



深圳历史最大台风!!!

The biggest typhoon in Shenzhen history!

2003年-杜鹃Dujuan 风速:48m/s

2016年-妮妲Nida 风速:42m/s

2018年-山竹Shanzhu 风速:48m/s

深圳历史极端最高气温达到38.7°C!!!

Shenzhen's historical extreme maximum temperature reached 38.7 °C!!!

深圳所处纬度较低,属南亚热带季风气候,长夏短冬。历史极端最高气温38.7°C(1980年7月10日)。



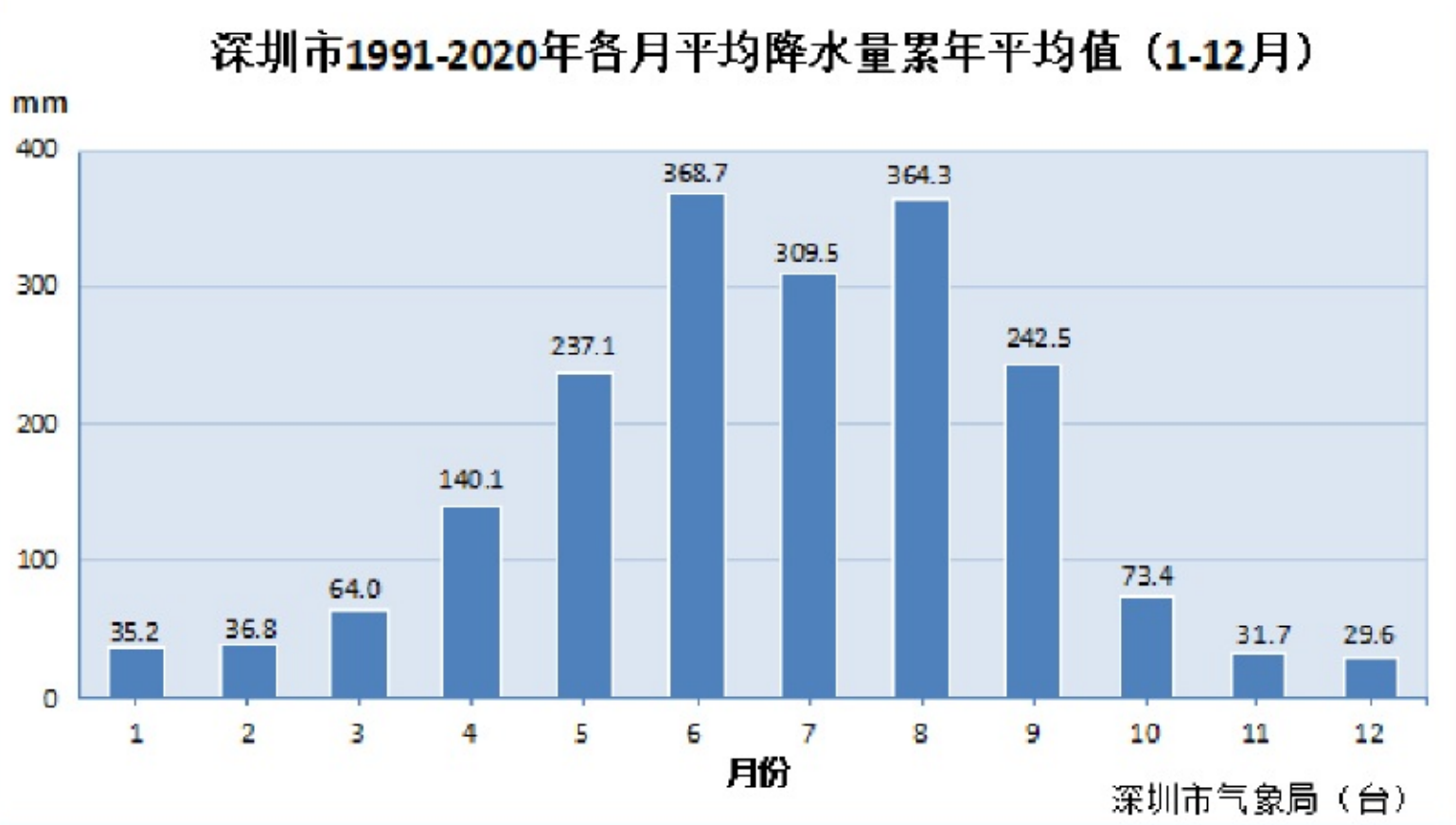
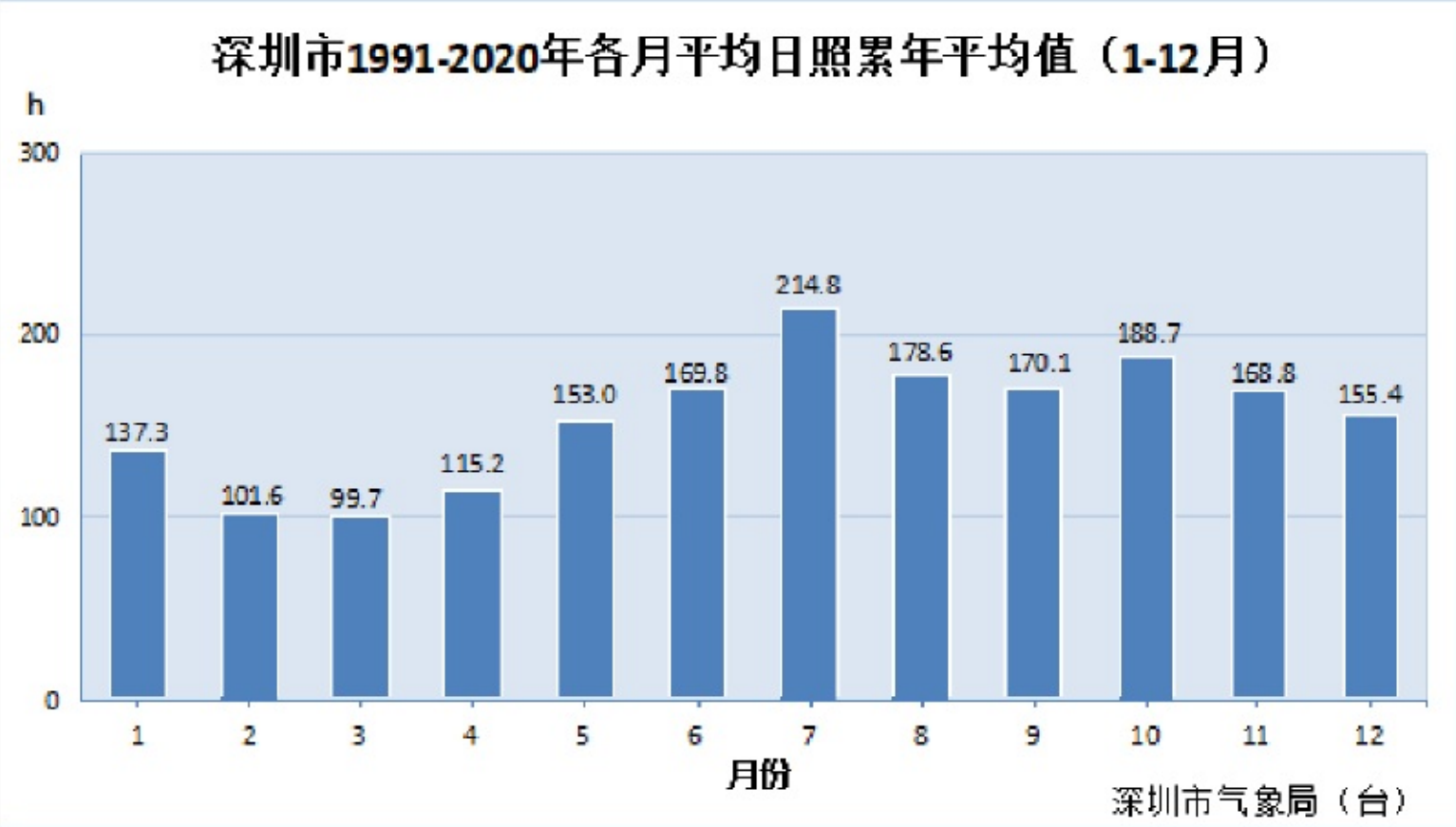
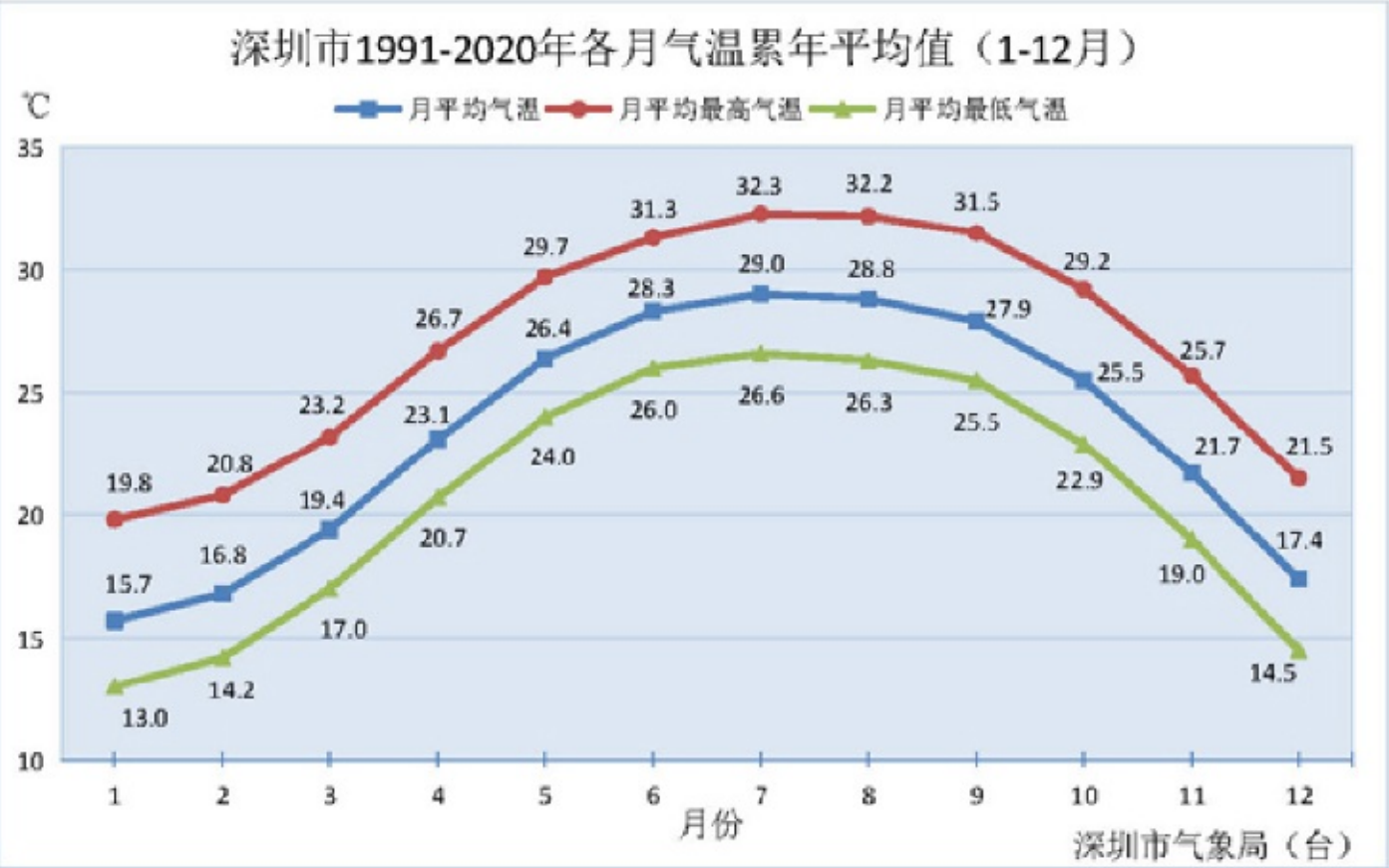
深圳市气候概况及四季特征

来自《深圳市气象局(台)》官网

Overview of Shenzhen's climate and characteristics of four seasons
From the official website of Shenzhen Meteorological Bureau

深圳市各要素1991-2020年累年平均值					
气温(°C)	相对湿度 (%)	降水量 (mm)	日照时数 (h)	气压(hPa)	高温日数 (d)
23.3	74	1932.9	1853.0	1005.5	4.4

项 \ 季节		春季	夏季	秋季	冬季
入季时间	最早	12月21日	3月25日	9月28日	11月29日
	最迟	3月6日	5月23日	11月27日	2月28日
	平均	2月3日	4月20日	11月8日	1月21日
平均季长 (d)		76	202	74	13
平均气温 (°C)		18.7	27.4	18.1	9.5
平均雨量 (mm)		208.8	1644.6	64.7	27.1



关于提升推拉门的难点与痛点!!

Difficulties and pain points about sliding doors and windows!!

众所周知推拉门窗因受到构造的限制,密封性能差一向是这类产品上的难点和痛点,此缺陷问题总令人望而却步。尤其到了冬季或者暴雨天,漏风渗水的问题更加突出,即使把门窗关紧,还是有风雨趁虚而入,如果遇上大风天气,发出的异响还吵得人心烦不已。在使用不当时,易造成滑轮及其它配件损坏等问题。

It is well known that sliding doors and windows have always been difficult and painful points in this kind of products due to their poor sealing performance due to structural limitations. This defect is always daunting. Especially in winter or rainy days, the problem of air leakage and water seepage is more prominent. Even if the doors and windows are closed tightly, wind and rain still break in. In case of strong wind, the strange noise is still annoying. Pulley and other accessories are easy to be damaged due to improper use in daily life.



渗水
Seepage



漏风
Air intake



噪音
noise

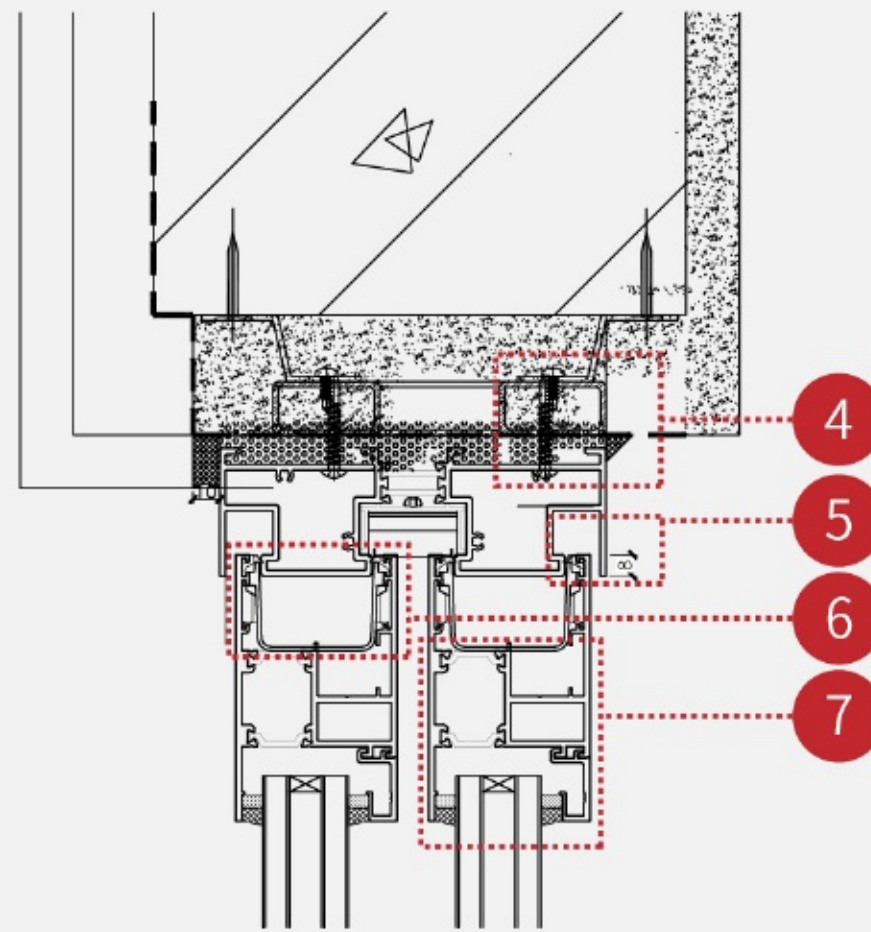


易坏
easy break



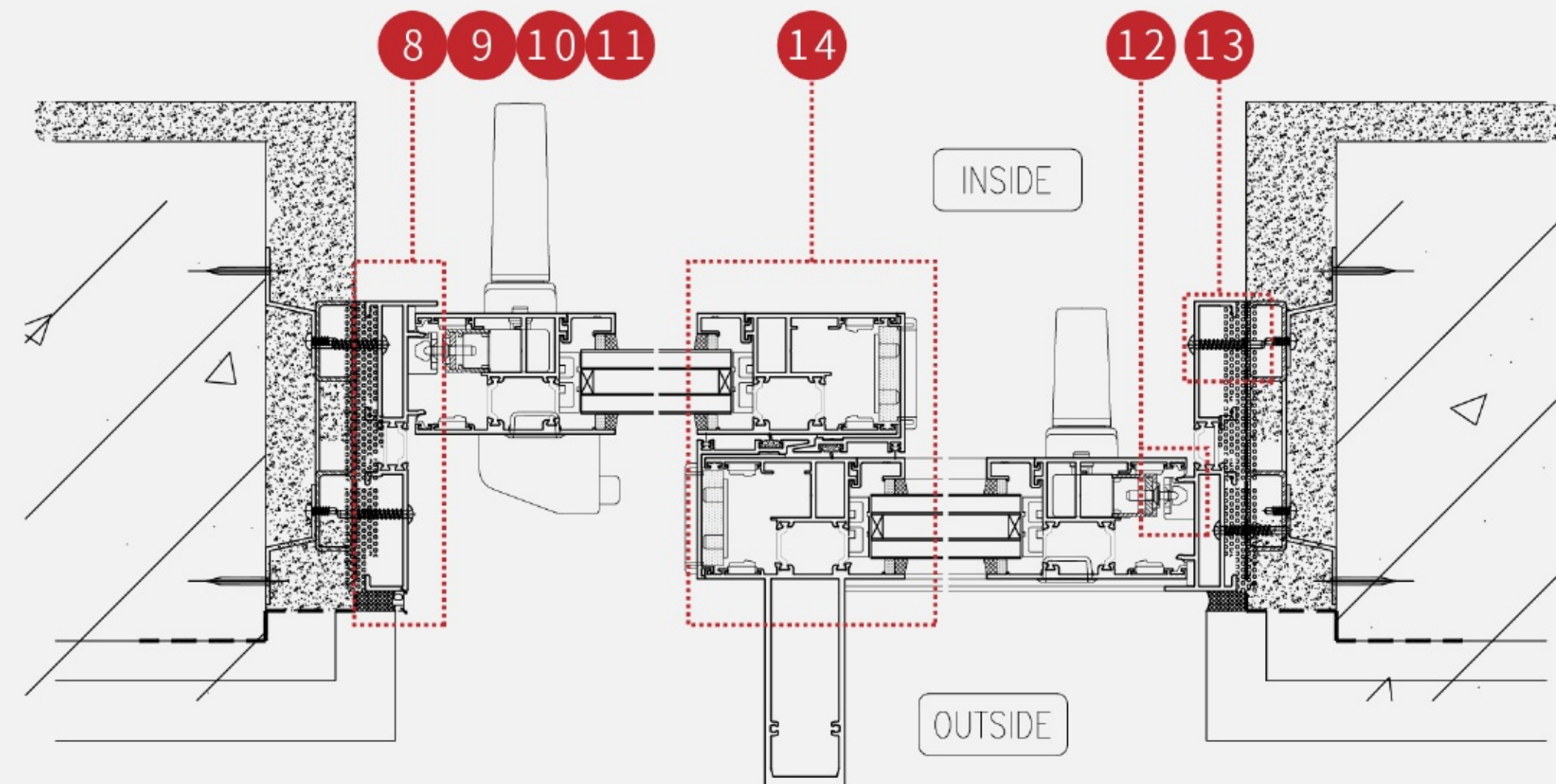
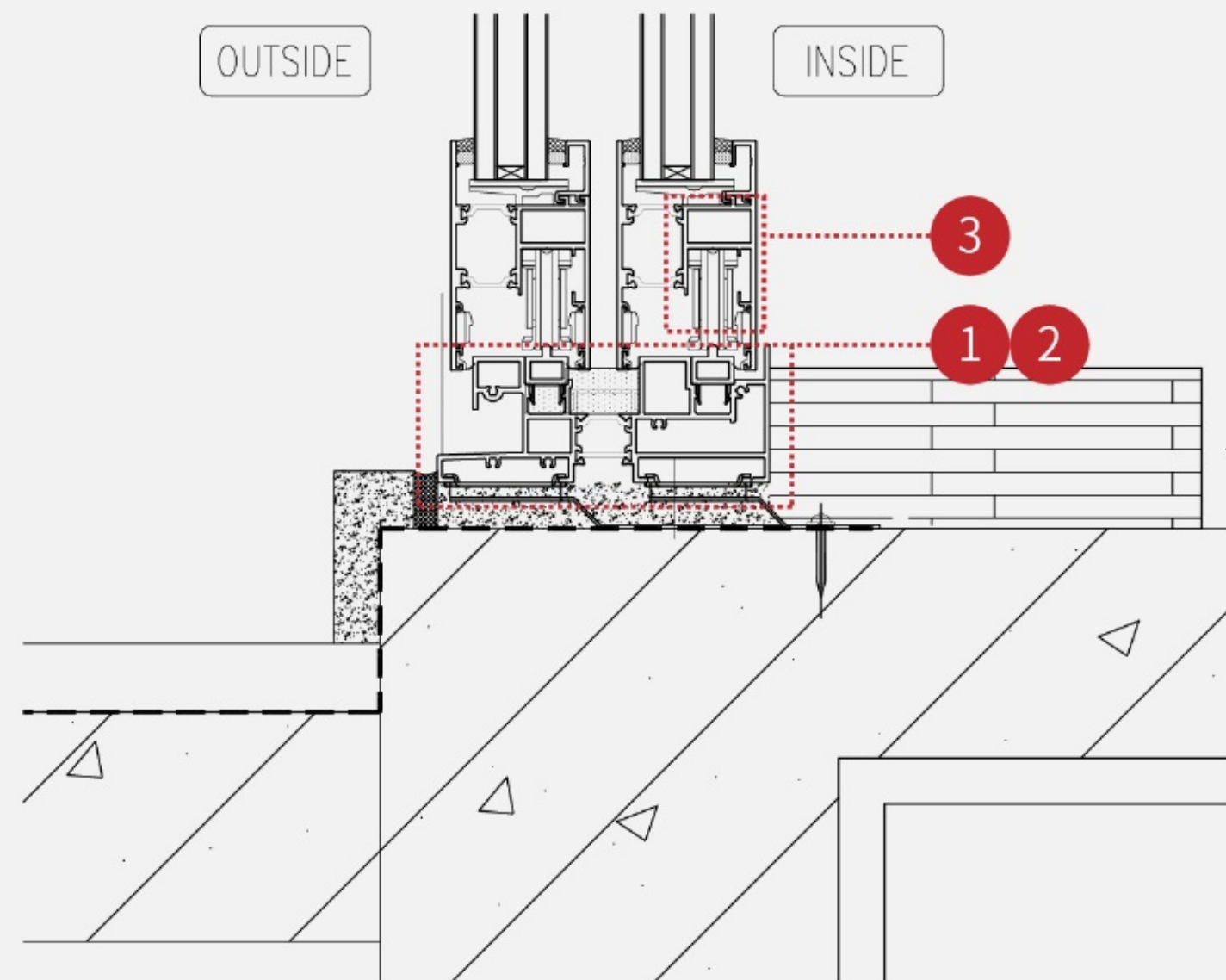
关于市面上某些品牌提升门的设计缺陷！！

About the design defects of other sliding doors and windows on the market!!



1. 下框密封设计不足，仅有两道密封；
2. 室内下框挡水边处，无密封设计，无法满足暴雨台风地区密封要求；
3. 滑轮系统受力点不对中，并无双向加固，后期使用不当易导致滑轮损坏；
4. 此处螺丝无法实现按图施工；
5. 上部搭接量较小不可靠，容易产生门扇滑落；
6. 此处扇料有个凸筋，封盖材料置于此处，较难实现如节点图中的平整度；
7. 扇料腔体不足，并受到加工误差，此结构很在拼接后有较好的平整度，及角部强度；
8. 边框不是闭腔腔体，强度不足，易变形；
9. 边框无法实现45度拼接，后期加工易导致错位，不平整，不美观；
10. 门框与门扇之间的缝隙，无做搭接处理，密封性不足，容易造成渗水漏风；
11. 边框挡水边，无密封设计，容易造成渗水漏风；
12. 锁座外露，影响美观；
13. 边框安装螺丝外露，影响观感及密封性；
14. 勾启螺丝孔外露，影响观感及密封性；

1. The seal design of the lower frame is insufficient, with only two seals;
2. There is no sealing design at the water retaining edge of the indoor lower frame, which cannot meet the sealing requirements in rainstorm and typhoon areas;
3. The stress point of the pulley system is not centered, and there is no two-way reinforcement. The pulley may be damaged if it is used improperly in the later period;
4. The screws here cannot be constructed according to the drawing;
5. The upper overlap is small and unreliable, which is easy to cause door leaf slipping;
6. The fan material here has a convex rib, and the cover material is located here, so it is difficult to achieve the flatness in this scheme;
7. The fan cavity is insufficient and suffers from processing errors. This structure has good flatness and corner strength after splicing.
8. The frame is not a closed cavity, with insufficient strength and easy deformation;
9. The frame cannot be spliced at 45 degrees, which is easy to lead to dislocation, unevenness and bad appearance during later processing;
10. The gap between the door frame and the door leaf is not overlapped, and the sealing is insufficient, which is easy to cause water and air leakage;
11. The water retaining edge of the frame has no sealing design, which is easy to cause water seepage and air leakage;
12. The lock seat is exposed, affecting the appearance;
13. The frame mounting screws are exposed, affecting the appearance and sealing;
14. The hook screw hole is exposed, affecting the appearance and sealing;



为了解决提升推拉门的难点与痛点

To solve the difficulties and pain points of sliding doors and windows



歌尔西亚深耕行业十余年,我们坚持研发创新,不断的改进产品。用心打磨品质,提升加工工艺。以我们对品质的高标准,打造出性能更加优越的产品。哪怕是微小的改进,可能在短时间内看不到明显效果,但通过点点滴滴的积累,有朝一日定当绽放她的光芒。

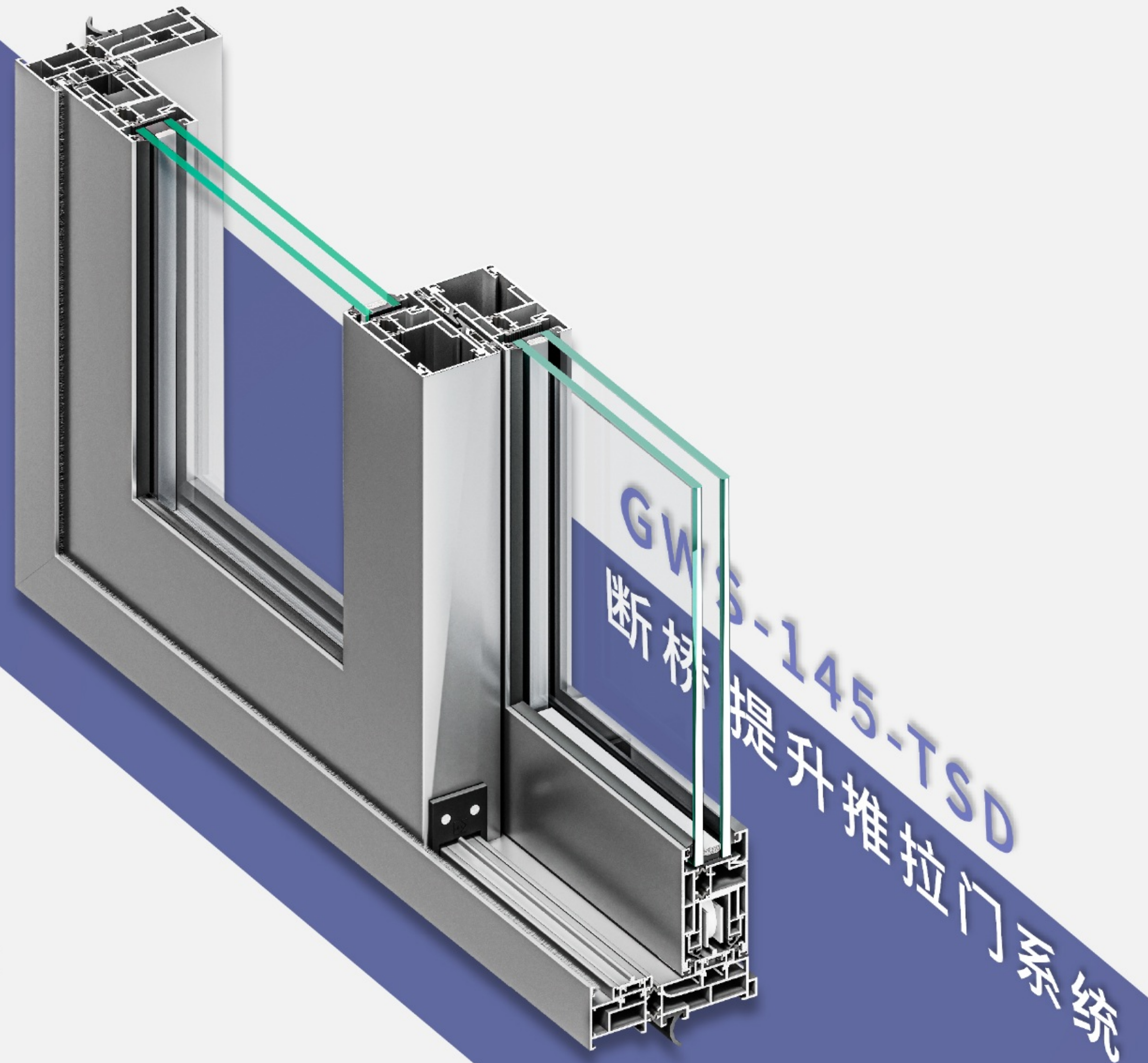
LIKI has been deeply involved in the industry for more than ten years. We have been constantly innovating, improving, polishing quality and improving process. With our critical vision, we will create products with better performance. Even small improvements may not have obvious effects in a short period of time, but only by accumulating little by little can they show their light one day.

根据中国地理环境幅员辽阔,东西南北气候环境相差悬殊的特点,歌尔西亚研发了两大类门窗产品,分别为LWS系列铝合金门窗系统,GWS系列断桥铝合金门窗系统。

本工程中采用此款GWS145TSD系列断桥提升推拉门系统,为歌尔西亚针对中国台风暴雨频发的特殊气候环境,因地制宜进行研发的产品之一,并荣获多项专利。

According to China's vast geographical environment and the great difference in climate and environment between east, west, north and south, Golcia has developed two categories of door and window products, namely LWS series aluminum alloy door and window system and GWS series bridge cutoff aluminum alloy door and window system.

The GWS145TSD series lifting bridge cutoff sliding door system used in this project is one of the products developed and designed by LIKI according to local conditions for the special climatic environment and durability of frequent typhoons and rainstorms in China, and has won a number of patents.





GWS145TSD 获得6项国家专利

歌尔西亚一直都致力于改善产品结构及工艺方面的研究,通过不断的尝试,进一步优化产品性能。技术团队克服研发过程中的重重困难,解决了一个又一个难题,成功研发出一系列的产品,并获得国家知识产权局专利授权,这些专利是歌尔西亚倡导创新和研发的有效实践。

OBTAINED 6 NATIONAL PATENTS

Liki has always been committed to improving the product structure and process research, and further optimize the product performance through constant attempts. The technical team overcame many difficulties in the research and development process, solved one problem after another, successfully developed a series of products, and obtained patent authorization from the State Intellectual Property Office. These patents are an effective practice of Liki in advocating innovation and research and development.

一种电动遮阳推拉门（发明专利） An electric sunshade sliding door	2021113295788
一种电动遮阳推拉门（实用专利） An electric sunshade sliding door	2021227464842
提升门扇防水胶块 Lift & slide door leaf waterproof rubber block	2018211542924
滑轮辅料装配防水胶条 Waterproof rubber strip @ wheel base	2018211544949
提升锁座 Lift lock base	2020306429106
边框防水胶条 Waterproof rubber strip for outer frame	2018211535884





经澳大利亚、中国等专业机构检测

Tested by professional institutions in Australia and China

欧标：

EN 12207-2016

EN 12208-2000

EN 12210-2016

美标：

ASTM E283-2004R2012

ASTM E330-2014

ASTM E331-00R16

澳标：

AS 2047-2014

AS-NZS 4420.1-2016



与建筑同寿
LONG LASTING



抗风压
RESISTANCE
TO WIND LOAD



安全
SECURITY



节能环保
ENERGY SAVING AND
ENVIRONMENT-FRIENDLY



防水密封
WATER TIGHT



隔音降噪
SOUND
INSULATION



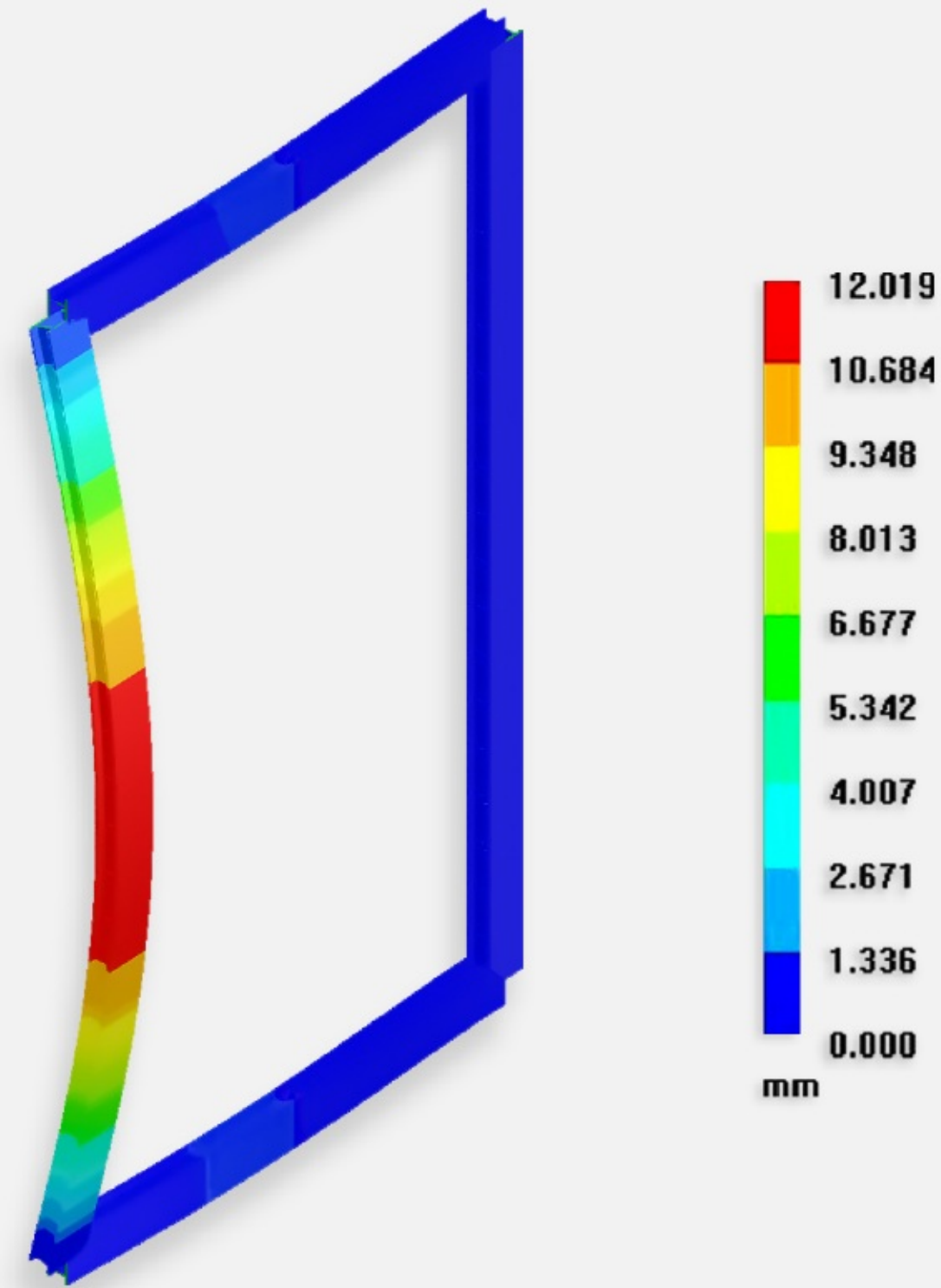
隔热保温
THERMAL
INSULATION

结构研发

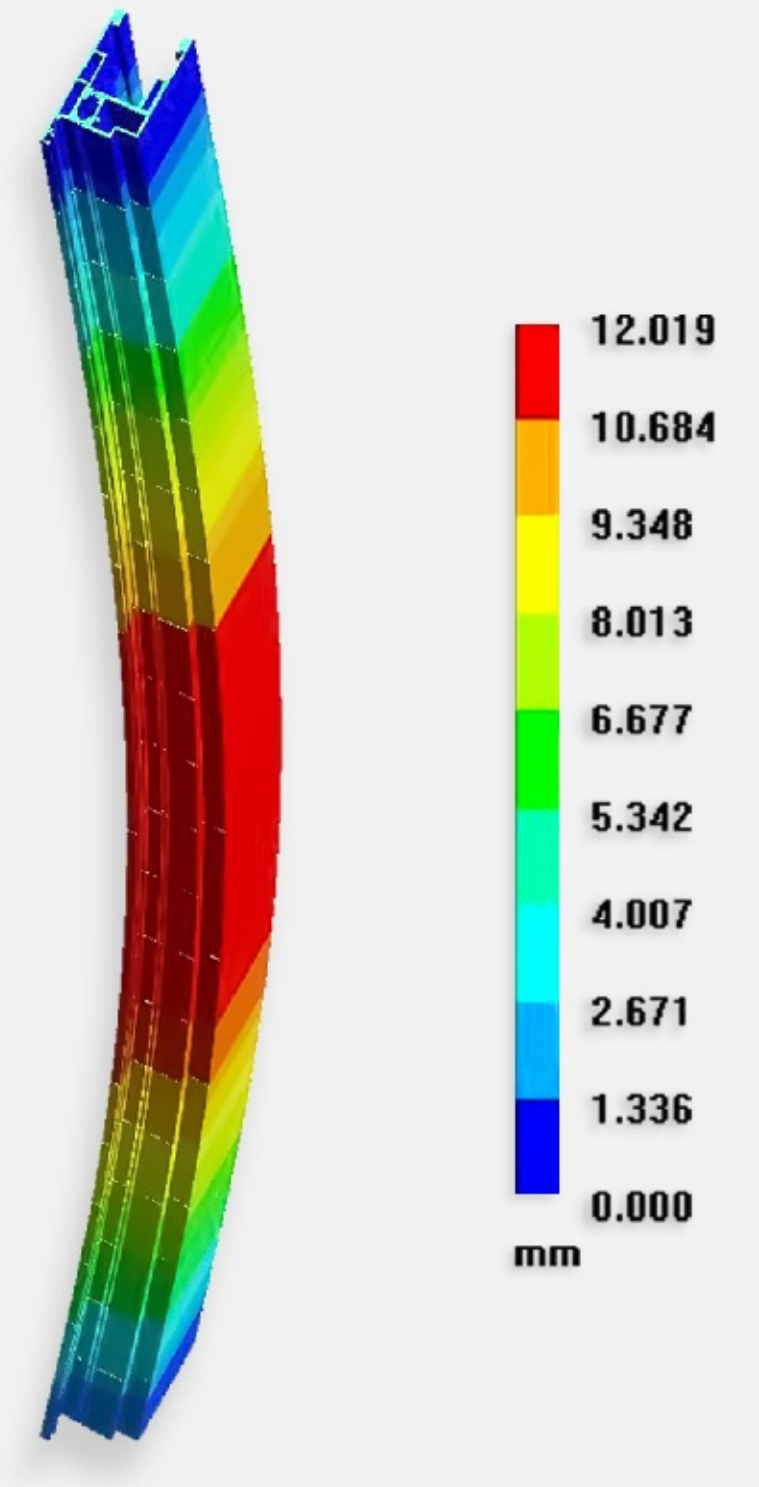
Structure Development

GWS145TSD断桥提升推拉门系统，选用符合标准的6063-T5/T6高级铝合金型材（全部原料均为铝锭，绝无掺杂回收铝），型材腔体结构为歌尔西亚自行研发开模，并从腔体结构和受力分析等各方面综合考虑，进行专业软件力学性能分析，反复试验后最终定型开模生产；厚度为2MM-6MM（视材料受力位置情况而定），较一般普通铝合金门窗型材厚度更厚，硬度更高，抗拉伸扭曲更强，加工出来的门窗变形系数极低，安全性极高。

6063-t5/t6 advanced aluminum alloy profiles meeting the standard (all raw materials are aluminum ingots, and there is no doped recycled aluminum). The profile cavity structure is developed and opened by liki. After comprehensive consideration of cavity structure and stress analysis, it is finally finalized and opened for production after repeated tests; The thickness is 2mm-6mm (depending on the stress position of the material), which is thicker than ordinary aluminum alloy door and window profiles, with higher hardness, stronger tensile and torsion resistance. The processed doors and windows have extremely low deformation coefficient and high safety.



145TSD门扇受力分析
145TSDcasementforce analysis



145TSD勾启受力分析
145TSDcasementforce analysis

9道密封设计

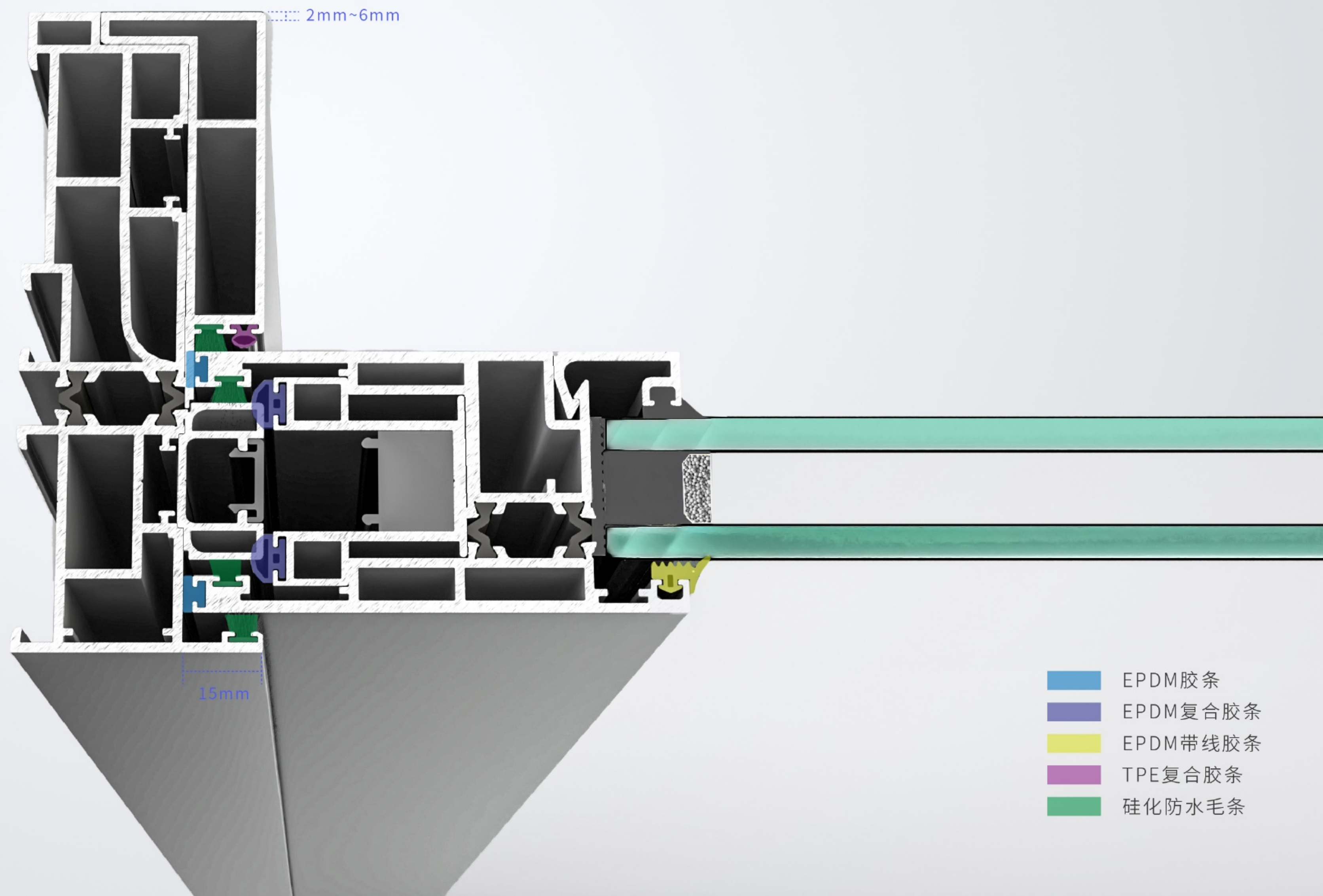
嵌入式门扇

超可靠搭接

歌尔西亚GWS145TSD系列采用框包扇设计，光启与边框处采用EPDM胶条TPE胶条与硅化防水毛条结合的9道密封设计，搭接可靠，拥有极佳的缓冲，静音，密封，防水，防风，防尘。

Embedded frame, 9 seals, Reliable lapping

The LIKI GWS145TSD series adopts the frame wrapped fan design, and the 9 seal designs of the combination of EPDM rubber strip TPE rubber strip and silicified wool strip are used at the light and frame, with reliable lapping, excellent cushioning, silence, sealing, waterproof, windproof and dust-proof.



勾启5道密封

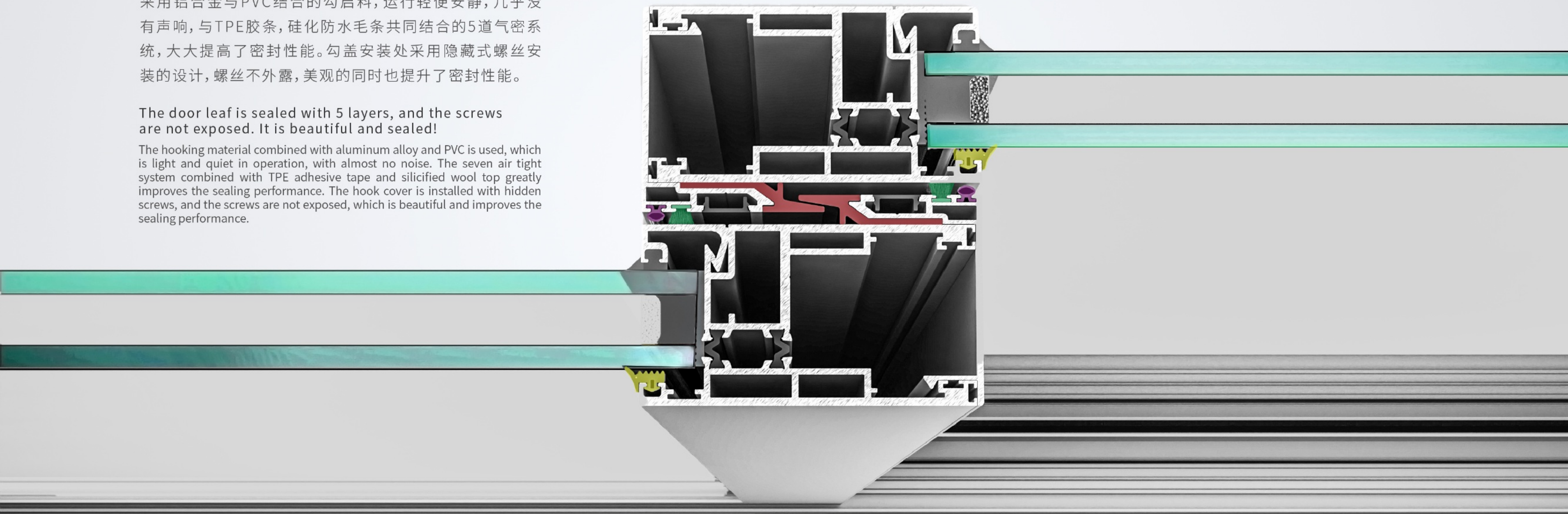
螺丝不外露，美观又密封！

采用铝合金与PVC结合的勾启料，运行轻便安静，几乎没有声响，与TPE胶条，硅化防水毛条共同结合的5道气密系统，大大提高了密封性能。勾盖安装处采用隐藏式螺丝安装的设计，螺丝不外露，美观的同时也提升了密封性能。

The door leaf is sealed with 5 layers, and the screws are not exposed. It is beautiful and sealed!

The hooking material combined with aluminum alloy and PVC is used, which is light and quiet in operation, with almost no noise. The seven air tight system combined with TPE adhesive tape and silicified wool top greatly improves the sealing performance. The hook cover is installed with hidden screws, and the screws are not exposed, which is beautiful and improves the sealing performance.

- EPDM胶条
- EPDM带线胶条
- PVC勾边
- TPE复合胶条
- 硅化防水毛条



扇与扇6道密封

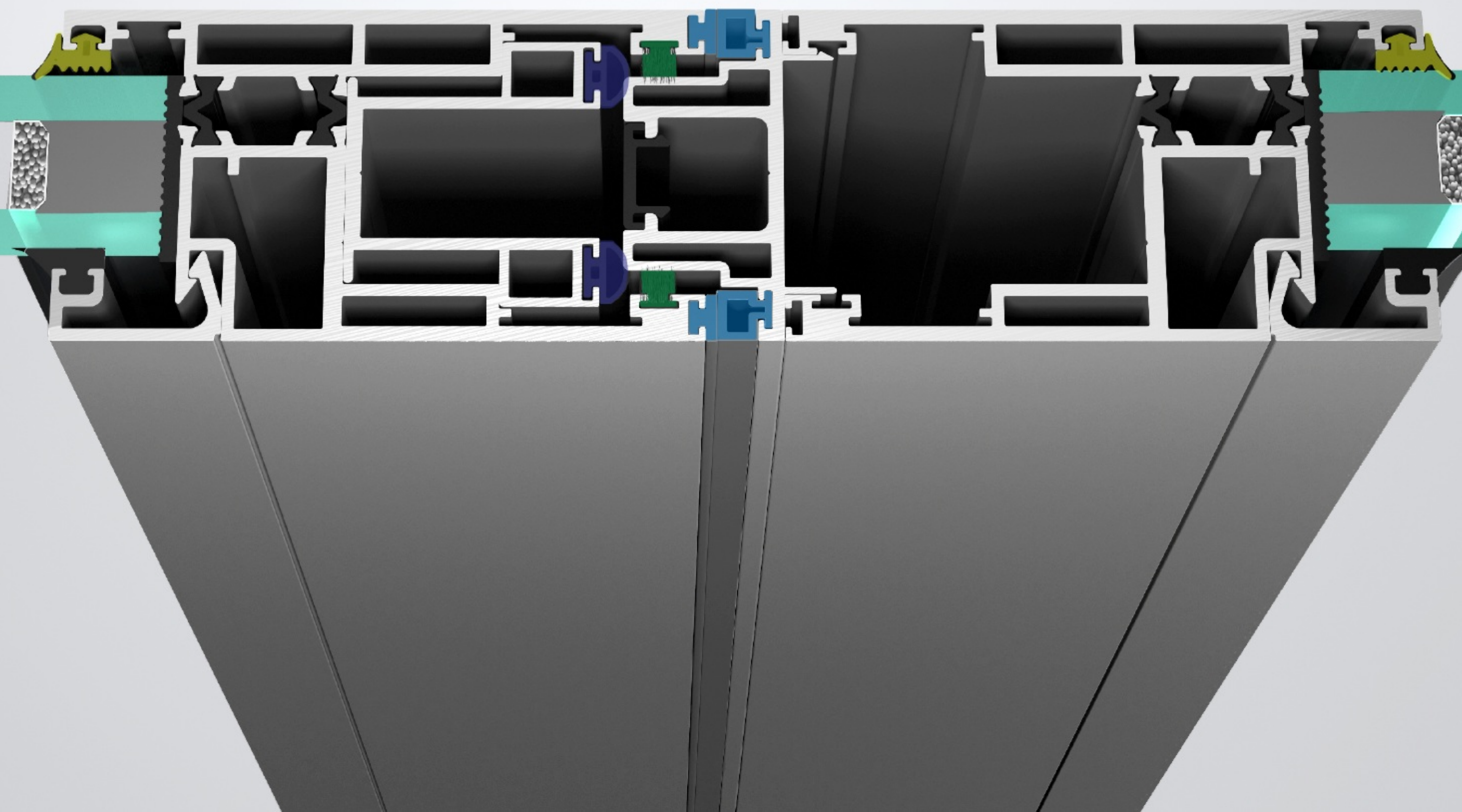
不留任何缝隙

碰撞静音

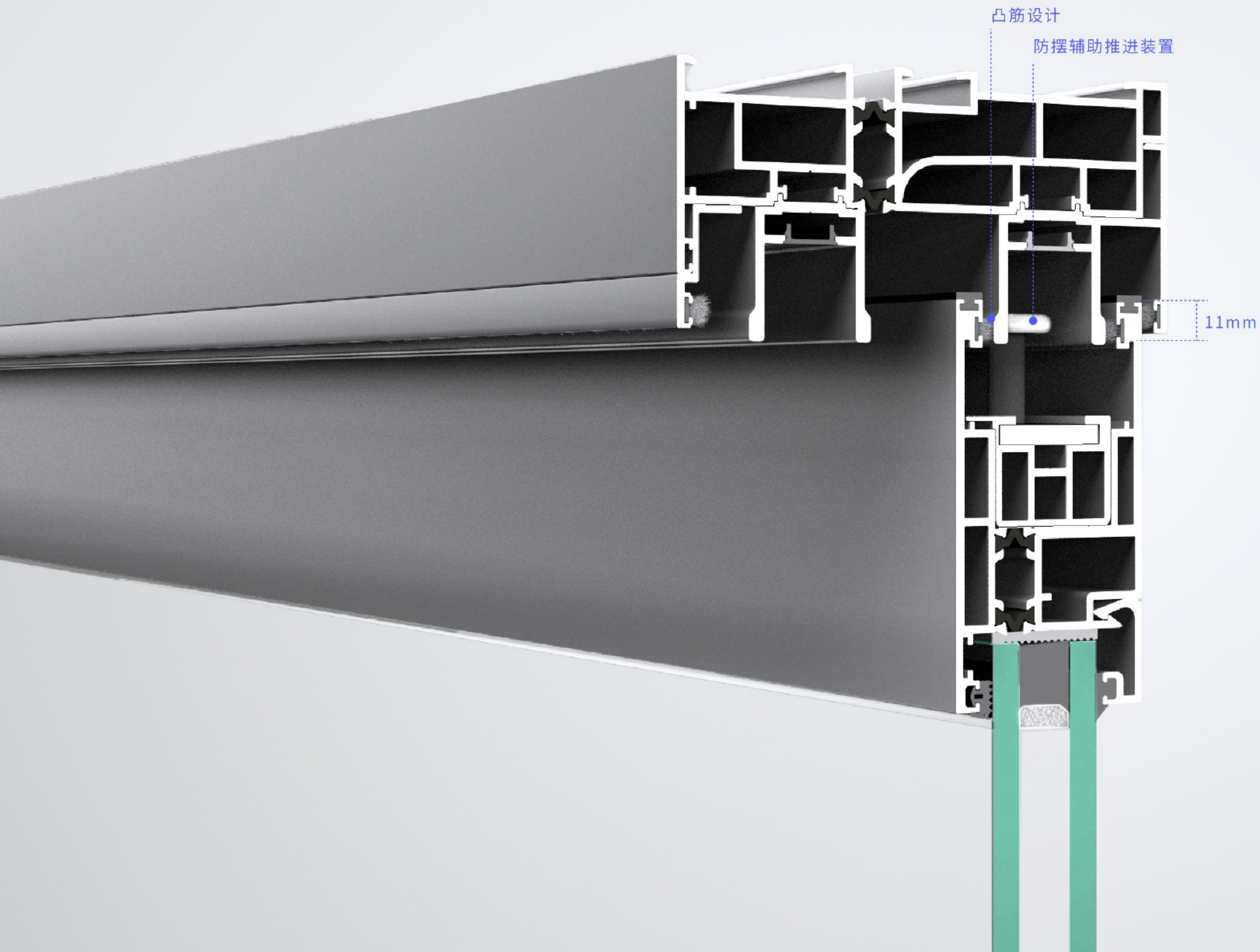
Four door leaves with six seals, leaving no gaps! Collision mute.

当做四扇推拉设计时，扇与扇之间的密封尤为重要，因此我们设计了优越的6道密封系统，外侧采用防撞胶条与密封胶条进行搭接密封，内侧采用硅化防水毛条与复合胶条进行密封，关闭门扇后几乎无任何缝隙，并实现碰撞静音。

When the four leaves are pushed and pulled, the sealing between the leaves is particularly important. Therefore, we have designed an excellent six sealing system. The outer side uses anti-collision adhesive strips and sealant strips for overlapping sealing, and the inner side uses silicified wool strips and composite adhesive strips for sealing. After closing the door leaves, there is almost no gap. Collision mute.



- EPDM胶条
- EPDM复合胶条
- EPDM带线胶条
- TPE复合胶条
- 硅化防水毛条



搭接可靠

上方搭接边框11mm，搭接超可靠，提升防水性能的同时，也防止门扇滑落。

Reliable lapping

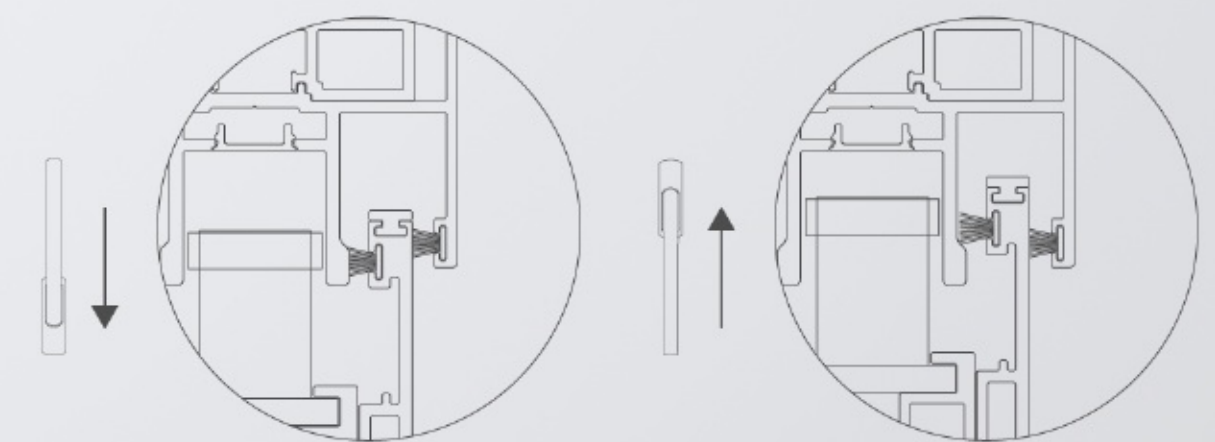
The upper overlapping frame is 11mm, and the overlapping is super reliable, which can improve the waterproof performance and prevent the door leaf from slipping.

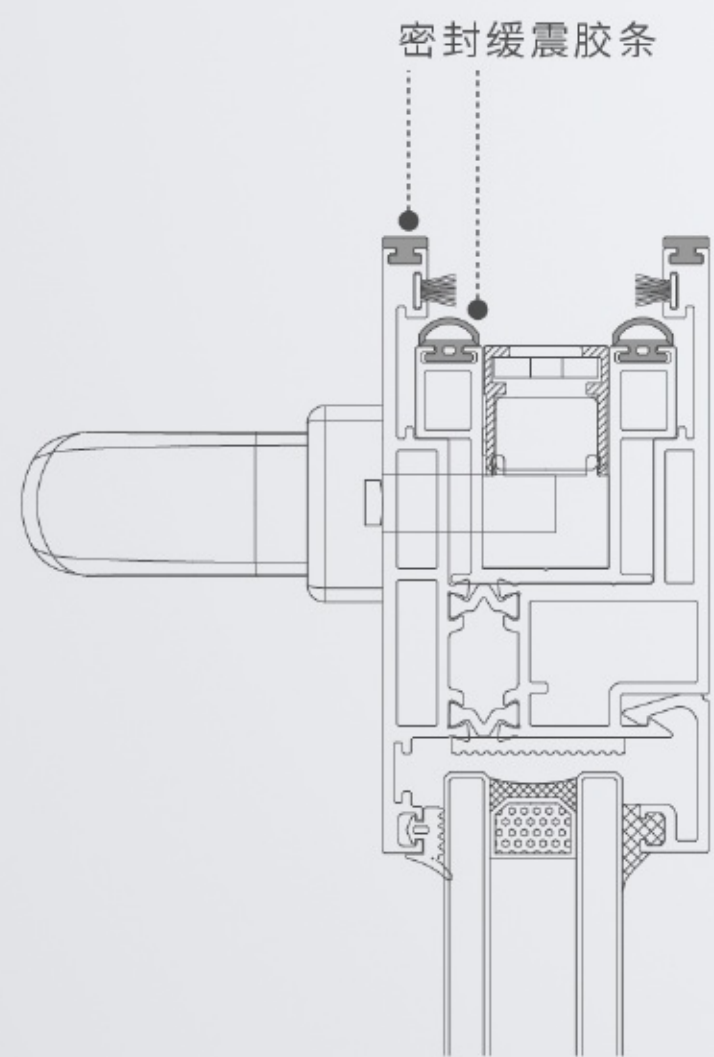
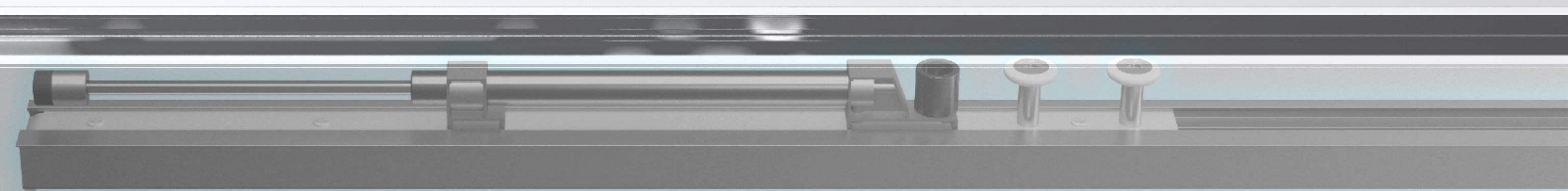
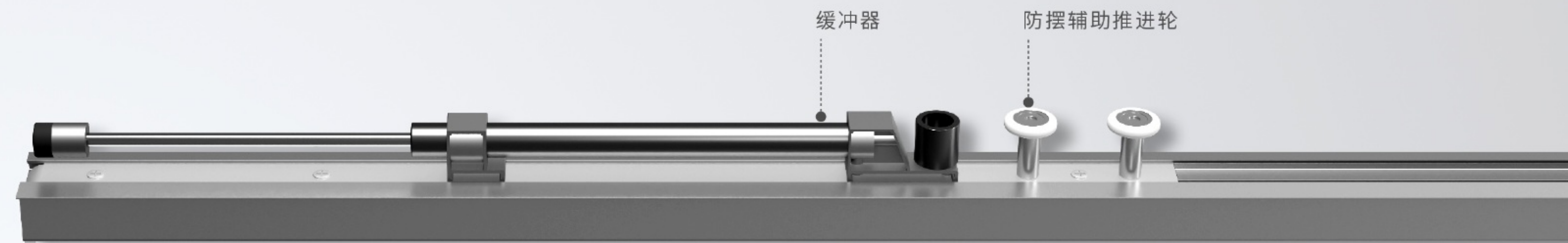
凸筋设计

上轨采用凸筋设计，当门扇下沉关闭时有效提升气密性，当门扇提升滑动时，有效的减少摩擦。

Rib design

The upper rail adopts convex rib design, which effectively improves the air tightness when the door leaf sinks and closes.





防摆辅助推进装置

为了大大减少巨大风压下，门扇的摆动，我们设计了防摆辅助推进滑轮装置，同时也在大面积开启扇的使用过程中滑动更加顺滑。

Anti swing wheel design
In order to greatly reduce the swing of the door leaf under huge wind pressure, we have designed an auxiliary anti swing pulley, which also makes the use of the large opening area to open the door more smooth.

三重缓冲

我们设计了双重胶条缓冲结构，并装配缓冲器可在开关门时感觉到非常顺滑均匀的阻尼感，可以有效解决门窗关闭时撞击力过大，导致门反弹甚至门边框损坏，或者夹手等情况。并与门扇上的密封缓震胶条，共同实现三重缓冲。

Triple buffering
We have designed a double rubber strip buffer structure and equipped with a buffer to feel a very smooth and even damping sense when opening and closing the door, which can effectively solve the problem of excessive impact force when doors and windows are closed, resulting in door rebound, even door frame damage, or hand clamping. And together with the rubber strip on the door leaf, triple buffering is realized.

下框扇6道密封

下框扇采用6道密封，并装配歌尔西亚设计专用开模的提升气密封胶条与专用防风件，在强台风面前依然有优越的表现。

6 seals

The bottom of the door leaf is sealed with 6 seals, and the edge is equipped with LIKI special windproof parts for lifting, greatly improving the sealing performance.

下框挡水胶条

我们设计了下框挡水胶条，使下框有更强的密封性，它隐藏于塞缝材料之内，使底部的密封又多了一道屏障。

Water retaining adhesive strip of lower frame

In order to make the lower frame more airtight, we have designed a water retaining adhesive strip for the lower frame, which is hidden in the caulking material. Because of its addition, the bottom sealing is guaranteed.

中轴受力

合理的腔体设计，对称式居中承重，使型材整体受力均匀。

Force on the middle axle

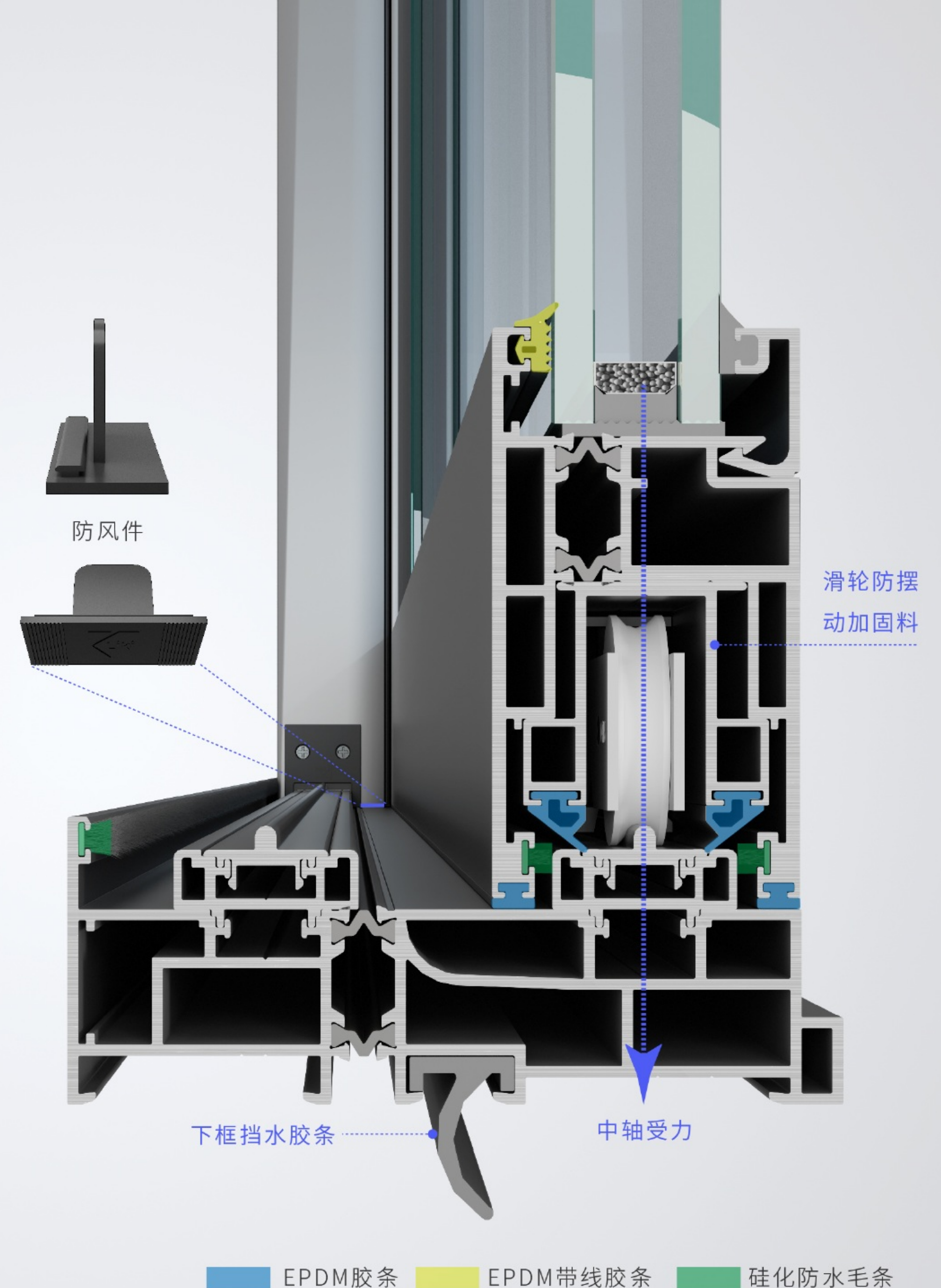
Reasonable cavity design ensures symmetrical and centered bearing and uniform stress on the whole profile.

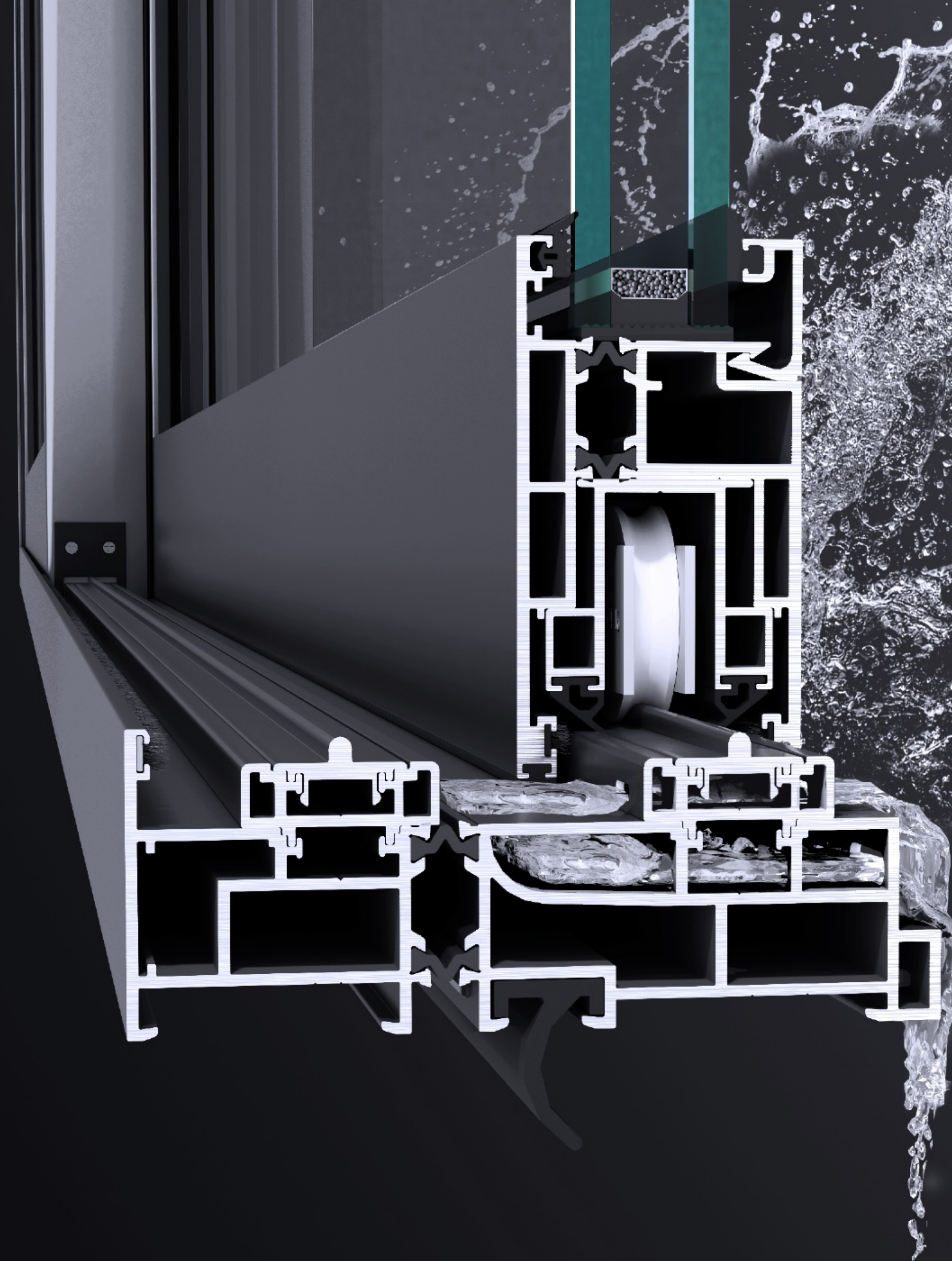
滑轮加固

采用滑轮加固设计，防止因受到外力的作用下门扇的摆动，间接的导致的滑轮损坏。

Pulley reinforcement

The pulley reinforcement design is adopted to prevent the pulley from being damaged indirectly due to the swing of the door leaf under the action of external forces





三重排水

相比于传统推拉门在沿海地区台风天中因风阻造成的排水不畅，GWS145TSD其平整的外观，极致的框扇密封设计，是它抵抗台风暴雨的第一道防线。并搭载双重排水通道，让雨水能更加快速的排出轨道。

Triple drainage

Compared with traditional sliding doors, the drainage is not smooth due to wind resistance in typhoon days in coastal areas.

GWS145TSD, with its flat appearance and excellent frame fan sealing design, is its first line of defense against rain. It is also equipped with double drainage channels to allow rainwater to drain out of the track more quickly.

多重空腔，实现内外等压

为了进一步削弱气压差，实现等压，在歌尔西亚不断探索研发下，GWS145TSD系列中使用了连续多空腔设计，实现最大限度削弱气压差，使室外空气在空腔中流通，以达到压力平衡。利用内外压差实现防水和排水，阻止雨水入侵。

Multiple chambers to achieve equal internal and external pressure

In order to further reduce the air pressure difference and achieve equal pressure, under the continuous exploration and development of LIKI, GWS145TSD series uses a continuous multi cavity design to minimize the air pressure difference and allow outdoor air to circulate in the cavity to achieve pressure balance. The use of internal and external pressure difference to achieve waterproof and drainage can prevent rainwater intrusion.



合理的排水路径

合理的排水路径,得益于这些独特构造,雨水倒灌的可能最大程度地降低,
可适用于超大尺寸提升推拉系统和恶劣的天气环境。

Reasonable drainage path

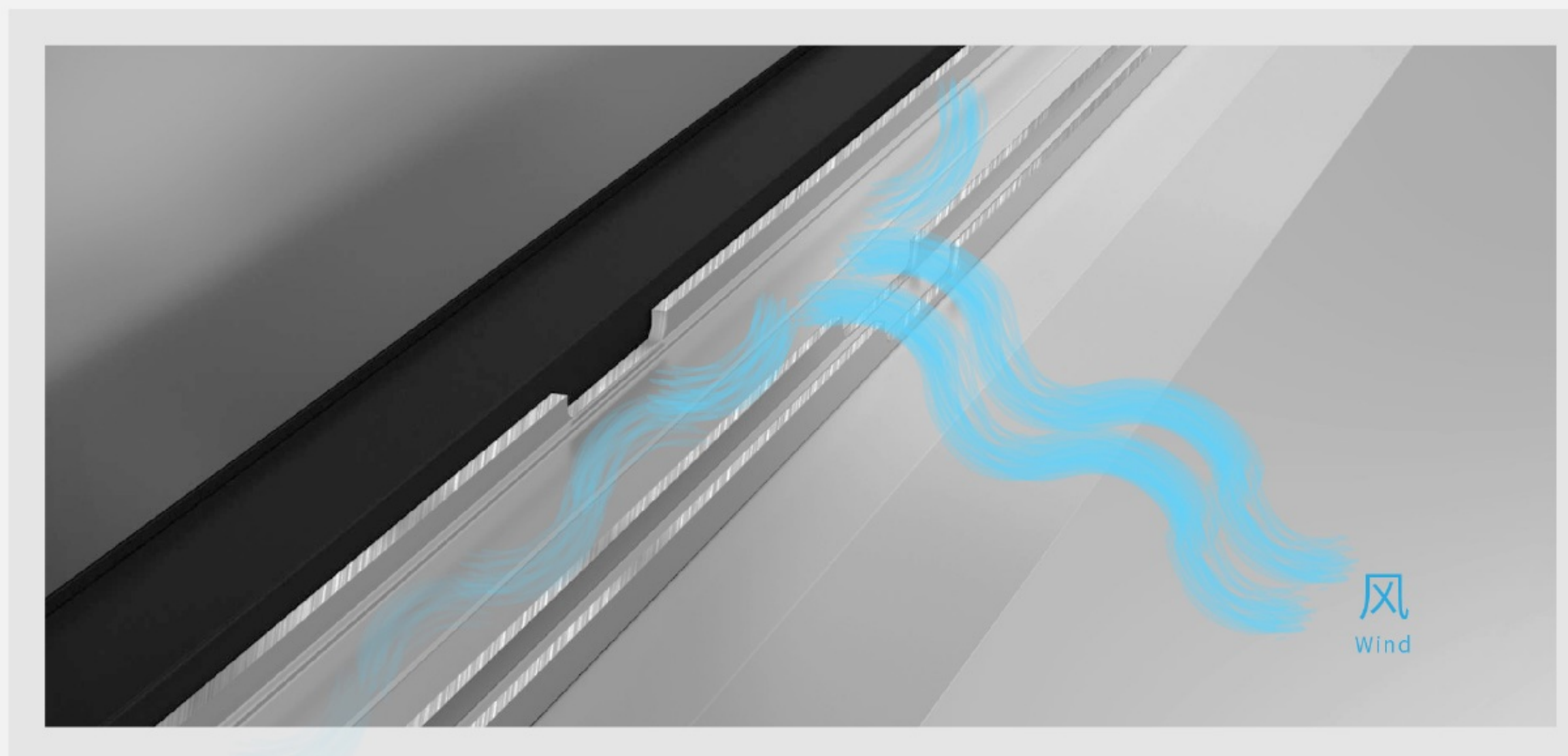
Due to these unique structures, the reasonable drainage path can minimize the possibility of rainwater backflow. The system can be applied to large push-pull units and severe weather conditions.

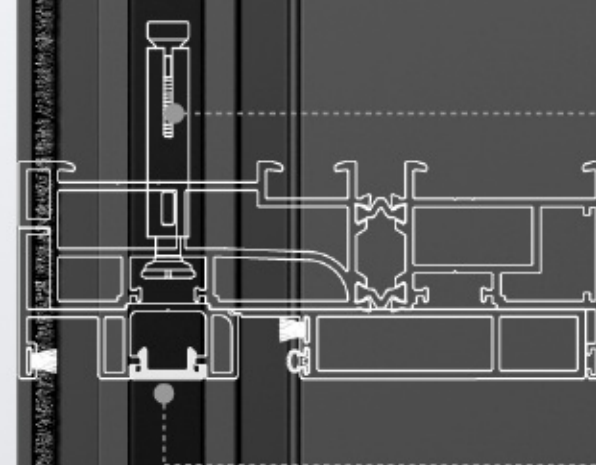


多重空腔排水孔错位设计

搭载多重空腔的排水孔错位设计, 能有效的削弱风噪的产生并防止雨水倒灌。

Drainage hole location design
The staggered design of drainage holes can reduce the generation of wind noise and prevent rainwater from flowing back.



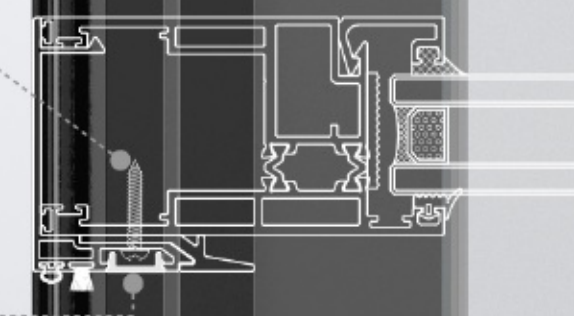


膨胀螺丝

外框
螺丝盖板

螺丝

勾启
螺丝盖板



你能找到螺丝 在哪里吗？

外框与扇料均采用螺丝隐藏式设计，保证螺丝不外露，美观平整的同时也提升了密封性。

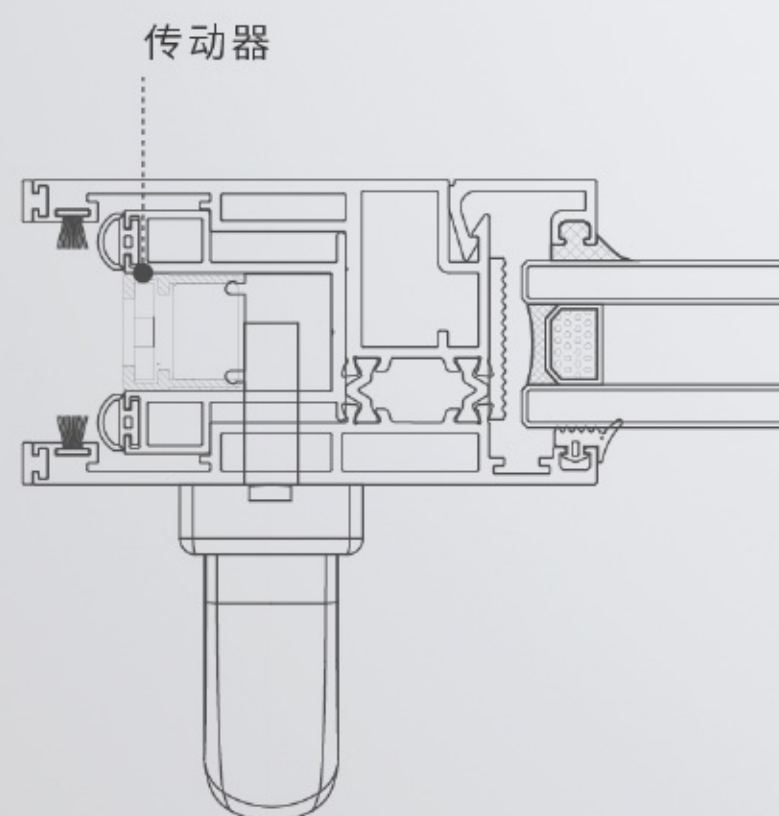
Never see a screw!
The outer frame and fan material are designed with hidden screws to ensure that the screws are not exposed, which is beautiful and improves the sealing performance.

嵌入式传动器

追求极致，改进结构，我们将传动器进行嵌入隐藏，使门扇开启后，显得简约平整美观，又进一步提升了密封性。

Embedded driver

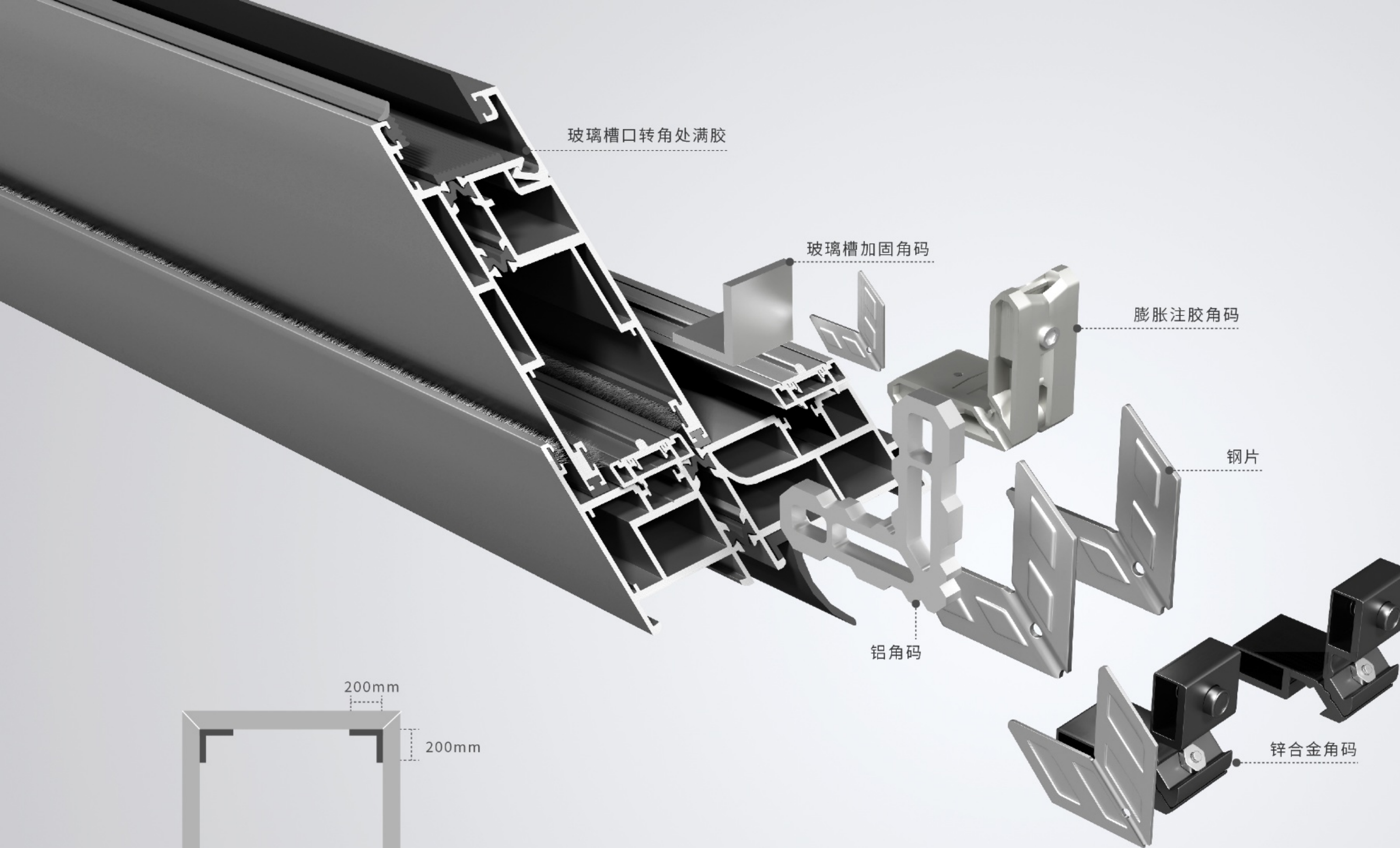
In pursuit of perfection and structure improvement, we embed the actuator to make the door leaf look simple, flat and beautiful after opening, and further improve the sealing performance.



框与扇，包括压线 全都是45°拼接！

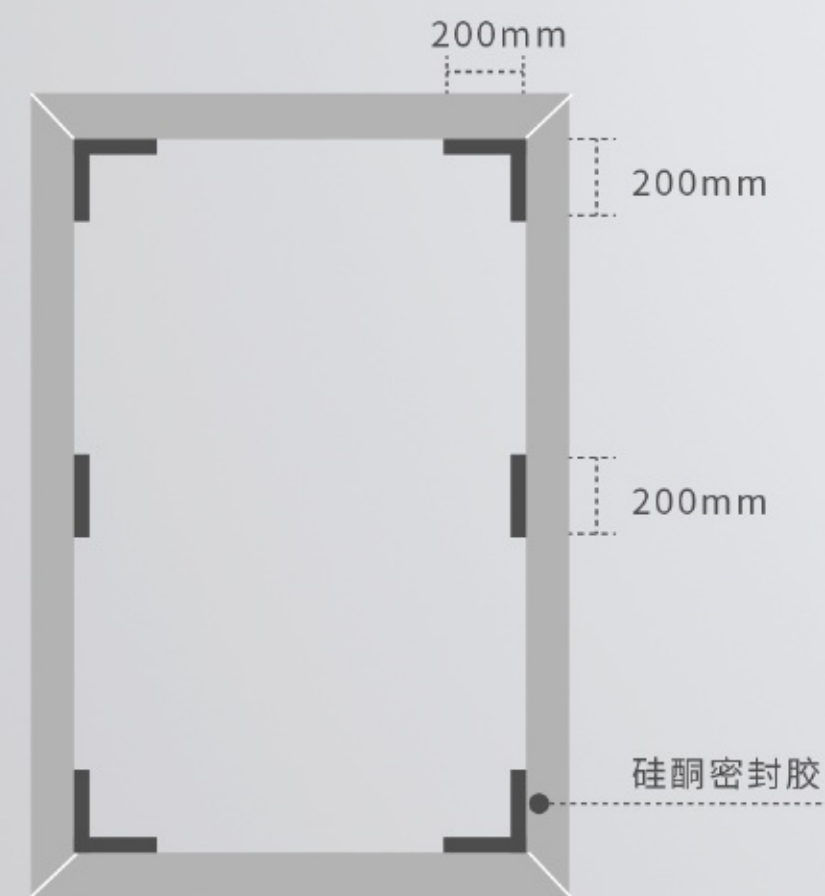
歌尔西亚一直在追求极致的设计，在合理的构造设计下，并得益于歌尔西亚精密的加工设备，我们将外框扇料及压线做到了45度角平整拼接。使其外观更精致。

Frame and fan, including crimping, are all spliced at 45°!
LIKI has always been pursuing the ultimate design. Under the reasonable structural design and thanks to the precise processing equipment of Golcia, we have achieved a 45 degree angle flat splicing of the outer frame fan materials and pressing lines. Make its appearance more refined.



又牢固，又密封 又平整的角拼接

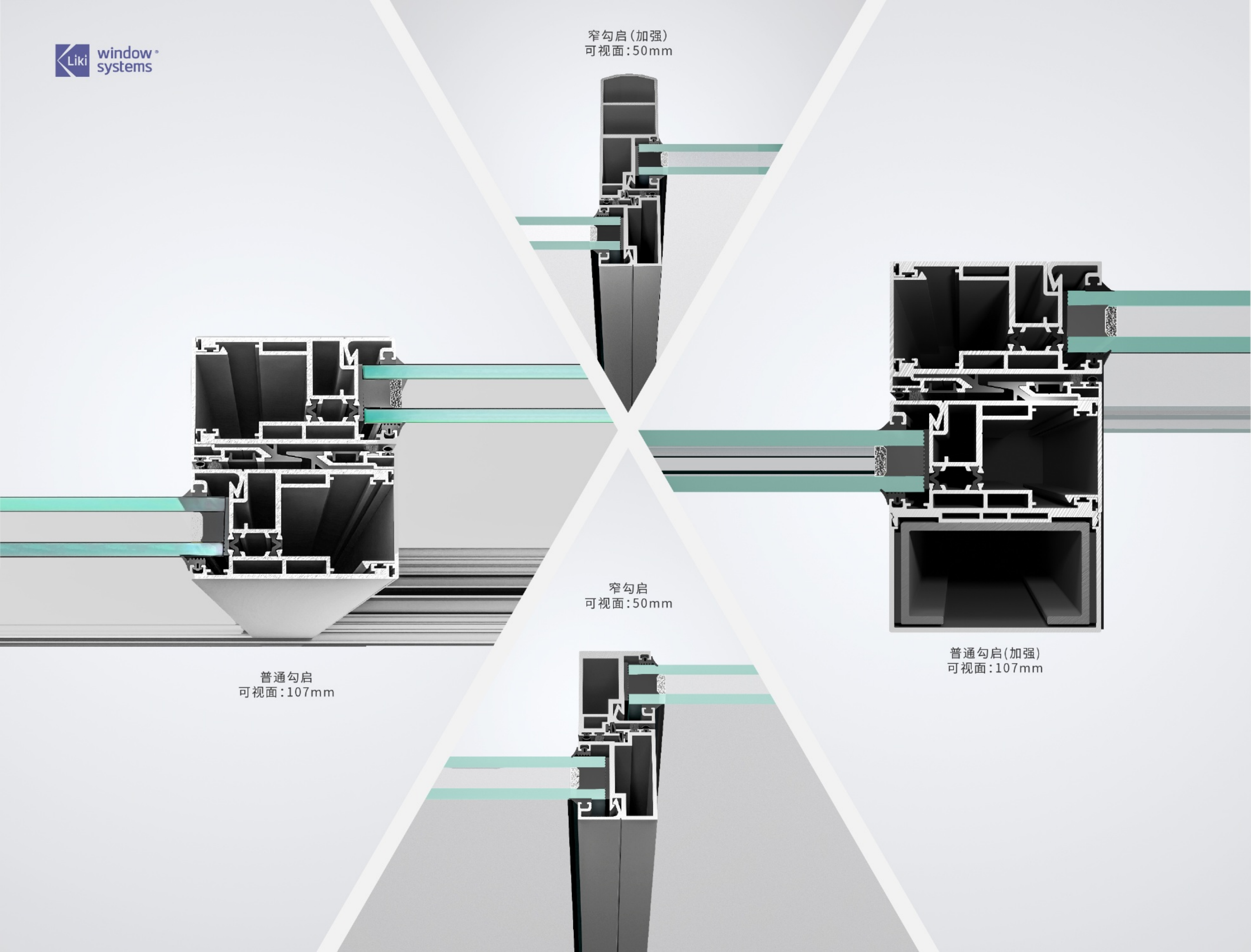
作为门窗中少数几个非外露部件，角码在门窗中的作用至关重要，歌尔西亚采用意大利进口膨胀注胶角码与多重钢片连接，在角码与型材之间注入组角胶，将角码和铝合金型材永久性粘接在一起，阻止铝型材和角码发生松动错位，并在玻璃槽口转角处，及门扇中间处灌满长度200mm的硅酮密封胶，提升平整度与防水性能的同时，也大大提升门窗的角部强度，保持门窗基本框架的稳固性，使门窗能够应对各种人为、大风、温度变化等冲击力。



单扇四边玻璃槽口转角处及中间处满胶

Firm, sealed and flat corner splicing

As one of the few non exposed parts of doors and windows, corner code plays a vital role in doors and windows. Golcia uses the expanded rubber filled corner code imported from Italy to connect with multiple steel sheets, injects angle glue between the corner code and the profile, permanently bonds the corner code and the aluminum alloy profile, prevents the aluminum profile and the corner code from loosening and dislocation, and applies silicone sealant with a length of 200mm at the corner of the glass notch and the middle of the door leaf. While improving the flatness and waterproof performance, it also greatly improves the corner strength of doors and windows, maintains the stability of the basic frame of doors and windows, and enables doors and windows to cope with various man-made, strong wind, temperature changes and other impacts.



多种勾企 多种加强形式

除了常规的勾启外,为了满足建筑师对于最大程度的通透与更广阔的视野,歌尔西亚设计了可视面为50mm的极窄勾启,同时根据当地抗风压需求,为了实现抵抗较大的风荷载,歌尔西亚设计了加强型勾启。大幅提高抗弯曲能力,超大面积玻璃承载力。

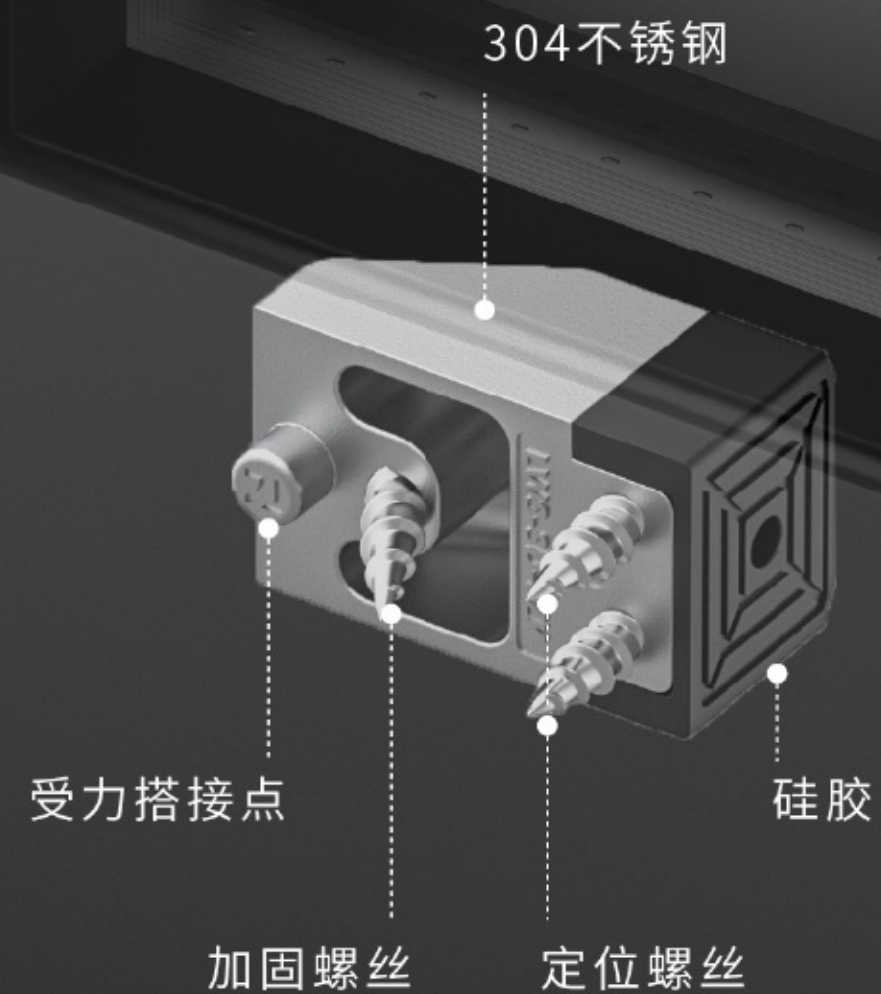
Various columns and reinforcement forms

In addition to the conventional columns, in order to meet the architect's needs for maximum transparency and wider vision, Golcia has designed an extremely narrow column with a viewing surface of 50 mm. At the same time, according to the local wind pressure requirements, Golcia has designed reinforced columns to resist large wind loads. Greatly improve bending resistance and bearing capacity of super large area glass.

这个门碰 真的**不会坏**！

为了解决传统门碰受到大力撞击，易滑丝，易损坏等问题，歌尔西亚将小小的门碰进行重新设计并开模，将门碰上的受力搭接点，牢牢固定在门扇铝型材上，当门碰受到撞击时，通过受力搭接点，将力分摊至铝材上，此种构造，螺丝不受力只起到定位做用。

This door knocker really won't break!
In order to solve the problems of traditional door bumpers such as heavy impact, easy slipping and damage, Golcia redesigned and opened the mold for small door bumpers, and firmly fixed the stressed overlap point on the aluminum profile of the door leaf. When the door bumpers are impacted, the force is shared to the aluminum through the stressed overlap point. In this structure, the screws are not stressed but only used for positioning.



极致简约 嵌入式安全锁座

采用歌尔西亚开模嵌入式锁座，外观平整美观的同时，非常安全且密封。

Embedded safety lock
The Golcia die opening embedded lock seat is adopted, which has a smooth and beautiful appearance and is very safe and sealed.





欧洲进口提升配件

标配格屋提升配件。

适合五金能够提高门窗的使用寿命。正因为如此,用户才得以平滑顺畅地使用所有的门窗。所以五金通常将其视为门窗的脊梁。

歌尔西亚选择五金时,我们会考虑某些特定参数,例如:门窗处于恶劣天气状况下的易用性和耐用性。为了实现这些特性,我们的五金和配件从欧洲和澳大利亚选购,供应商在行业中品质卓越。

Hardware imported from Europe

Right hardware enhances the lifespan of doors and windows with absolute functional smoothness. All Doors and Windows swing and slide smoothly and easily due to the same. Often it is referred to as the backbone of the doors and windows.

At 'LIK' while selecting the hardware for the range of our Doors and Windows certain parameters such as ease of use and durability against the harsh weather conditions that the Doors and Windows are exposed to are taken care of. To achieve this, we source all our hardware and fittings from world leaders in the same field having decades of experience and technology innovations.

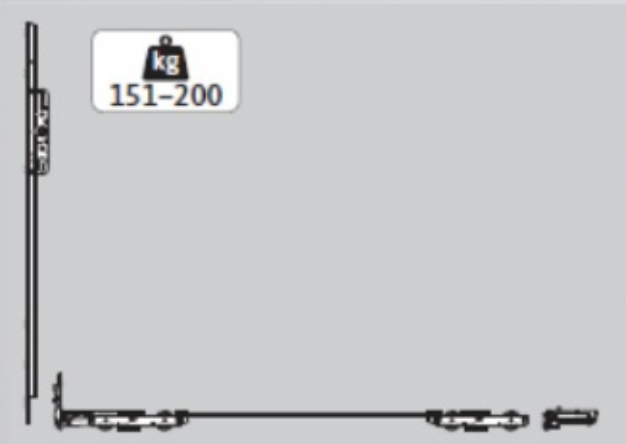
欧洲进口提升配件

标配格屋提升配件，最高可达到600kg承重。

Hardware imported from Europe
Standard gu lifting accessories. Up to 600kg load.

kg

151-200

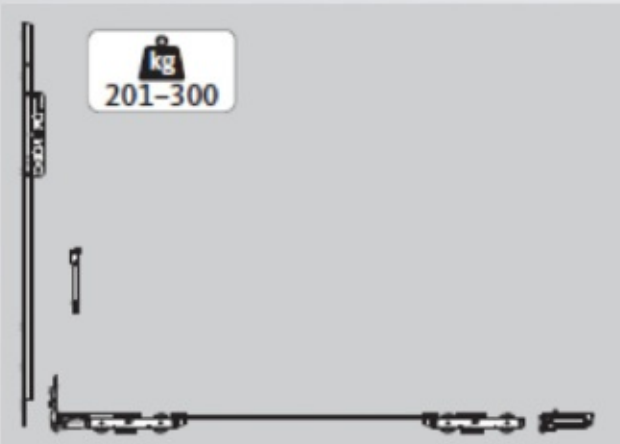


Beschlagbedarf

- 1 x Hebegetriebschloss
- 1 x Laufwagen GU-934
- 1 x HS LiftUnit Standard

kg

201-300




Beschlagbedarf

- 1 x Hebegetriebschloss
- 1 x Griffdämpfer
- 1 x Laufwagen GU-934
- 1 x HS LiftUnit Standard

kg

301-350




Beschlagbedarf

- 1 x Hebegetriebschloss
- 1 x Laufwagen GU-934
- 1 x HS LiftUnit Heavy

kg

351-600



Beschlagbedarf

- 1 x Hebegetriebschloss
- 1 x Griffdämpfer
- 1 x Laufwagen GU-934
- 1 x Laufwagen GU-934 Tandem
- 1 x HS LiftUnit Heavy

安装固件分布图



质量



TOP CLASS SURFACE
COATING MATERIALS
顶级喷涂



WORLD'S BEST
HARDWARE
世界顶级五金



RENOWNED
SUPPLIERS
驰名供应商



High precision
processing equipment
高精度加工设备

[illegible]



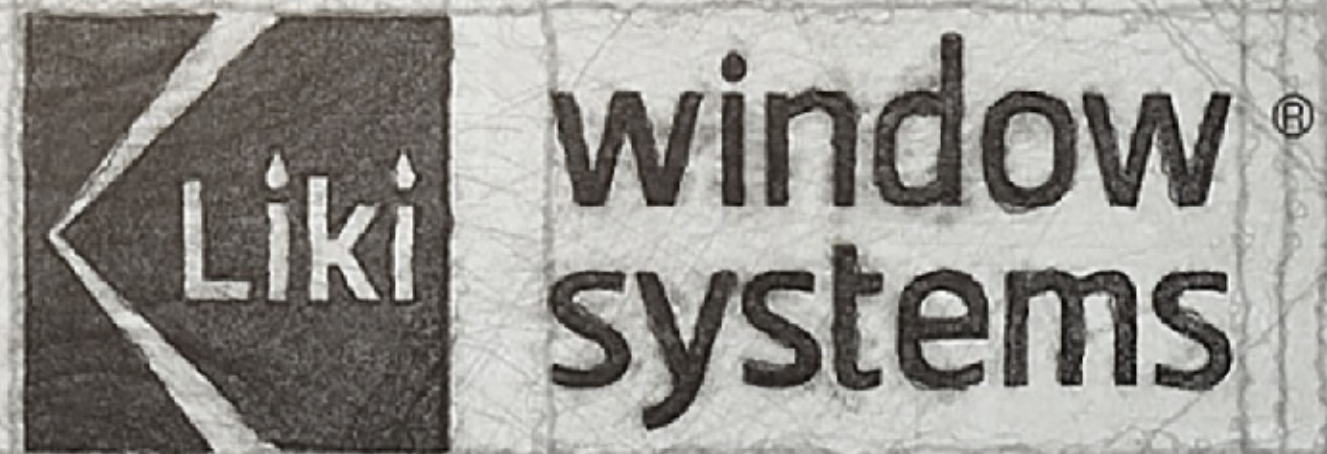
质量并不是偶然...而是习惯!!!

Quality is not an accident, It is a Habit ! ! !





Imagine the world in your home!



T H A N K S



ISO9001 FOR QUALITY
MANAGEMENT SYSTEM



ISO14001 FOR ENVIRONMENTAL
MANAGEMENT SYSTEM



HI TECH ENTERPRISE
COMPANY



100+
PATENTS



10,000+
WORLDWIDE
HAPPY CUSTOMERS