WR</p>	 <p>KC2303Z Exterior Super Gold</p> <p>SW</p>
 <p>KC2303D Exterior Platinum Pearl</p> <p>SW</p>	 <p>KC9205 Exterior Platinum Pearl</p> <p>SW WR</p>
 <p>KC4303V Exterior Fine Red Satin</p> <p>SW</p>	 <p>KC9211 Exterior Red Satin</p> <p>SW</p>
 <p>KC4303Z Exterior Super Red</p> <p>SW</p>	 <p>KC4303D Exterior Red</p> <p>SW</p>
 <p>KC9215 Exterior Red Pearl</p> <p>SW WR</p>	

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NATURAL MICA

Interference

Code	Product Name	Particle Size (µm)	SW*	WR*	FC*
Orange					
KC3303V	Exterior Fine Orange Satin	5 - 25	X		
KC3303Z	Exterior Super Orange	8 - 40	X		
Violet					
KC9223	Exterior Violet Satin	5 - 25	X		
KC5303Z	Exterior Super Violet	8 - 40	X		
KC539Z	Exterior Rutile Violet Pearl	10 - 45		X	
KC9219	Exterior Violet Pearl	10 - 45	X		
KC9219	Exterior Violet Pearl	10 - 60		X	X
Blue					
KC9221	Exterior Blue Satin	5 - 25	X	X	
KC6803H	Exterior Royal Blue	8 - 40	X		

* Weather resistance treatments



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NATURAL MICA

Interference

Code	Product Name	Particle Size (µm)	SW*	WR*	FC*
Blue					
KC6303D	Exterior Red Blue	10 - 45	X		
KC7303D	Exterior Aqua Blue	10 - 45	X		
KC9225	Exterior Blue Pearl	10 - 45	X		
KC9225	Exterior Blue Pearl	10 - 60		X	X
Green					
KC9231	Exterior Green Satin	5 - 25	X		
KC8303Z	Exterior Super Green	8 - 40	X		
KC8303D	Exterior Green	10 - 45	X		
KC9235	Exterior Green Pearl	10 - 45	X		
KC9235	Exterior Green Pearl	10 - 60		X	
KC9440	Exterior Blue-Green	10 - 45		X	
KC9830Z	Exterior Super Green	10 - 45	X		

* Weather resistance treatments



 <p>KC6303D Exterior Red Blue</p> <p>SW</p>	 <p>KC7303D Exterior Aqua Blue</p> <p>SW</p>
 <p>KC9225 Exterior Blue Pearl</p> <p>SW WR FC</p>	 <p>KC9231 Exterior Green Satin</p> <p>SW</p>
 <p>KC8303Z Exterior Super Green</p> <p>SW</p>	 <p>KC8303D Exterior Green</p> <p>SW</p>
 <p>KC9235 Exterior Green Pearl</p> <p>SW WR</p>	 <p>KC9440 Exterior Blue-Green</p> <p>WR</p>
 <p>KC9830Z Exterior Super Green</p> <p>SW</p>	

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NATURAL MICA

Gold

Code	Product Name	Particle Size (µm)	SW*	WR*	FC*
KC9302	Exterior Gold Satin	5 - 25	X		
KC9323	Exterior Royal Gold Satin	5 - 25	X		
KC9327	Exterior Green Satin Gold	5 - 25	X		
KC9300	Exterior Gold Pearl	8 - 40	X		
KC9300	Exterior Gold Pearl	10 - 45		X	
KC9303	Exterior Royal Gold	10 - 45	X	X	
KC9305	Exterior Sunny Gold	10 - 60	X	X	
KC9307	Exterior Bright Gold	10 - 60	X	X	
KC9600	Exterior Gold Pearl	10 - 60		X	

* Weather resistance treatments



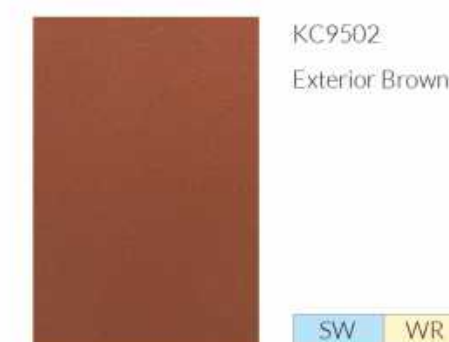
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NATURAL MICA

Metallic

Code	Product Name	Particle Size (µm)	SW*	WR*	FC*
Bronze					
KC249X	Exterior Bronze	8 - 45		X	
KC9500	Exterior Bronze	8 - 45	X		
KC9500	Exterior Bronze	10 - 60		X	
Copper					
KC359V	Exterior Brown Satin	5 - 25		X	
KC9522	Exterior Brown Satin	5 - 25	X		
KC9522	Exterior Brown Satin	5 - 30		X	
KC3503Z	Exterior Brown	8 - 45	X		
KC9502	Exterior Brown	8 - 45	X		
KC9502	Exterior Brown	10 - 60		X	

* Weather resistance treatments



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NATURAL MICA

Metallic

Code	Product Name	Particle Size (µm)	SW*	WR*	FC*
Red					
KC9524	Exterior Wine Red Satin	5 - 25	X	X	
KC4503Z	Exterior Russet	8 - 45	X		
KC9504	Exterior Wine Red	8 - 45	X		
KC9504	Exterior Wine Red	10 - 60		X	
Brown Green					
KC9507	Exterior Brown-Green	8 - 45	X		
KC9508	Exterior Ruby	8 - 45	X		
KC9508	Exterior Ruby	10 - 60		X	

* Weather resistance treatments



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SYNTHETIC MICA

Silver white

Code	Product Name	Particle Size (µm)	SW*	WR*	FC*
KC98110	Exterior Penguin White Fine Satin	< 15	X		
KC98000	Exterior Penguin White Satin	5 - 30	X		
KC820W	Exterior Twinkling Penguin White	10 - 45			X
KC98200	Exterior Penguin White	10 - 45	X		
KC98200	Exterior Penguin White	10 - 60			X
KC98300	Exterior Penguin White	10 - 60	X		
KC850W	Exterior Flash Penguin White	25 - 100			X
KC98500	Exterior Flash Penguin White	25 - 100	X		
KC98600	Exterior Sparkle Penguin White	30 - 120	X	X	

* Weather resistance treatments



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SYNTHETIC MICA

Interference

Code	Product Name	Particle Size (µm)	SW*	WR*	FC*
Yellow					
KC98005	Exterior Fine Granary	5 - 30	X		
KC98205	Exterior Dazzling Granary	10 - 45	X		
Red					
KC98215	Exterior Dazzling Goldfish	10 - 45	X		
Violet					
KC98219	Exterior Dazzling Amethyst	10 - 45	X		
Blue					
KC98225	Exterior Dazzling Peacock Blue	10 - 45	X		
KC98325	Exterior Peacock Blue	10 - 60			X
Green					
KC98230	Exterior Pine Green	10 - 45	X		
KC98235	Exterior Dazzling Green Parrot	10 - 45	X		

* Weather resistance treatments



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SYNTHETIC MICA

Metallic

Code	Product Name	Particle Size (µm)	SW*	WR*	FC*
Reds (1st Generation)					
KC98202	Exterior Red Kylin	10-45	X		
KC98204	Exterior Violet Cuckoo	10-45	X		
KC98304	Exterior Violet Cuckoo	10-60	X		
Setallic(2nd Generation)					
KC815M5	Exterior Fine Auspicious Red	8-35	X		
KC820M0	Exterior Cosmos Orange	10-45	X		
KC820M1	Exterior Desert Orange	10-45	X		
KC820M2	Exterior Solar Orange	10-45	X		
KC820M3	Exterior Mars Red	10-45	X		
KC820M4	Exterior Tropic Orange	10-45	X		
KC820M5	Exterior Auspicious Red	10-45	X		

* Weather resistance treatments



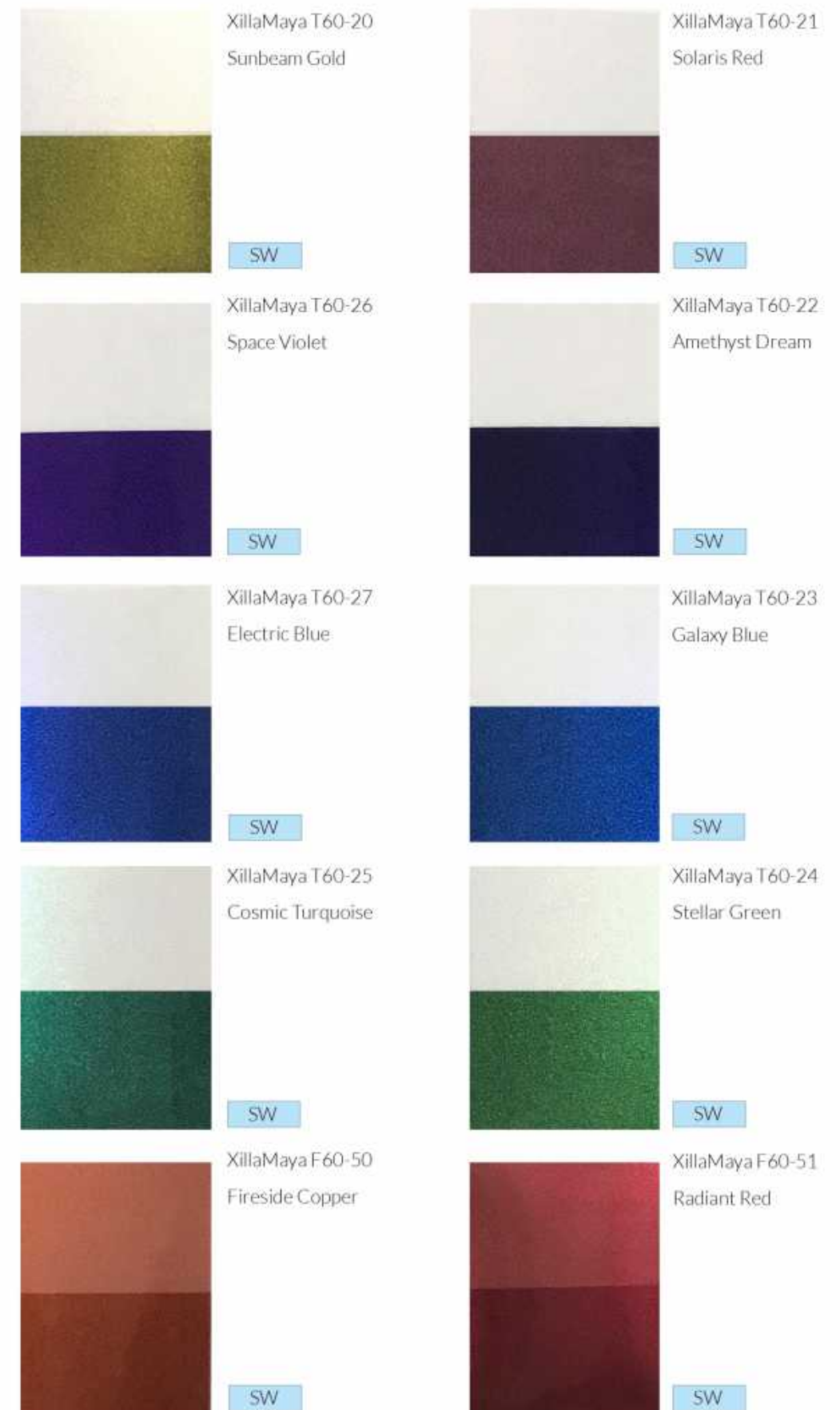
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SYNTHETIC MICA

XillaMaya

Code	Product Name	Particle Size (µm)	SW* WR* FC*
XillaMaya T60-10	Crystal Silver	6 - 30	X
XillaMaya T60-20	Sunbeam Gold	6 - 30	X
XillaMaya T60-21	Solaris Red	6 - 30	X
XillaMaya T60-26	Space Violet	6 - 30	X
XillaMaya T60-22	Amethyst Dream	6 - 30	X
XillaMaya T60-27	Electric Blue	6 - 30	X
XillaMaya T60-23	Galaxy Blue	6 - 30	X
XillaMaya T60-25	Cosmic Turquoise	6 - 30	X
XillaMaya T60-24	Stellar Green	6 - 30	X
XillaMaya F60-50	Fireside Copper	6 - 30	X
XillaMaya F60-51	Radiant Red	6 - 30	X

* Weather resistance treatments



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XillaMaya T60-10
Crystal Silver

SW