

# CNC

# 秩序之美

The Charm of Order

外观新效果产品手册

The Product Brochure of New Appearance Effect



# CNC

## 秩序之美

The Charm of Order

外观新效果产品手册  
The Product Brochure of New Appearance Effect



# 前言 PREFACE

色彩、材质与工艺完美相融，触动着人们的视觉、触觉与心理。怎样实现震撼用户的高级感和奢华感，并将这种心理感受通过 CMF 的设计和功​​能传达到具体的产品上，是我们设计最初的工作。以金属为基材，在光影、纹理、造型等方面进行探索，尝试呈现不一样的效果。

当今物联网时代的产品大多靠用户体验进行消费升级，细节成就品质，因此 CMF 的研究是必不可少的。CMF 研究的目的是衔接品质、生产及设计师之间的沟通问题，并将产品的美发挥到极致。

The perfect blend of colors, materials and technology touches people's vision, touch and psychology. The designer's job is to convey the high sense of luxury to the specific products through the design and function of the CMF. Therefore, we take metal as the base material and try different rendering effect, and explore in the aspects of light and shadow, texture and shape.

In the era of internet, consumption upgrade of most products rely on user's experience. Quality achieved by details, so the research of CMF is essential. The purpose of the CMF study is to solve the communication problem between quality, production and designers, and to maximize the beauty of products.



# 目录 CONTENTS

## 第一章 Chapter 1

- 节奏——以线进行有序排列所构成的光影效果 03  
Rhythm -- Lighting effect is formed by the orderly arrangement of lines.

## 第二章 Chapter 2

- 分割——以合理的比例关系进行划分构成的视觉效果 11  
Segmentation -- Visual effect gotten through division with a reasonable proportion.

## 第三章 Chapter 3

- 空间——面与面之间形成的一种虚实、交错关系 21  
Space -- Crisscross, virtual and real relationship between surface.

## 第四章 Chapter 4

- 肌理——以点、线、面为元素，有序排列所构成的表面效果 31  
Texture -- The surface effect of orderly arrangements of points, lines and surfaces.

## 第五章 Chapter 5

- 你好，未来——以产品结构、造型等构成的概念设计 53  
Hello, future -- Conceptual design based on product structure and modeling.

- 附录 Appendix 59

# Chapter 1

**第一章** 节奏——以线进行有序排列所构成的光影效果  
Rhythm -- Lighting effect is formed by the orderly arrangement of lines.

抛开产品性能，用户越来越重视产品的视觉、触觉体验。而设计是艺术的呈现，专注于产品的工艺效果是设计师创意的根源。本章以线为元素，根据不同路径等距排列，形成有序、无序的图案，呈现出具有节奏感的光影效果。

金属钻雕是利用精雕雕刻中心的高速稳定运转，配合钻石刀具，经过百万次雕琢得到  $\mu\text{m}$  级精致结构单元，从而达到钻石般光泽的切削工艺。随着角度的变换，在产品表面折射出流动光影，可以让细节更细腻，触感更具质感。

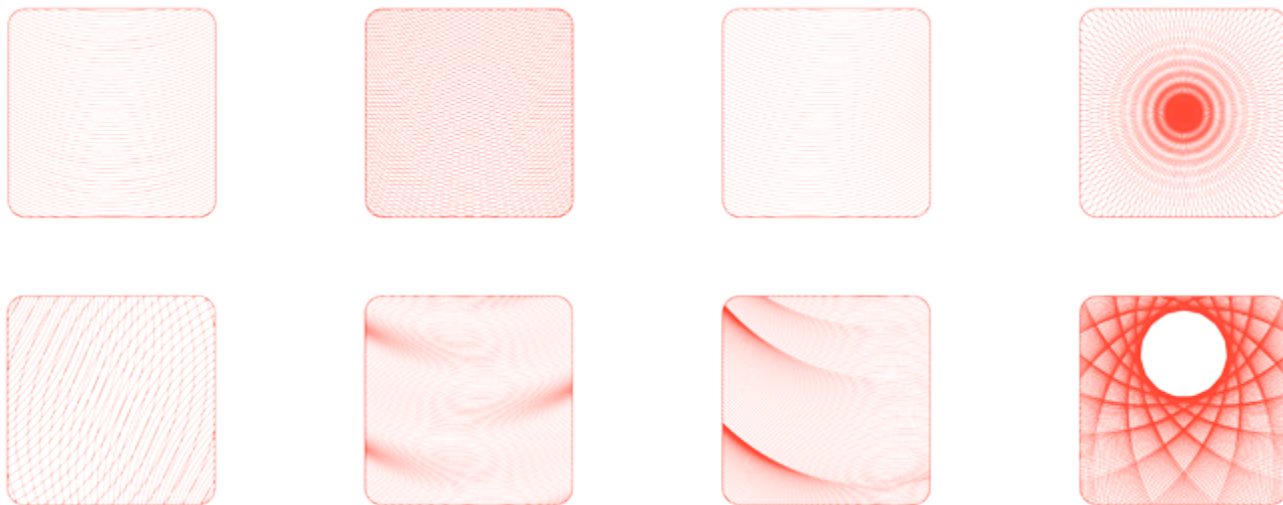
Apart from product performance, users pay more and more attention to the visual and tactile experience of products. Design is the presentation of art, and the technological effect that focuses on the product is the root of designer's creativity. This chapter takes the line as an element, and forms orderly or disordered pattern according to the equidistant arrangement of different paths, showing a rhythmic lighting effect.

Metal drilling is the machining technology which utilizes the high-speed and stable operation of Jingdiao machining center with diamond cutting tools, then carves by millions of times to obtain the exquisite structure unit of  $\mu\text{m}$  grade and achieve the diamond-like luster. With the change of angles, the flowing light and shadow can be reflected on the surface of the product, which can make details more delicate and the touch more textured.

## 图形 Graphic

设计源于生活，自然界中一切元素都将成为设计师灵感的源泉。将同一图案经过特定的规律变化即可产生别样的秩序美感。本章案例从大自然的外观形态中提取图形，通过线条进行有序排列组合，呈现出繁花、水波和裙边等自然形态；同时使用几何图形进行组合和衍生，不同的排列方式交织碰撞带来意想不到的视觉效果，如等距、交错、S型和抛物线等。

Design comes from life, and all elements in nature will become the source of inspiration for designers. Changing the same pattern through specific rules can produce different order aesthetic feeling. This chapter extracts graphics from nature, arranging and combining lines orderly, presenting natural forms such as flowers, waves, and skirts. At the same time, combining and deriving geometric graphics, the interwoven and collision with different arrangements can bring unexpected visual effects, such as equidistance, crisscrossing, S-lines and parabola, etc.



## 应用领域 Application Field

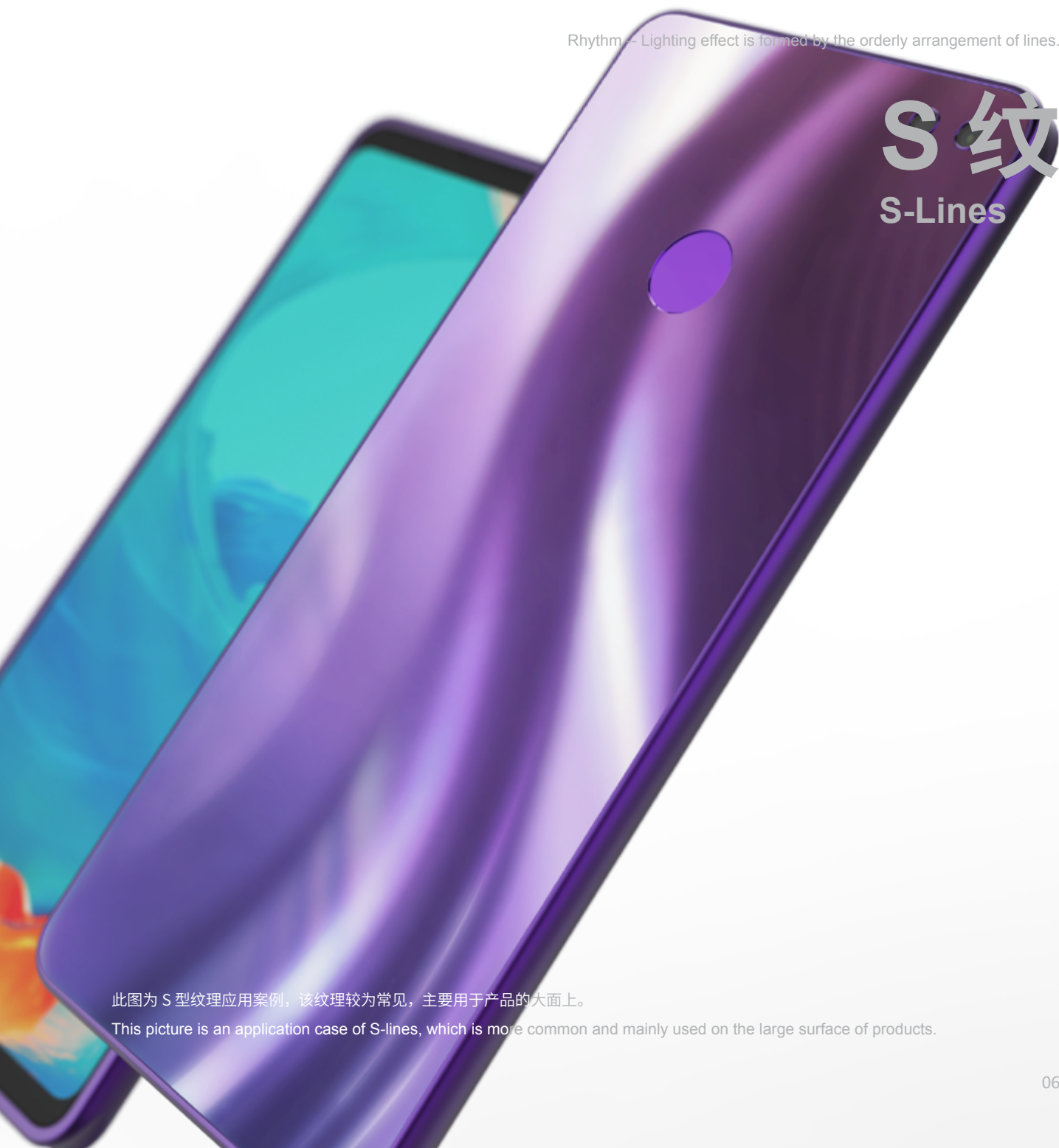
此类纹理产生独特的光感效果可应用于产品大面上，增强产品的视觉效果和触觉体验。同时依据产品属性，搭配适合的色彩，即可呈现绚丽或淡雅的纹理效果。

This kind of texture produces the unique light perception effect, which can be applied to large surface of products to enhance the visual effect and tactile experience of products. Meanwhile, according to the product attributes, using appropriate color, present gorgeous or elegant texture effect can be obtained.

Rhythm-- Lighting effect is formed by the orderly arrangement of lines.

S 纹

S-Lines



此图为 S 型纹理应用案例，该纹理较为常见，主要用于产品的大面上。

This picture is an application case of S-lines, which is more common and mainly used on the large surface of products.

节奏——以线进行有序排列所构成的光影效果

# 水波

## Water Wave

此图为水波纹理应用案例，在不同的光照角度下，呈现水的律动光感。

This picture is an application case of water wave texture, which can display the rhythmic light perception of water under different light angles.

Rhythm -- Lighting effect is formed by the orderly arrangement of lines.

# 交错

## Crisscrossing



此图为交错纹理应用案例，可根据产品的结构特征，展现出极致的光感效果。

This picture is an application case of crisscrossing lines, which can display the extreme light perception effect based on the structural characteristics of the product.

节奏——以线进行有序排列所构成的光影效果

# 风车

Windmill



此图为风车纹理应用案例，通过表面的光影变化增强产品律动。

This picture is an application case of windmill texture, which enhances product rhythm by the light and shadow changing on surface.

Rhythm -- Lighting effect is formed by the orderly arrangement of lines.

# 抛物线

Parabola



此图为抛物线纹理应用案例，通过角度变化，产品表面光影随之变换，如烟花般绚烂。

This picture is an application case of parabolic. With the change of angle, the light and shadow on the surface of products will be different, as gorgeous as fireworks.

# Chapter 2

**第二章** 分割——以合理的比例进行划分构成的视觉效果  
Segmentation -- Visual effect gotten through division with a reasonable proportion.

分割是构成的一种表现技法，其本质是打破重组、获得新的空间，从而形成全新的统一整体。分割的特点是“分”而不离，“割”而不断，这也是达到形式美的一种方法。产品中形态构成的分割，目的就是突破方正、呆板的造型，让产品流动、活跃起来。

采用钻石刀具沿产品流线型方向进行精细切削，并辅以在线测量和智能修正技术，通过五轴联动切削而成的美工线，高亮而深邃，使产品极具贵族格调。

Segmentation is a form of representation of constitute. Its essence is to break and reorganize, and gain new space to form a new unified whole. Its characteristic is independent but not separable, segmented but not disconnected, which is also a way to achieve form of beauty. The purpose of segmentation is to break the rigid shape and allow the product become active.

Split line, which is highlight and deep and makes the product noble, can be obtained through milling along the product streamline with five-axis linkage machining by using diamond cutting tool, and on-line inspection and smart modification technology.

分割——以合理的比例进行划分构成的视觉效果

## 图形 Graphic

美工线是在设计产品时常用的一种装饰线,也叫“美工缝”。美工线分为两大类:1、产品分型面的衔接线;2、产品表面用来装饰的线。美工线形式有两种:单条美工线和多条美工线。

Split line is a type of decorative line commonly used in the design of products, also known as "artwork sewing". Split lines are divided into two categories: First, the line of product parting surface; Second, the line used to decorate the surface of product. There are two forms of split line: single split line and multi split lines.



## 应用领域 Application Field

美工线的应用领域较广。在消费类电子产品上更为多见,电脑、手机、家电等产品的细节处理融入了美工线的处理,使产品更精致、视觉效果更佳。

The application of split line is very wide, and it is more common in consumer electronics. It has been used in processing details of products such as computers, mobile phones and home appliances and makes the products more refined and visually better.

Segmentation -- Visual effect gotten through division with a reasonable proportion.

# 美工线

## Split Line



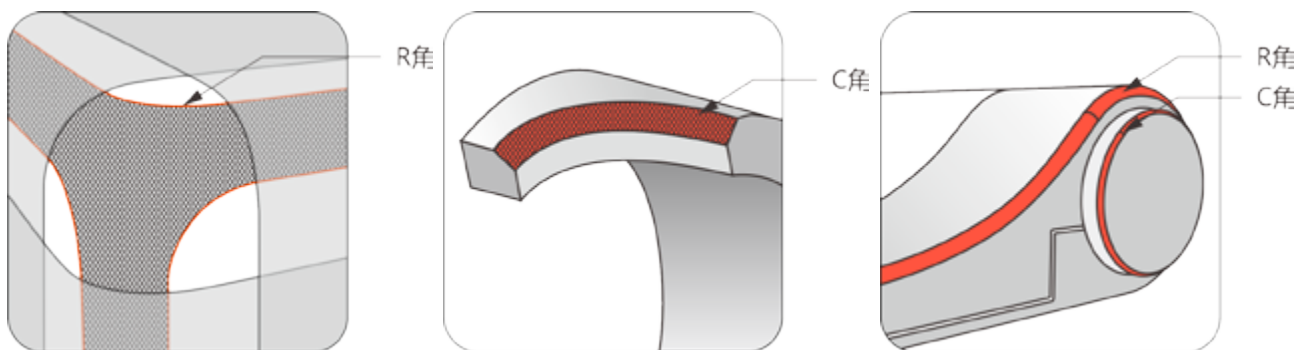
此图为多条美工线应用案例，增强装饰感，提升产品品质。

This picture is an application case of multi split lines, enhancing the sense of decoration and improving product quality.

## 图形 Graphic

大多产品由不同的模块或功能区域拼接而成，拼接之处会形成“缝隙”。设计师通过对缝隙边缘进行不同倒角形态的处理，来传达产品所隐喻的不同含义。被广泛应用于电子产品的倒角形态基本为C角或R角。以下通过不同的案例来分析各类倒角特征。

Most of the products are assembled from different modules or functional areas, and the "slots" will be generated at the joints. Designers perform different forms of chamfer to the edges of these slots to transmit different meanings hidden in the product. These forms that are widely used in electronic products are basically C-angle or R-angle. The following cases will analysis features of different chamfers.



## 应用领域 Application Field

产品设计将细节、工艺、材料回归本位，评价标准早已从“能用”、“好看”，提升至“艺术性”的高度，例如小米手机在陶瓷材料上的探索等。高光倒角可以提高产品质感，在产品位置、比例方面的考量同样至关重要。高光倒角设计也被广泛运用在珠宝和手表的设计当中，对光线的充分运用使产品更显高端，流光溢彩，引人夺目。

The product design focuses on the processing of details, processes, and materials. The evaluation standard has upgraded from "usable" and "good-looking" to the level of "art". Take the exploration of ceramic material of Xiaomi phone as an example. Specular chamfering improves product quality. The consideration of product location and proportion is also very important. The design of specular chamfer is also widely used in jewelry and watch design. The full use of light makes the product high-end, glittering and eye-catching.

Segmentation -- Visual effect gotten through division with a reasonable proportion.

# C 角

## C-Angle



此图为高光倒 C 角应用案例，主要展示产品体、面转折和立体空间的节律变化，产生动态暗示。

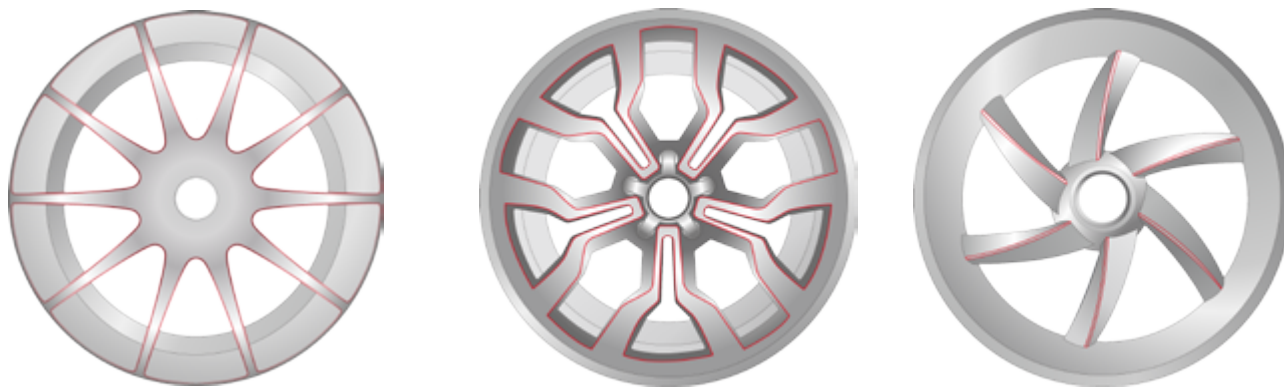
This picture is a C-angle application case. It mainly displays the rhythm changes of the product body, surface transitions, and three-dimensional space, resulting in dynamic hints.

分割——以合理的比例进行划分构成的视觉效果

## 图形 Graphic

轮毂，作为影响汽车整体美观度的一个重要因素，其设计已呈现出更加多样、多彩的效果，比如在其外观造型中增加渐消线或渐消面元素。

The wheel hub is an important factor which influences the overall aesthetics of an automobile. Its design has taken on a more diverse and colorful look through adding fading lines or fading surface elements to its appearance.



## 应用领域 Application Field

伴随着轮毂设计的不断进化和发展让它们线条越来越复杂、精细，特别注重体现三维的效果，这也是现今轮毂造型设计的一大趋势。另外，选取性能优良的材料和适当的加工方法也是汽车轮毂制造中不可或缺的一环。

Along with the continuous evolution and development of wheel hub design, their lines have become more and more complex and delicate. Special attention has also been paid to the three-dimensional effect, which is also a major trend of wheel hub design nowadays. In addition, the selection of high performance materials and appropriate processing methods are indispensable to the manufacturing of automobile wheel hubs.

Segmentation -- Visual effect gotten through division with a reasonable proportion.

# 轮毂

Wheel Hub

此图为高光倒角应用案例 -- 轮毂倒角特征。

This picture is a specular chamfering machining application case--wheel hub chamfer characteristics

分割——以合理的比例进行划分构成的视觉效果

# 轮毂

Wheel Hub



此图为高光倒角应用案例 -- 轮毂倒角特征。

This picture is a specular chamfering machining application case--wheel hub chamfer characteristics.

# 轮毂

Wheel Hub



此图为高光倒角应用案例 -- 轮毂倒角特征。

This picture is a specular chamfering machining application case--wheel hub chamfer characteristics.

# Chapter 3

**第三章** 空间——面与面之间形成的一种虚实、交错关系

Space -- Crisscross, virtual and real relationship between surface.

面是构成空间立体的基础元素之一，它有着强烈的方向感、轻薄感以及延伸性。产品设计师通过面的变化带给用户不同的视觉体验。本章以面为元素，使用不同的曲面构建及组合方式，带来丰富的视觉享受。

采用高性能、高精度的精雕雕刻中心，性能优异的金属切削刀具，配合科学合理的切削参数，加工出的镜面高亮效果，尽显金属本色。通过多轴机床定位、联动加工功能，进行特殊设计效果的加工，产品在不同光线角度可折射出不同的造型，呈现 3D 视觉观感。

Surface is one of the basic elements of three-dimensional space. It has a strong sense of direction, thinness and extensibility. Product designers bring different visual experience to users through changes of it. This chapter takes surface as the element and uses different ways of surface structure and combination to bring a rich visual enjoyment for users.

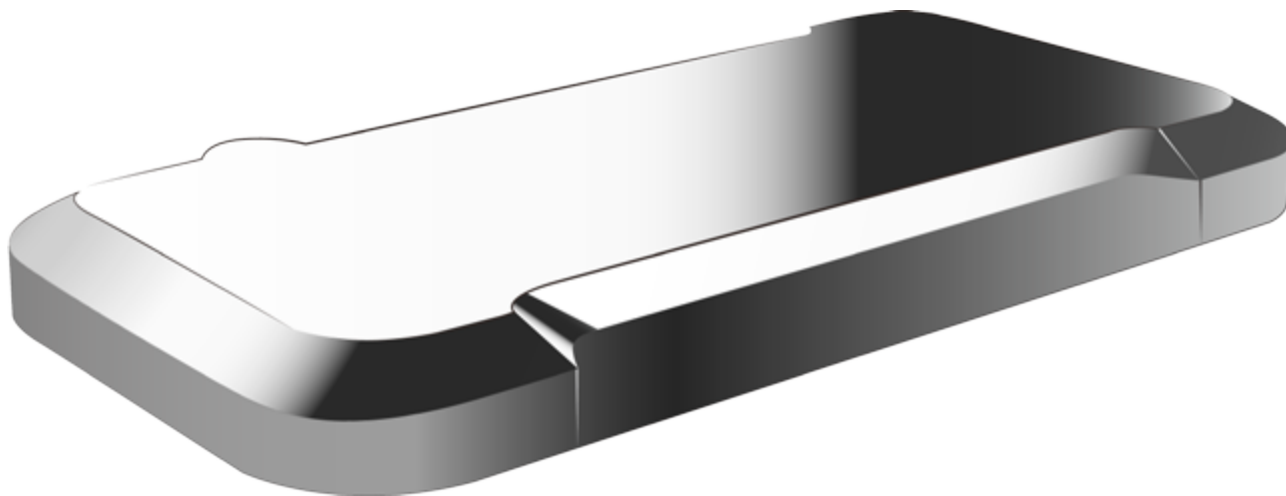
By using Jingdiao machining center with high performance and high precision, metal cutting tools with excellent performance and scientific and reasonable cutting parameters, the specular effect can reflect the quality of metal perfectly. Combining with special design effect that can be realized through multi-axis positioning and linkage processing, the products can reflect different shapes at different light angles and present 3D visual perception.

空间——面与面之间形成的一种虚实、交错关系

## 图形 Graphic

随着社会的进步，消费者对产品外观设计的要求也越来越高，良好的高光加工效果成为衡量产品外观品质的重要标准。高精度的镜面效果，颜色忠于本色，能够突出材质本身的色泽光彩。

With the progress of the society, Consumers' requirements for product appearance design are also getting higher and higher. The good effect of finish machining has become an important standard for measuring the exterior quality of products. The high-precision specular surface effect makes sure that the color of products is loyal to the natural color of material, which could highlight the color and luster of the material itself.



## 应用领域 Application Field

目前电子消费品的高光加工，主要应用于铝合金及铜合金等软材料的平面、侧壁、倒角和曲面等部位。应用领域包括：手机配件、电视机外框和底座、电脑和笔记本配件、音箱、移动电源和路由器等电子消费品，以及吸塑模具、装饰工艺品、仿古、电极等行业。

At present, the finish machining of electronic consumer goods is mainly applied to the plane, side wall, chamfering and curved surface parts made of aluminum alloy and copper alloy. Application areas include electronic consumer goods area such as mobile phone accessories, the frame of TV, computer and notebook accessories, loudspeaker boxes, portable battery and routers, as well as vacuum forming mold, decorative arts and crafts, antique, electrode and other industries.

# 镜面高光

## Specular Machining



此图为镜面高光应用案例，表面效果光亮柔和。

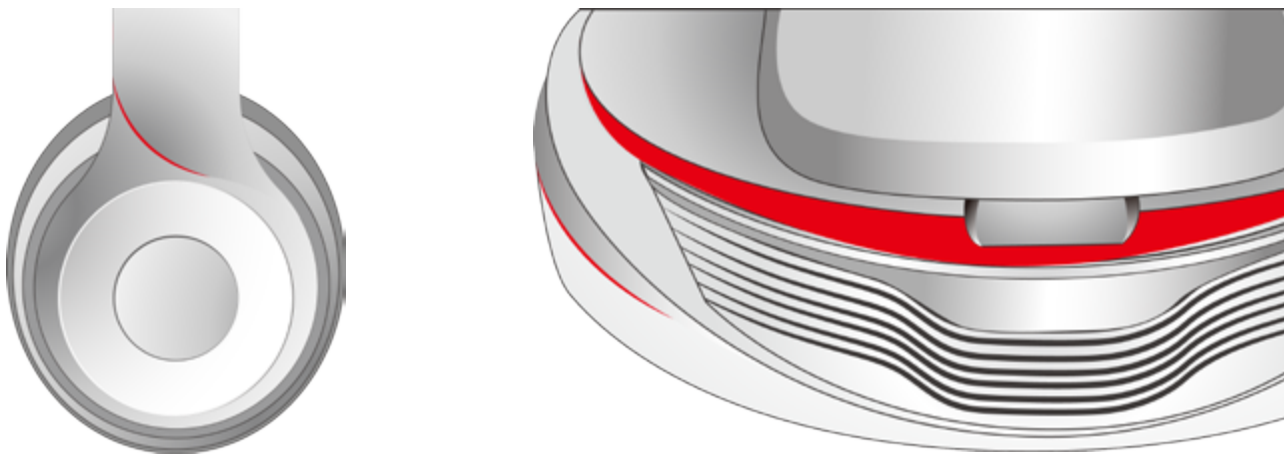
This picture is a specular finish machining application case. The surface effect is bright and soft.

空间——面与面之间形成的一种虚实、交错关系

## 图形 Graphic

面与面交错形成空间结构，高低曲面的落差形成起伏变化的光影，给人带来强烈的速度感和雕塑感。打破呆板、增加质感及设计感，既能达到减弱产品厚度的作用，又可以加强产品的外观结构感和造型感。

Space is constructed through crisscrossing of surface. The high and low drop of the surface forms the undulating light and shadow, which brings people a strong sense of speed and sculpture. To break the dull and increase the sense of quality and design can not only weaken the thickness of the product, but also enhance the sense of structure and shape.



## 应用领域 Application Field

渐消面设计最早出现在汽车造型设计运用中，形成了汽车的速度感和高品质感，受到大多数人的喜爱。随着人们对产品外观要求提升，在大部分产品细节处理上都会加入渐消结构，让产品更加有层次感。例如数码产品、家电产品等类别的产品造型上，渐消面的运用也越来越广。

The fading surface design first appeared in car styling design, which represented the speed and high quality of a car and was loved by most people. As the demand for the appearance of product increases, fading structures are added to most of the product details, so that the product will have more sense of layering. For example, in the modeling of digital products, household appliances and other categories of product, fading surface is used more and more widely.

Space -- Crisscross, virtual and real relationship between surface.

# 渐消线

Fading Line



此图为渐消线应用案例，此结构设计使产品富有层次感。

This picture is a fading line application case. This structure design gives the product a rich sense of layering.

空间——面与面之间形成的一种虚实、交错关系

## 图形 Graphic

方格是我们日常生活中常见的图形之一，建筑用的瓷砖、服装用的面料等都用了方格作为常用设计元素。将方格元素应用在产品纹理设计中，通过单个图形的重复组合碰撞出新的火花，产生秩序之美，给人以安静祥和的平衡感。

Square is one of the common graphics in our daily life. As a common design element, it is widely used in ceramic tiles, apparel fabric and other products. By duplicating and combing of one single graphics, innovative sparks will be generated to create the beauty of order and give people a sense of balance.



## 应用领域 Application Field

方格是设计中最为常见的元素，通过调整变换不同的色彩比例以及排列方式，即可产生个性迥异的视觉效果。方格纹理广泛应用于消费类电子产品、小家电等。

Square is the most common element in design. By adjusting different color ratio and changing the arrangement of squares, the visual effects with different personalities can be produced. Square textures are widely used in consumer electronics, small appliances and some other product.

# 方格面

## Isometric Surface



此图为方格面应用案例，运用规则的方格排列实现产品大面上的光影变化。

This picture is a square surface application case. Using the regular grid arrangement to achieve light and shadow changes on the large surface of a product.

空间——面与面之间形成的一种虚实、交错关系

## 图形 Graphic

钻石面由三角形演变而来，将随机组合的不规则三角面赋予到产品表面上，通过角度和高度的变化，折射出不同的光辉。在镜面高光的作用下，整个面熠熠生辉、璀璨夺目。

Diamond surface is evolved from triangular surface. A random combination of irregular triangular surfaces is imparted to the surface of the product and different radiance can be reflected through different angles and heights. Because of the specular finish machining design, the whole surface is shining and dazzling.



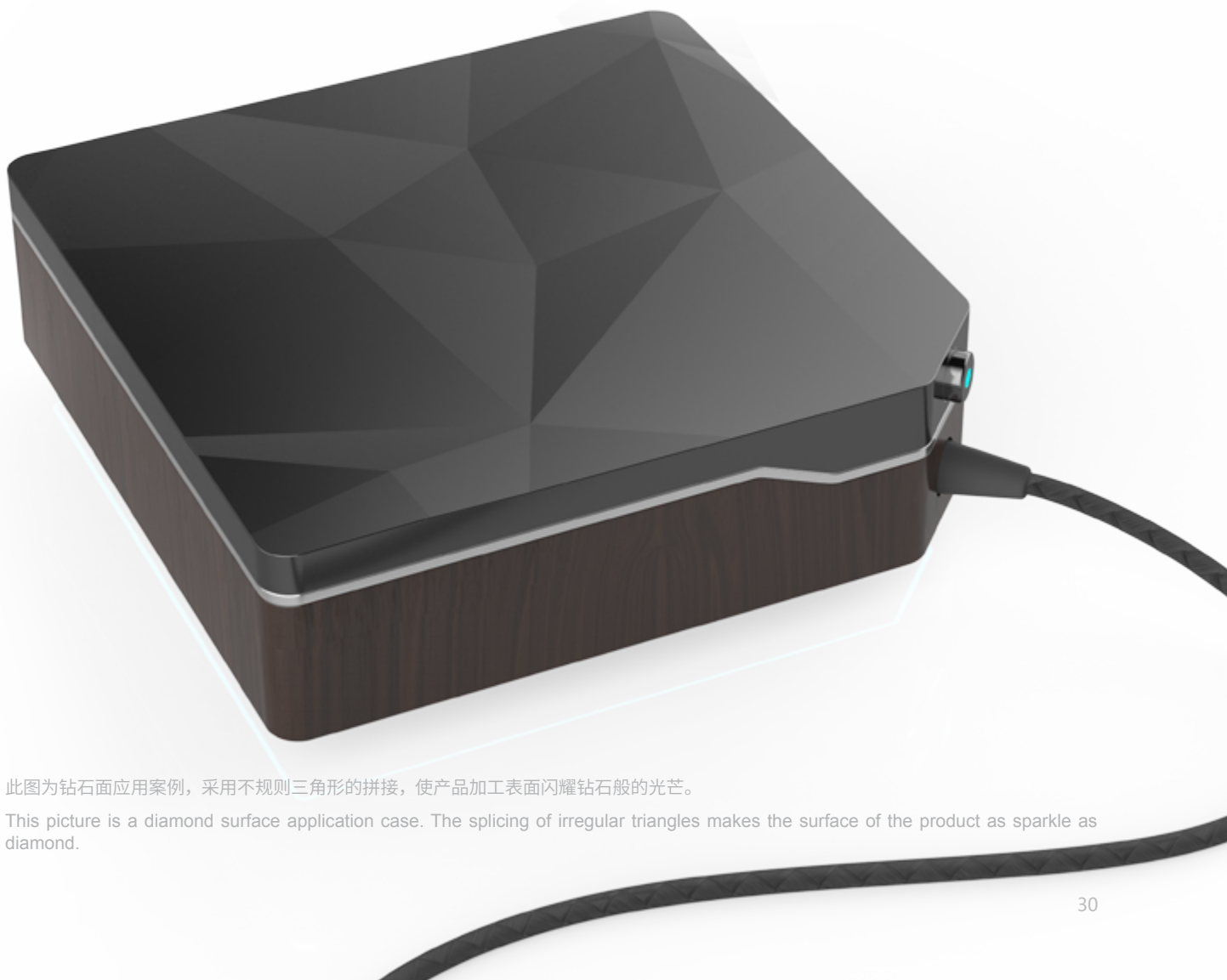
## 应用领域 Application Field

钻石面由于其变化多样性，可放在产品的大面上，通过变换光束照射角度，呈现钻石般的表面效果，给人以强烈的视觉冲击力。

Diamond surface can be placed on the large surface of products because of their variety. By changing the angle of light, the diamond surface effect is presented, giving people strong visual impact.

# 钻石面

## Diamond Surface



此图为钻石面应用案例，采用不规则三角形的拼接，使产品加工表面闪耀钻石般的光芒。

This picture is a diamond surface application case. The splicing of irregular triangles makes the surface of the product as sparkle as diamond.

# Chapter 4

## 第四章 肌理——以点、线、面为元素，有序排列所构成的表面效果

Texture -- The surface effect of orderly arrangements of points, lines and surfaces.

流星划过天际的线，让麦穗微微抬头，疏影与玲珑相顾刹那间，钻石和金字塔向人们发出永恒、耀眼的光电。漫长岁月里，自然给予人类太多无与伦比的美丽，那雪花，那蜂巢，那涟漪，通通都像中国印般烙在肌表上。肌理，让设计师释放自由，拥抱自然。

利用精雕 SurfMill 软件的专业多轴加工功能，设置特定的加工面、导动面、刀轴曲线与变形曲线，进行纹理微结构铣削，加工出的产品结构灵活多变，且不失秩序感。

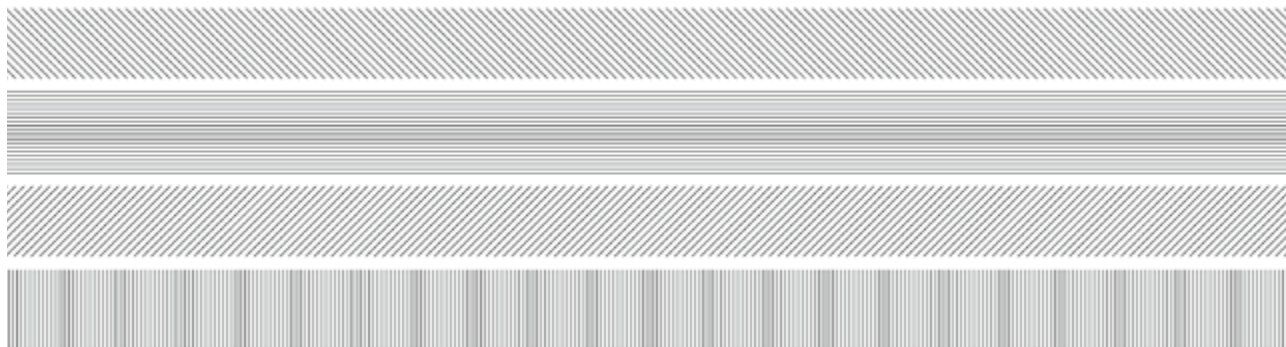
The lines of the meteor across the sky make wheatears slightly rise. At the moment when shadows and exquisite lights interplay, the diamond and the pyramid shine out with eternal and dazzling brilliancy. In the long years, the nature gave human beings too much incomparable beauty such as the snowflakes, the beehives and the ripples, which were branded on the muscle sheet like all the Chinese elements. The texture allows designers to release their freedom and embrace the nature.

Jingdiao CAD/CAM software SurfMill has professional multi-axis machining functions. With these functions, users can set specific processing surface, auxiliary processing surface, tool-holder curve and deformation curve. Through micro-milling texture, product structure is flexible and has a sense of order.

## 图形 Graphic

在设计师的手中，点线面被规划到最合适的地方，整齐划一的排列、交错变形出不一样的图案。有的展现在产品主体上；有的为提升产品质感，巧妙地与功能相连接。星流线、麦穗、疏影、马赛克、钻石、蜂巢、金字塔、翠羽、雪花、浪、漪，这些简单到在平日根本不会留意的图案。在本章中，将会让你眼前一亮。

From the perspective of designers, points, lines and surfaces are arranged in the most appropriate way. Uniform arrangements and staggered deformation of these elements can create different patterns. Some of these patterns are displayed on the main part of products and some are used to enhance the texture of products, which can be masterly connected with the function of products. Simple patterns that are not noticed in our daily life, such as star streamline, wheatears, sparse shadows, mosaic, diamonds, honeycombs, pyramids, kingfisher feathers, snowflakes, waves and ripples, will impress you greatly in this chapter.



Texture -- The surface effect of orderly arrangements of points, lines and surfaces.

# 星流线

Star Streamline



此图中的纹理为模拟流星雨划过天际后的轨迹，通过有规律的阵列，构造出星流线纹的表面处理效果。

This picture shows the surface effect which simulates meteor trajectory across the sky. This surface effect is constructed through regular array.

## 图形 Graphic

中国传统图案是民族文化的积淀，是传统文化最普遍的传播途径之一。在多元化的社会环境下，民族风盛行，将传统图案融入到设计理念之中，无疑是对设计融入创新元素，并丰富民族文化。产品设计已成为社会文化的重要载体，将传统图案应用在产品设计中，可极大地提升产品内容。

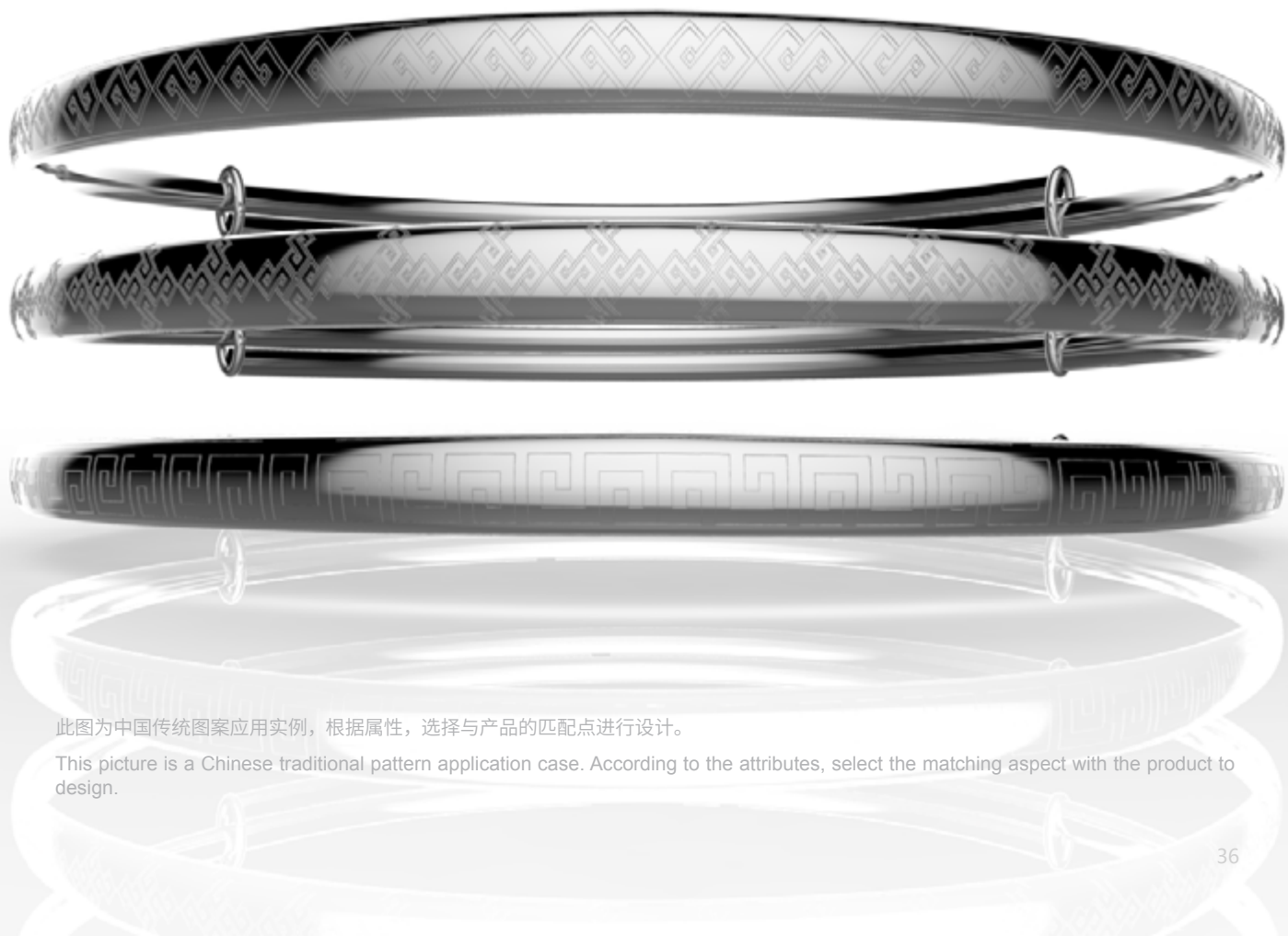
Chinese traditional patterns are the accumulation of national culture and one of the most common ways of spreading traditional culture. In a diversified social environment, the ethnic style prevails and integrating traditional patterns into design concepts is undoubtedly the integration of innovative elements into design and enriching national culture. Product design has become an important carrier of social culture. The application of traditional patterns in product design can greatly enhance product content.



Texture -- The surface effect of orderly arrangements of points, lines and surfaces.

# 中国印

## Chinese Elements



此图为中国传统图案应用实例，根据属性，选择与产品的匹配点进行设计。

This picture is a Chinese traditional pattern application case. According to the attributes, select the matching aspect with the product to design.

## 图形 Graphic

设计过程一般都是先有天马行空，再落入实地。纹理设计过程也不例外，由天空到大地，将星流线分为两组，变换其中一组的方向，完成麦穗纹的抽象化设计。

The design process usually begins with unrealistic ideas and then these ideas are employed into the product in a realistic way. The design process of texture is no exception. From the sky to the earth, the star streamline is divided into two groups and when the direction of one group is changed, the abstract design of the wheatear texture is completed.



Texture -- The surface effect of orderly arrangements of points, lines and surfaces.

# 麦穗纹

## Wheatear Texture

此图为麦穗纹应用案例，模拟风吹麦浪的情景。

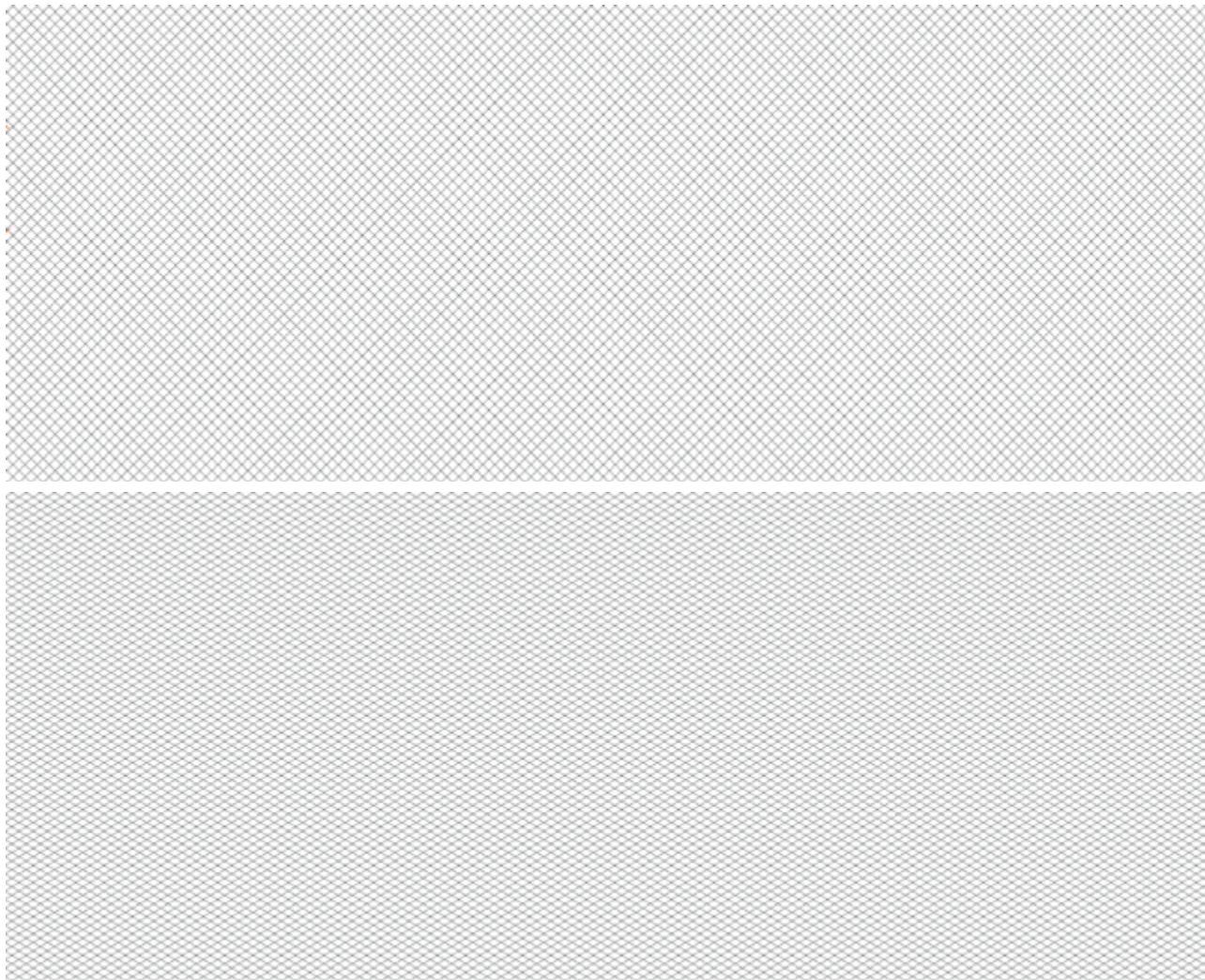
This picture is an application case of the wheatear texture, simulating the situation of wind blowing over the wheat.

肌理——以点、线、面为元素，有序排列构成的表面效果

## 图形 Graphic

交错纹，线线相交形成的纹理。疏影横斜，错落枝杈，通过对其计算设计和有序排列，形成错落有致的疏影纹理。

Crisscross textures are formed by the interlacement of lines. The sparse shadows are oblique and the branches strew at random. By calculating, design and orderly arrangement of them, a different shadow texture is created.



Texture -- The surface effect of orderly arrangements of points, lines and surfaces.

# 交错纹

## Crisscross Texture



此图为交错纹理应用案例，通过改变直线角度，线线交叉，赋予到产品上，起到防滑作用。

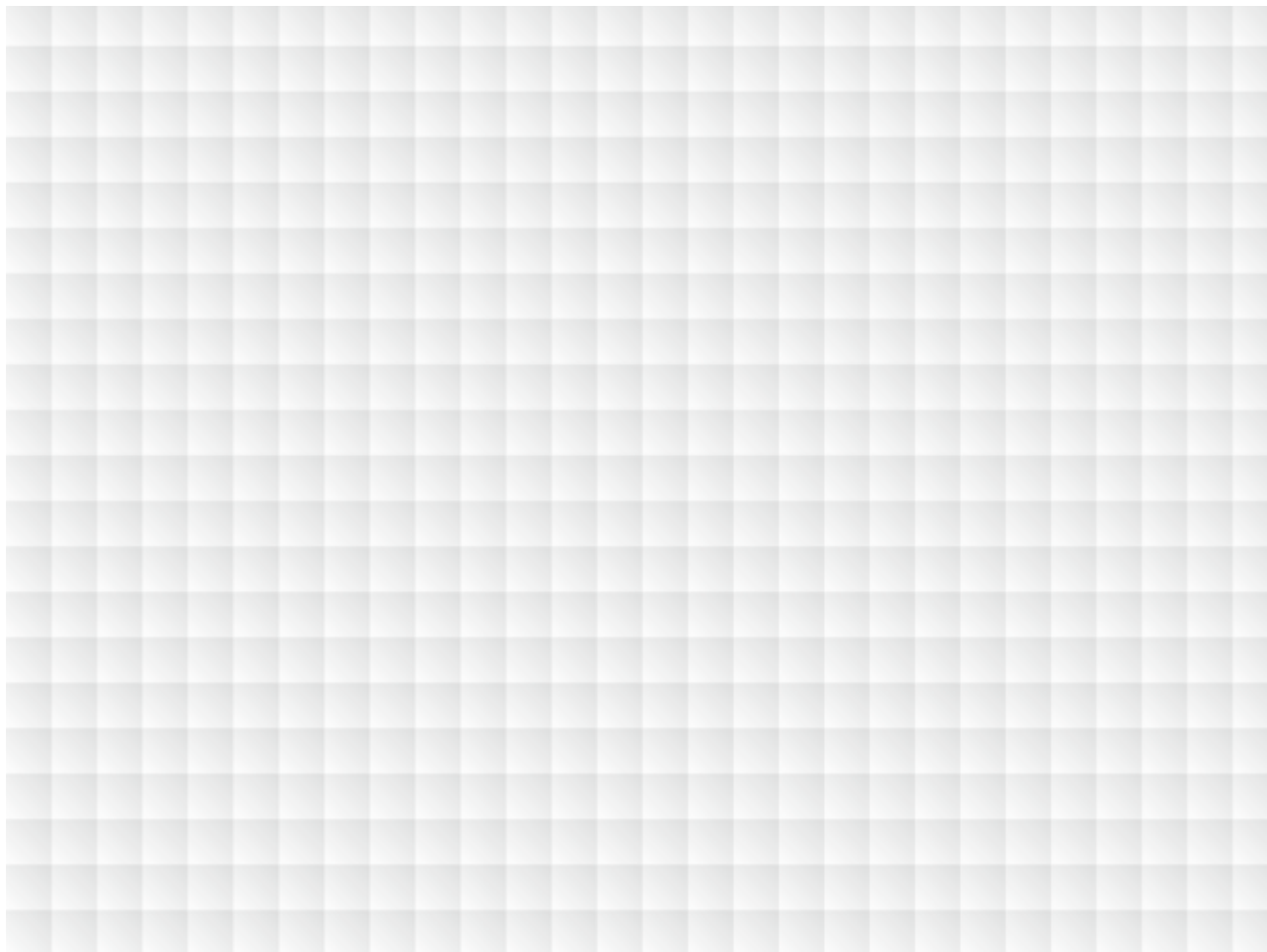
This picture is an application case of crisscross texture . By changing the angles of lines and interlacing them, a non-slip effect can be achieved on the product.

肌理——以点、线、面为元素，有序排列构成的表面效果

## 图形 Graphic

马赛克的灵感源自古罗马、古希腊灵巧多变的玲珑格，最容易联想到的运用，是应用在镜面反射球上。在相对曲率较低的面使用马赛克，让方向单一的面活泼而有层次，同时，在光的照射下，拥有水晶般多变的色泽。

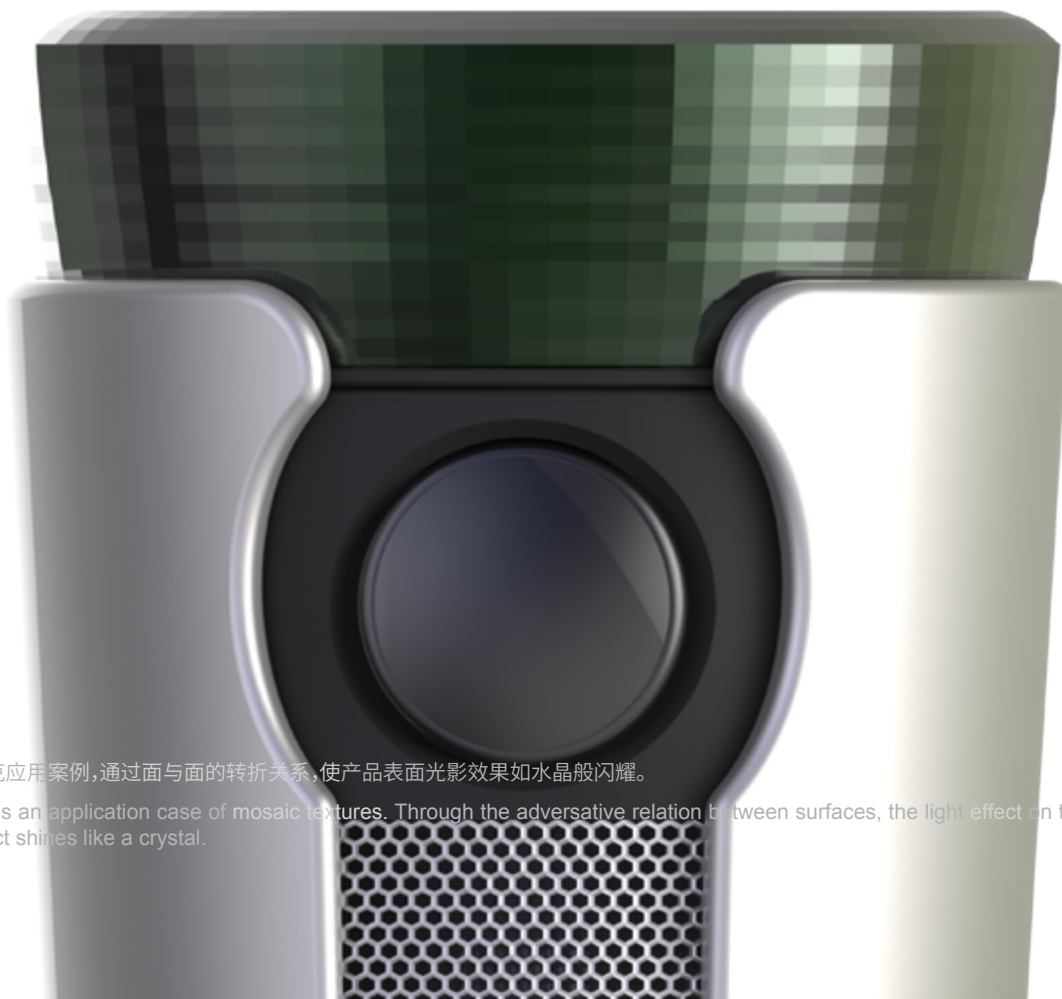
The mosaic texture is inspired by the flexible exquisite lattice in ancient Rome and Greece. The easiest use of this texture that can be thought of is the use on specular ball. The use of mosaic on surfaces with low relative curvature allows a single surface to be lively and layered. Meanwhile, it makes the surface have a crystal-like color under the illumination of light.



Texture -- The surface effect of orderly arrangements of points, lines and surfaces.

# 马赛克

Mosaic Texture



此图为马赛克应用案例,通过面与面的转折关系,使产品表面光影效果如水晶般闪耀。

This picture is an application case of mosaic textures. Through the adversative relation between surfaces, the light effect on the surface of the product shines like a crystal.

肌理——以点、线、面为元素，有序排列构成的表面效果

## 图形 Graphic

模拟钻石切割面，以光线折射为基础，在自然光下绽放出璀璨夺目的光芒，彰显出高端与奢华的气质，侧边的高光微面会产生碎钻般闪耀的效果，并且使之具备特殊的触感。

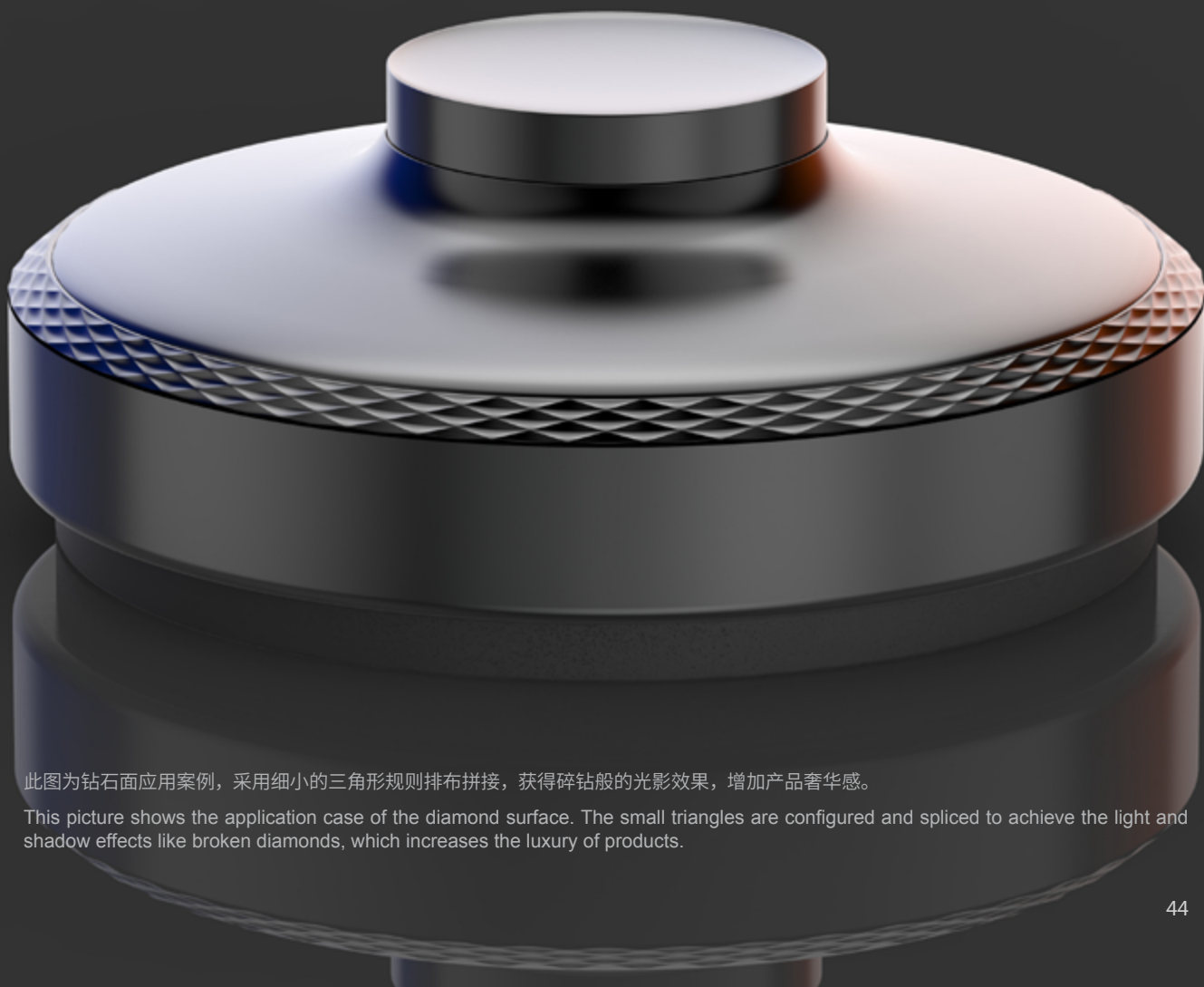
The simulation of the cutting surface of diamonds, which is based on the refraction of light, can shine brilliantly under natural light and creates a high-end and luxurious temperament. The high-gloss micro-face on the side will produce the effect of shimmering as a diamond and make it with a special touch.



Texture -- The surface effect of orderly arrangements of points, lines and surfaces.

# 钻石面

## Diamond Surface



此图为钻石面应用案例，采用细小的三角形规则排布拼接，获得碎钻般的光影效果，增加产品奢华感。

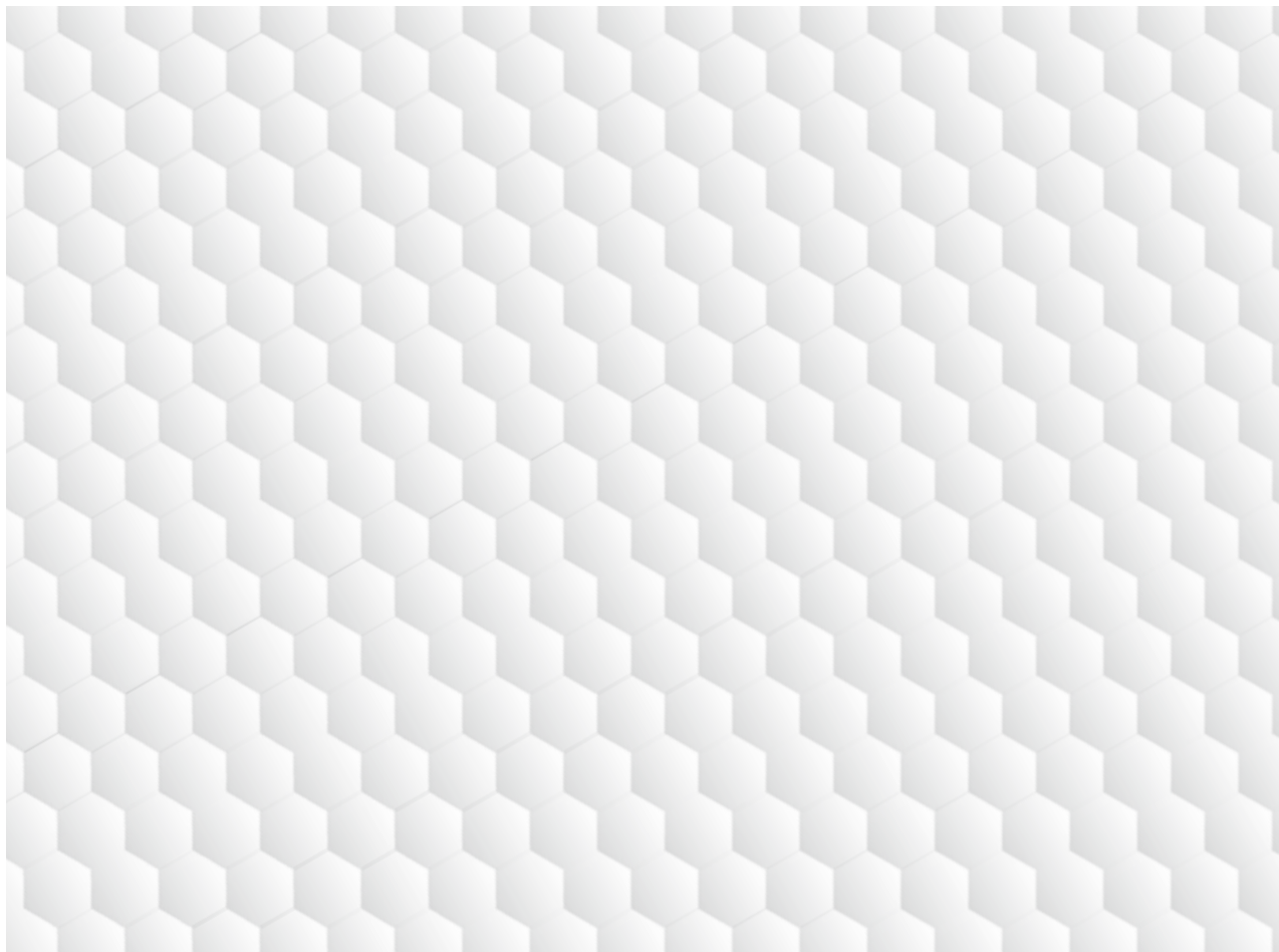
This picture shows the application case of the diamond surface. The small triangles are configured and spliced to achieve the light and shadow effects like broken diamonds, which increases the luxury of products.

肌理——以点、线、面为元素，有序排列构成的表面效果

## 图形 Graphic

该纹理取源于蜂巢的正六边形结构排列，应用于弧面中框，在视觉、触觉方面给人不一样的感官体验。将蜂巢元素抽象简化，既保留蜂巢的原始形态又不失设计感。

The texture is inspired by the regular hexagonal structure of the honeycomb, which is applied in the cambered surface frame and gives people different sensory experiences in visual and tactile aspects. The honeycomb elements are abstracted and simplified, which not only preserves the original shape of the hive but also a sense of design.



Texture -- The surface effect of orderly arrangements of points, lines and surfaces.

# 蜂巢纹

## Honeycomb Texture



此图为蜂巢纹应用案例，将蜂巢概括为几何图形，应用于产品造型中，增加产品的美观性。

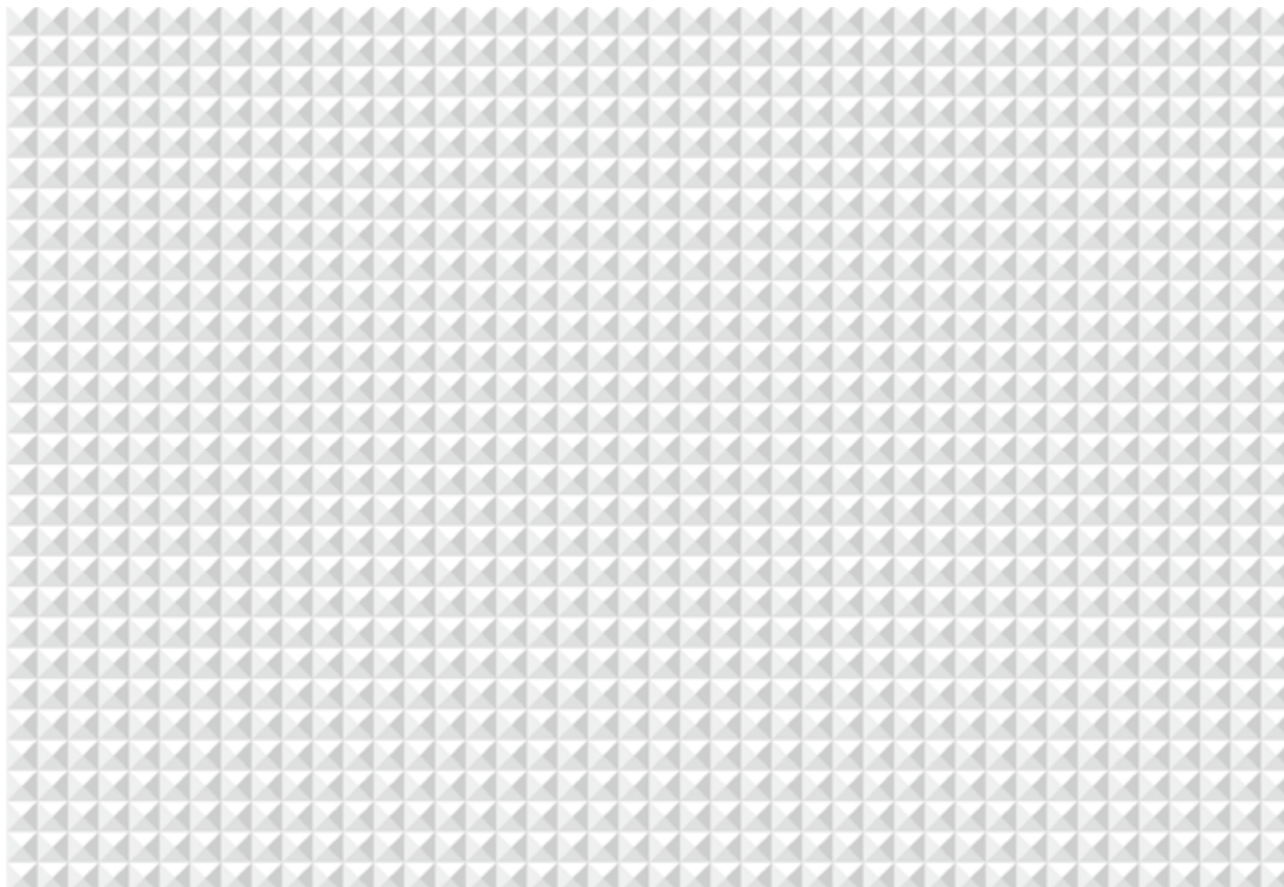
This picture is an application case of the honeycomb texture. The honeycomb is abstracted as a geometric shape and applied to product modeling to increase the aesthetics of the product.

肌理——以点、线、面为元素，有序排列构成的表面效果

## 图形 Graphic

金字塔是欧洲中世纪一种以矩阵排列的建筑装饰艺术，也一直是奢侈品商专用的设计语言，在各品牌高端珠宝与钟表中的经典实例不胜枚举。钉子整齐排列，如同精巧且细小的金字塔格子，散发着无穷魅力。黑色巴黎钉应用在手机上尽显奢华，金色则彰显时尚靓丽，高贵大气。

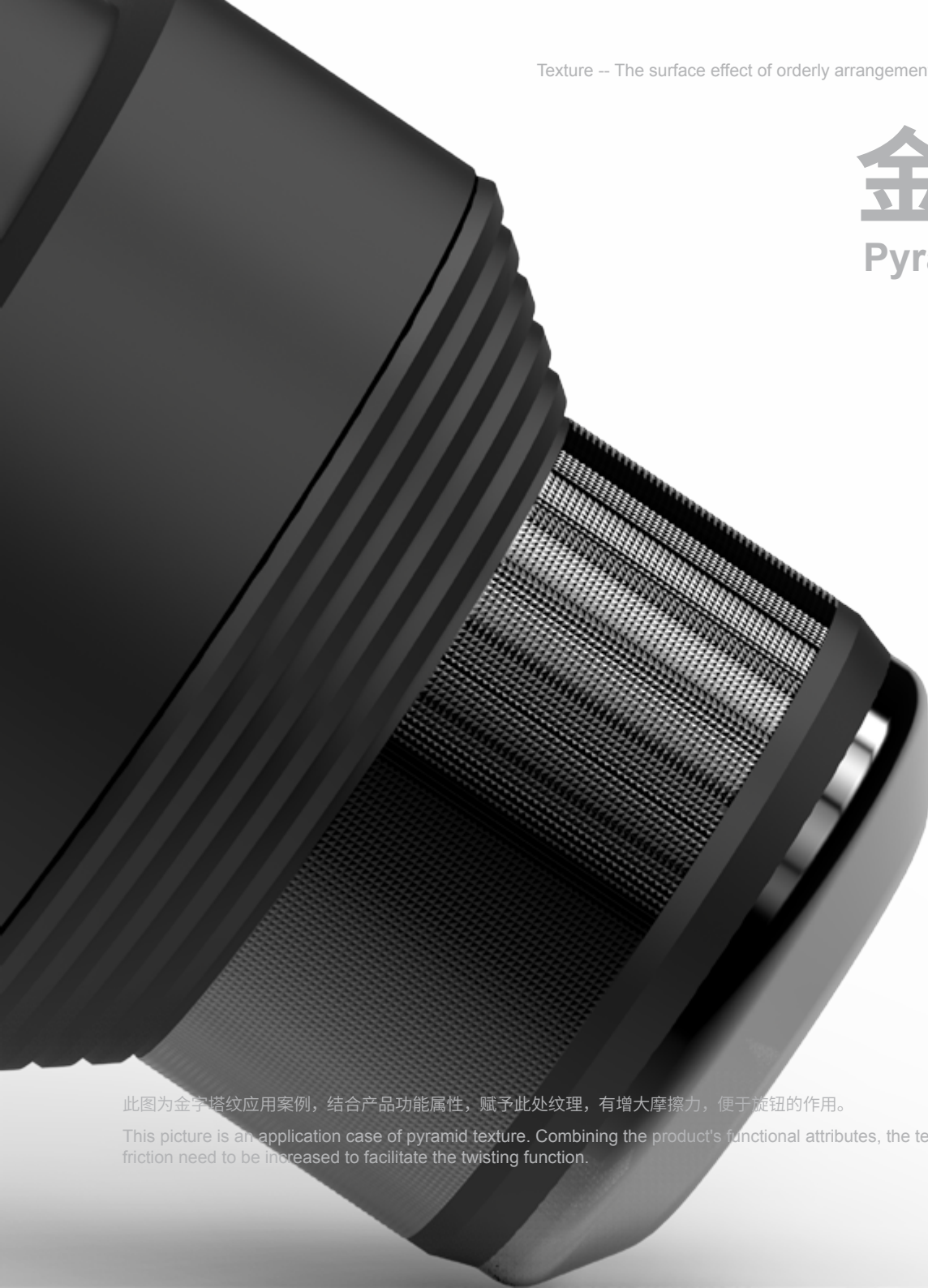
Pyramid is a kind of architectural decoration art arranged in a matrix in the middle ages of Europe and has also been an appropriate design for luxury goods dealers. The classic examples in high-end jewelry and timepieces of various brands are numerous. The nails are neatly arranged, like delicate and tiny pyramids, and exudes endless charm. The application of black Clous de Paris on the mobile phone is full of atmospheric luxury, while the golden color is the highlight of fashion and noble.



Texture -- The surface effect of orderly arrangements of points, lines and surfaces.

# 金字塔

Pyramid Texture



此图为金字塔纹应用案例，结合产品功能属性，赋予此处纹理，有增大摩擦力，便于旋钮的作用。

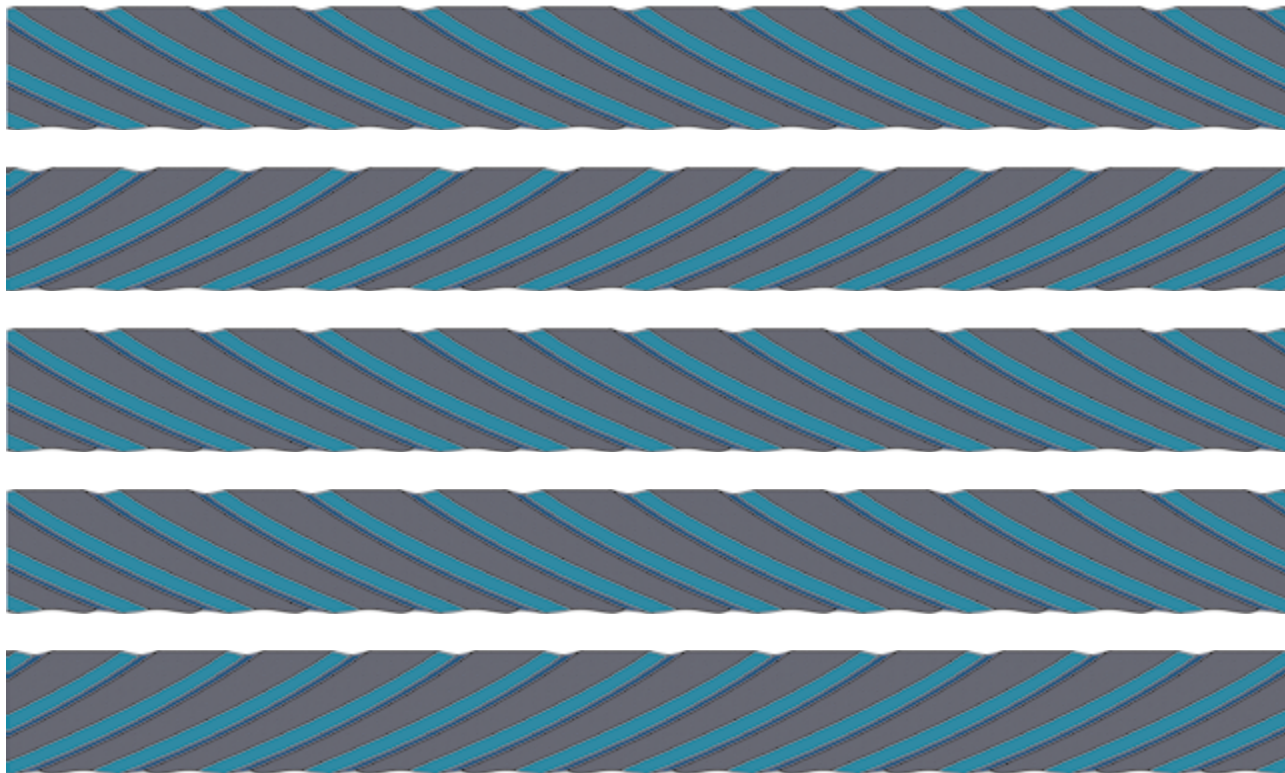
This picture is an application case of pyramid texture. Combining the product's functional attributes, the texture is employed to where the friction need to be increased to facilitate the twisting function.

肌理——以点、线、面为元素，有序排列构成的表面效果

## 图形 Graphic

点翠是中国传统的金属工艺和羽毛工艺的完美结合,起着点缀金银首饰的作用。点翠工艺制作出的首饰,光泽感好,色彩艳丽,整体典雅而高贵。设计融入点翠理念,模仿羽毛光泽,体现羽毛纹理;与金属相结合,其光泽颜色随角度变化产生炫光效果。

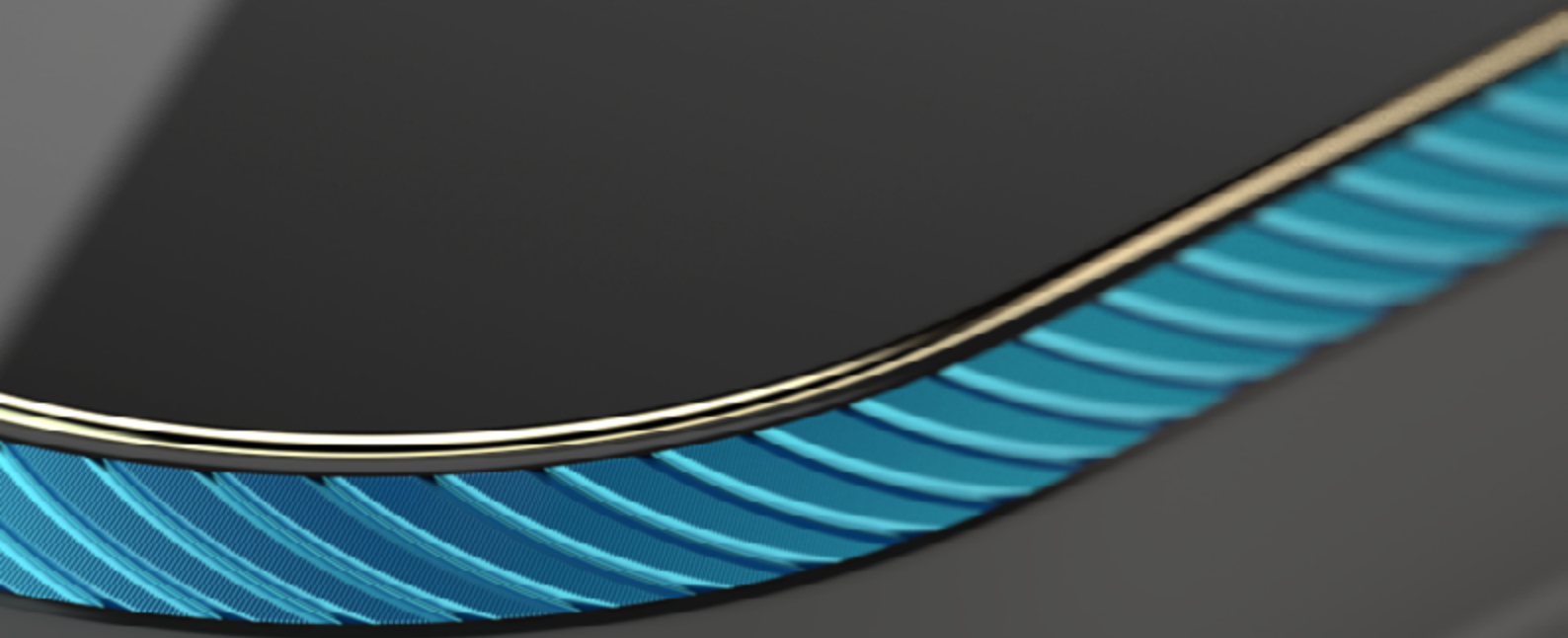
Kingfisher craft is the perfect combination of Chinese traditional metal crafts and feather craftsmanship. It plays a role in ornamenting gold and silver jewelry. The jewelry produced in this process is lustrous, have colorful appearance and elegant and noble. The design incorporates the concept of kingfisher craft, imitates the feather luster and embodies the feather texture. Combined with metal, its shiny color produces a glaring effect with the changing angle.



Texture -- The surface effect of orderly arrangements of points, lines and surfaces.

# 翠羽纹

## Kingfisher Feather Texture



此图为翠羽纹应用案例，通过其在金属上模仿翠鸟羽毛在光照下产生的不同色彩，来达到提升产品品质的点缀效果。

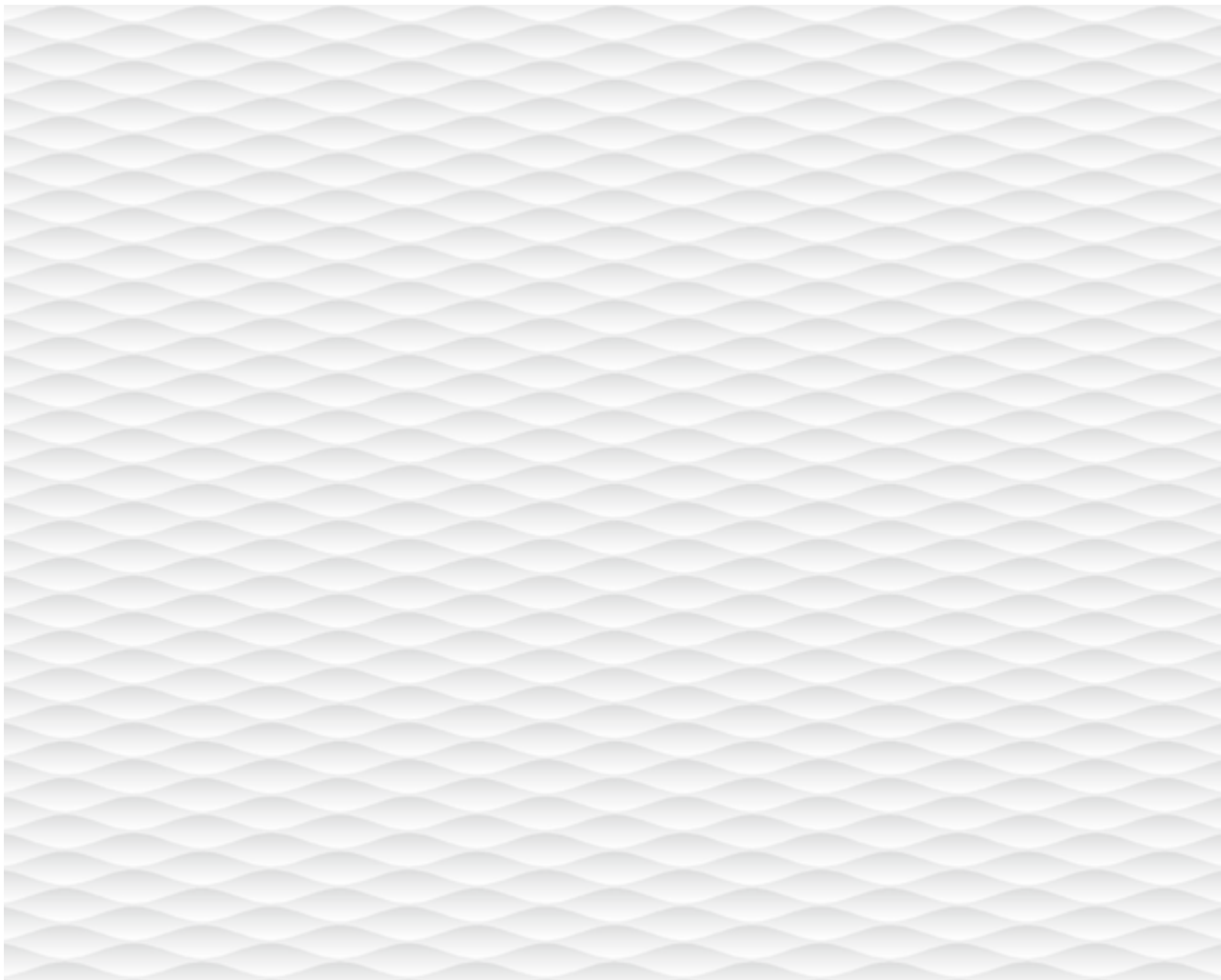
This picture is an application case of kingfisher feather texture. Through imitating different colors of the kingfisher's feathers on the metal under light to enhance the embellishment effect of products.

肌理——以点、线、面为元素，有序排列构成的表面效果

## 图形 Graphic

该纹理由凹凸三角面组成菱形面为单元，形成倾斜布局的网格面，灵动兼具秩序感。

The texture is composed of a rhombic face constituted of convex and concave triangles as a unit, and forms an inclined grid surface, which demonstrates the sense of flexibility and order.



Texture -- The surface effect of orderly arrangements of points, lines and surfaces.

# 波浪纹

Wave Texture



此图为波浪纹应用案例，上下起伏的凹凸面交错，使产品整体效果更为灵动。

This picture is an application case of wave texture. The up and down surfaces are interlaced and makes the overall effect of the product more flexible.

# Chapter 5

**第五章** 你好，未来——以产品结构、造型等构成的概念设计

Hello, future -- Conceptual design based on product structure and modeling.

在概念设计中，如采用头脑风暴法进行方案创意，可以将体验设计思想更好地融入其中，也就是更多地关注产品使用者的感受，而非产品本身。所以概念设计是一个充满主观色彩的过程。设计很多时候禁锢于现有技术，这会让整个行业停止前进。概念模型就是要刨除具象事物，进行高度概括，它可赋予未来更多的可能性。前瞻性的设计思维和超乎寻常的突破点也会给基础科技带来启发和推动。

In conceptual design, if brainstorming is adopted, the idea of experience design can be better integrated into it, which means concerning more about the feelings of the users, not the product itself. So the process of conceptual design is full of subjective feeling. Many times, design is confined in the existing technology, which will make the whole industry stop advancing. Conceptual model is one abandons concrete things with high generalization, which can give more possibilities to the future. Forward-looking design thinking and extraordinary breakthroughs will also bring inspiration and impetus to basic technology.

## 图形 Graphic

产品造型模仿自然生物的形态，即，艺术设计源于自然。提取大自然的图形元素，经过计算设计，赋予到产品设计上，从而带给人们返璞归真，回归自然的体验感。

Product modeling imitates the form of natural organisms, namely, art comes from nature. Add the graphic elements extracted from nature to product design after calculation and design. It will bring people a sense of returning to nature.



Hello, future -- Conceptual design based on product structure and modeling.

# 水晕

Water Halo



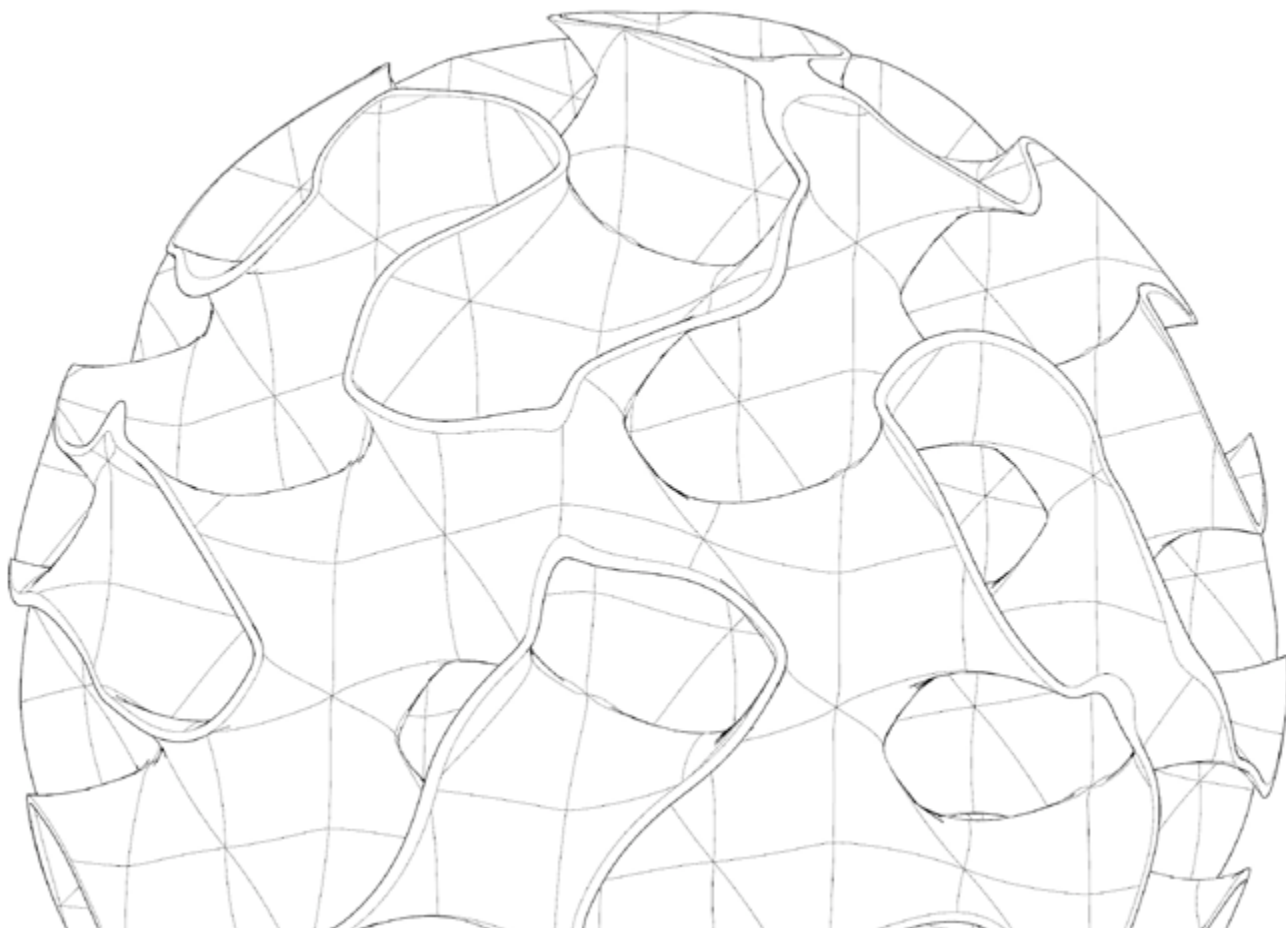
此图是水晕造型设计的壁挂式 CD 机，在享受音乐的同时，享受视觉上的律动感。

This picture shows a wall mounted CD player designed in water halo modeling, enjoying the visual sense of rhythm while enjoying music.

## 图形 Graphic

通过构思，建立抽象的概念模型，它是将设计者繁复的感性和瞬间思维上升到统一的理性思维从而完成整个设计。概念设计的关键是概念的提出和运用，概念产品可以生产但不能量产，是对未来的一种畅想和探索。

An abstract conceptual model is constructed through conception. It is to refine the complex perceptual and instantaneous thinking of designers to rational thinking so as to complete the whole design. The key to conceptual design is the proposal and application of concepts. The concept product can be produced but not mass production. It is a kind of imagination and exploration for the future.



# 概念

Concept



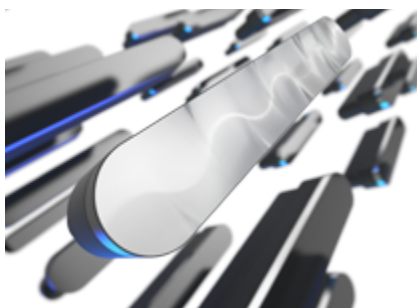
此图为概念造型设计，对未来的一种展望。

This picture is a conceptual modeling design, a kind of future expectation.

# 附录 APPENDIX



Page06 / S纹 S-Lines



Page07 / 水波 Water Wave



Page08 / 交错 Crisscrossing



Page09 / 风车 Windmill



Page10 / 抛物线 Parabola Line



Page14 / 美工线 Split Line



Page16 / C角 C-Angle



Page18 / 轮毂 1 Wheel Hub 1



Page19 / 轮毂 2 Wheel Hub 2



Page20 / 轮毂 3 Wheel Hub 3



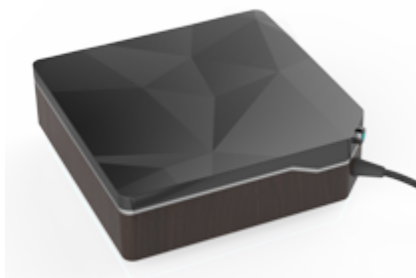
Page24 / 镜面高光 Specular Machining



Page26 / 渐消线 Fading Line



Page28 / 方格面 Isometric Surface



Page30 / 钻石面 Diamond Surface



Page34 / 星流线 Star Streamline



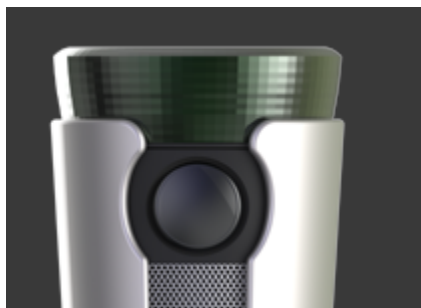
Page36 / 中国印 Chinese Elements



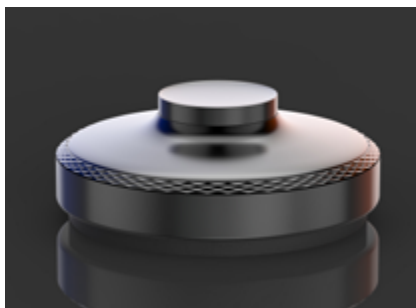
Page38 / 麦穗纹 Wheatear Texture



Page40 / 交错纹 Crisscross Texture



Page42 / 马赛克 Mosaic Texture



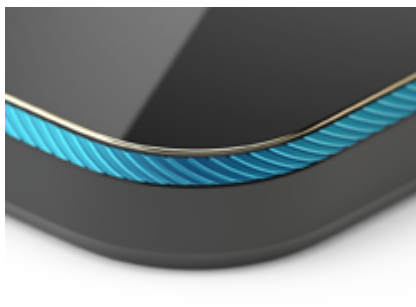
Page44 / 钻石面 Diamond Surface



Page46 / 蜂巢纹 Honeycomb Texture



Page48 / 金字塔 Pyramid Texture



Page50 / 翠羽纹 Kingfisher Feather Texture



Page52 / 波浪纹 Wave Texture



Page56 / 水晕 Water Halo



Page58 / 概念 Concept





北京精雕集团  
BEIJING JINGDIAO GROUP

咨询热线 /Hotline

**400-6789-532**

<http://www.jingdiao.com>

E-mail: [market@jingdiao.com](mailto:market@jingdiao.com)

邮编 /Postcode: 102308

总机 /Tel: 010-60801188

传真 /Fax: 010-60803978

地址: 北京市门头沟区石龙工业区永安路 10 号

Add : No.10 Yong'an Road, Shilong Industrial Zone, Mentougou District, Beijing, China.

印刷日期 /Print date: 2018.11

本册最终解释权归北京精雕科技集团有限公司所有。

The final interpretation of this brochure is owned by Beijing Jingdiao Group Co., Ltd.