

# Humber<sup>TM</sup>

广东汉博新材料有限公司

## 金属表面处理解决方案

Metal surface treatment solution



广东汉博新材料有限公司

GUANGDONG HUMBER NEW MATERIALS CO., LTD.

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公司简介  
COMPANY PROFILE

广东汉博新材料有限公司长期专注于金属表面前处理技术的研发和应用，公司拥有资深的研发队伍和丰富的技术服务团队，不断推出功能更全面、更适用、环境更友好的产品和技术，广泛应用于多种金属及产品的清洗、防锈、拉拔等领域，特别致力于金属基础涂装前的表面处理。

公司秉承“质量、创新、环保”的发展理念，与客户不断进行新技术交流，向客户提供综合系统的解决方案，为客户提升生产力，利用我们的专业技术和技术优势为客户提升产品价值。我们提供的专业解决方案和丰富的产品已广泛应用于铝型材及幕墙、家电、家具、机箱机柜、五金、运输工具及配件、卷材、等领域。

坚持科学发展观，以先进的技术为依托，努力研发和推广绿色环保和低成本的新技术是我们经营和发展的导向。在铝合金处理领域，推出创新碱洗无铬钝化技术；在钢铁及镀锌等材质的处理方面推出无磷无重金属的环保产品以取代传统的磷化工艺；同时推出常温高效的无磷脱脂产品。这一系列成熟环保产品的推广，能极大的帮助客户节能减排，降低综合成本。

为企业长足发展，为客户创造价值，协同推动我国表面技术的进步是广东汉博新材料有限公司全体同仁孜孜不倦的追求。

Guangdong Humber New Materials Co., Ltd. has been committed to research and application of metal surface pretreatment technologies. With a senior research and development team and an experienced technical service team, Humber is continuously launching products and technologies that are more comprehensive, applicable, and environmentally friendly, which are widely used in various fields such as cleaning, rust prevention, and drawing of metals and products, particularly surface treatment before metal foundation coating.

With the development philosophy of "quality, innovation, and environmental protection", Humber constantly exchanges new technologies with customers, provides comprehensive and systematic solutions to customers and enhances their productivity, and utilizes our professional technology and technological advantages to improve product value for customers. Our professional solutions and rich products have been widely used in aluminum profiles and curtain walls, home appliances, furniture, chassis and cabinets, hardware, transportation tools and accessories, rolls, and other fields.

Humber adheres to scientific development concept, relies on advanced technology, and strives to research and promote new technologies that are green, environmentally friendly and low-cost, which become the guiding principles of our business and development. Humber has launched the innovative alkaline wash chromium-free passivation technology in the field of aluminum alloy treatment, and introduced the environmentally friendly products that are free of phosphorus and heavy metal in the treatment of steel and galvanized materials to replace traditional phosphating processes, and simultaneously launched the efficient phosphorus-free degreasing products at constant temperature. The promotion of these mature and environmentally friendly products can be greatly supportive for customers to save energy, reduce emissions and reduce overall costs.

It is the diligent pursuit of all colleagues at Guangdong Humber New Materials Co., Ltd. to achieve significant development for the enterprise, create value for customers, and collaborate to promote the progress of surface technology in China.

质量认证 Quality Certification

世界范围高度认可的前处理及涂料标准  
Highly recognized pretreatment and coating standards worldwide



五大优势  
FIVE ADVANTAGES

工艺简单  
SIMPLE PROCESS

在满足质量标准的前提下最大化减少处理设备的投入及流程数量，提高生产效率

Minimizing the investment in processing equipment and the number of processes while meeting quality standards, and improving the production efficiency.

高生产效率和性能  
HIGH PRODUCTION EFFICIENCY AND PERFORMANCE

提供各种金属制品行业用表面处理剂和清洗剂，在保证质量的同时，能提高总体效率

Supplying various surface treatment agents and cleaning agents for the metal product industry, which can improve overall efficiency while ensuring quality.



节约成本  
COST SAVING

为客户提供优良产品的同时不断降低客户产品使用的综合成本及环境成本

Providing customers with excellent products while continuously reducing the comprehensive and environmental costs of product use.

关爱环境  
CARING FOR ENVIRONMENT

表面处理工艺对环境相当友好，能极大减少重金属污染

The surface treatment process is quite environmentally friendly and can greatly reduce heavy metal pollution.

及时的售后服务  
TIMELY AFTER-SALES SERVICE

拥有长时间现场操作的专业经验，公司多个技术服务团队承诺：及时、快速地为解决客户一系列技术问题。

With long-term professional experience in on-site operations, multiple technical service teams of Humber promise to solve a series of technical problems for customers in a prompt and quick manner.

资质荣誉

QUALIFICATIONS AND HONORS



品牌质量认证  
Brand quality certification



检测报告  
Test Reports



检测报告  
Test Reports

PHANES

除油钝化一体前处理解决方案  
Integrated pretreatment solution for oil removal and passivation

法涅斯

酸洗钝化一体

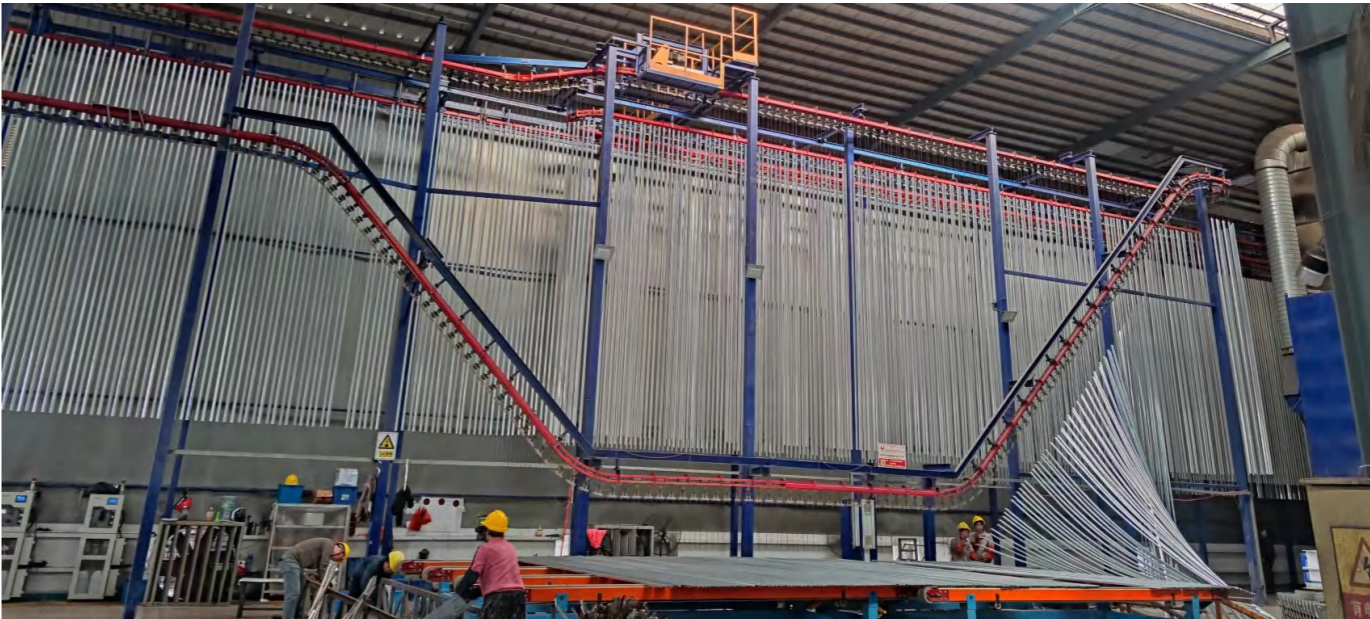
Integrated pickling and passivation

适用于各种铝型材生产线、铝板清洗生产线

Suitable for various aluminum profile production lines and aluminum plate cleaning production lines

产品信息 Product Information

- Phanes法涅斯来源于德国的最新型前处理工艺，颠覆传统前处理工艺理念，集除油与无铬钝化为一体。
- 极大减少前处理工段、最短使用2个槽，简化工艺流程、节约生产用水，方便现场管控，降低生产成本。
- 水煮划格附着力良好，满足国标GB5237.4的性能要求，绿色环保，经济高效。
- P-8051 具有除油、钝化功能，适用于挤压铝材
- Phanes is derived from the state-of-the-art pretreatment process in Germany, which integrates oil removal and chromium-free passivation, subverting the traditional pretreatment process concept.
- It can greatly reduce the pretreatment section, minimize the use of 2 tanks, simplify the process flow, save the production water, facilitate the on-site control, and decrease the production costs.
- It has good adhesion in the water-boiled grid test, which meets the performance requirements of national standard GB5237.4. It is green, environmentally friendly and cost-effective.
- P-8051 has oil removal and passivation function, suitable for extruding aluminum materials.



除油除锈陶化一体

Integrated oil and rust removal and ceramic processing

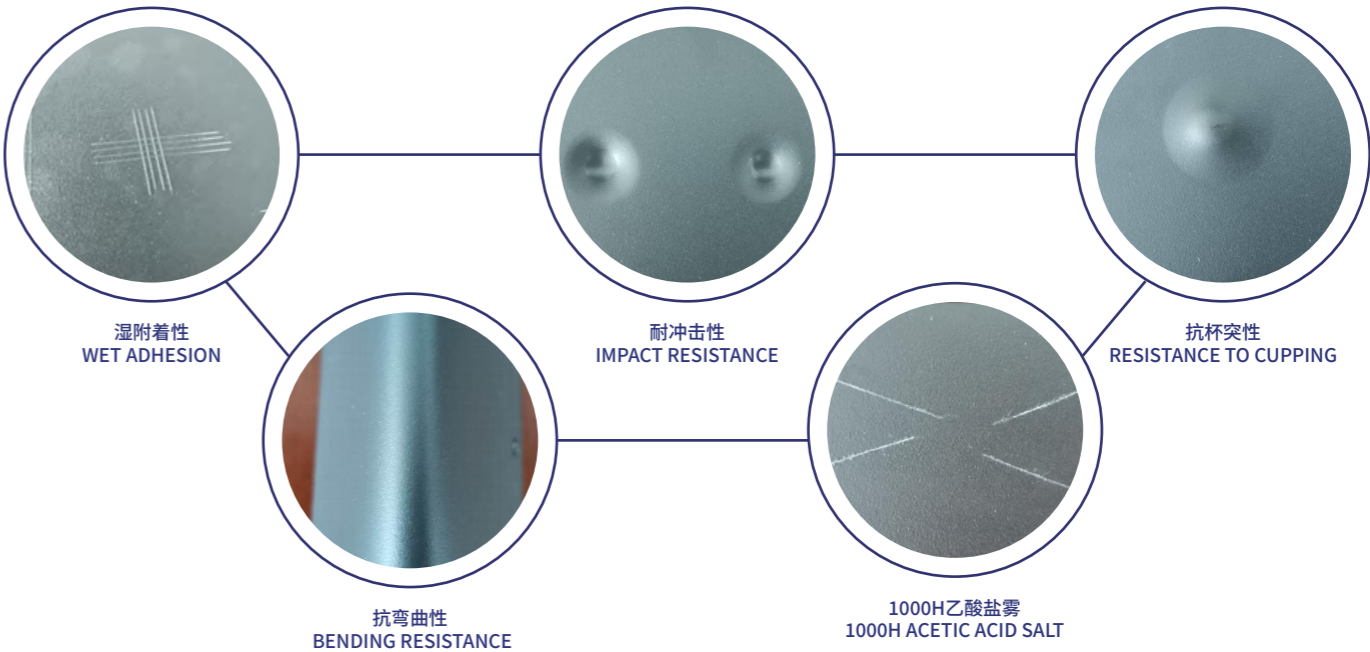
P-8052适用于铁铝共线、五金线体

P-8052 is suitable for iron aluminum collinearity and hardware wire body

产品信息 Product Information

- Phanes法涅斯来源于德国的最新型陶化工艺，颠覆传统前处理工艺理念，集除油与陶化为一体。
- 减少前处理工段、简化工艺流程、节约生产用水。方便现场管控，降本增效，绿色环保。
- Phanes is derived from the state-of-the-art pretreatment process in Germany, which integrates oil removal and ceramic processing, subverting the traditional pretreatment process concept.
- It can reduce the pretreatment sections, simplify the process flow, save the production water, and facilitate the on-site control, cost reduction and efficiency increase. It is green and environmentally friendly.

性能检测 Performance testing



典型PHANES前处理工艺流程 Typical Phanes pretreatment process flow



典型的酸洗无铬钝化工艺

Typical pickling and chromium-free passivation process



产品信息 Product Information

- 除油剂AC系列是为清洗铝及其合金而特别配制的一种液体化学品，喷浸皆宜。可有效清洗铝表面油脂，同时清除表面氧化皮，特别适用于对铝及其合金进行喷涂前处理的酸性清洗。
- 钝化剂S-708系列专为铝材无铬钝化剂，可在铝及其合金表面生成一层无铬转化膜。
- 包括常规无铬钝化剂、免水洗无铬钝化剂、有色无铬钝化剂。
- 提高耐候粉附着力性能。
- Degreaser AC series is a liquid chemical specially formulated for cleaning aluminum and its alloys, which is suitable for both spraying and immersion. It can effectively clean the grease on the aluminum surface and remove the surface oxide skin, especially suitable for acidic cleaning of aluminum and its alloys before spraying.
- Passivation agent S-708 series is specifically designed for chromium-free passivation of aluminum materials, which can generate a layer of chromium-free conversion film on the surface of aluminum and its alloys.
- This includes general chromium-free passivation agents, water-free and chromium-free passivation agents, and colored chromium-free passivation agents.
- The adhesion performance of weather resistant powder can be improved.

工艺特点 Process Characteristics

成熟稳定的酸洗前处理工艺  
Mature and stable pickling pretreatment process

可自由选择钝化后是否水洗, 质量稳定  
Washing after passivation can be optional, and quality is stable

操做简单, 便于现场管理  
It is easy to operate and convenient for on-site management

典型的酸洗无铬钝化工艺流程 Typical pickling and chromium-free passivation process flow



典型的碱洗无铬钝化工艺

Typical alkali washing chromium-free passivation process



产品信息 Product Information

- 此工艺在原有的碱蚀工艺基础上进行创新改进，适用于市面上大部分线体。
- 采用无氟脱脂剂、低氟表调剂、无铬钝化剂，整线可以做到低氟无铬、减渣减废、危废变固废。
- 降低成本，节能减排、环保高效。
- This process is an innovative improvement on the basis of the existing alkali etching process, suitable for most wire bodies on the market.
- By using fluorine-free degreasing agents, low-fluorine surface conditioners, and chromium-free passivating agents, the entire line can be low-fluorine and chromium-free, with reduced slag and waste, and hazardous waste can be transformed into solid waste.
- It can reduce costs, save energy and reduce emissions. It is environmentally friendly and efficient.

工艺特点 Process Characteristics

无碱渣、环境友好  
It is free of alkali residue, and environmentally friendly.

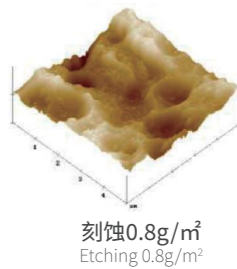
钝化膜膜层无色 质量稳定  
The passivation film layer is colorless and stable in quality.

低氟，无设备腐蚀  
It is in low fluoride, no equipment corrosion.

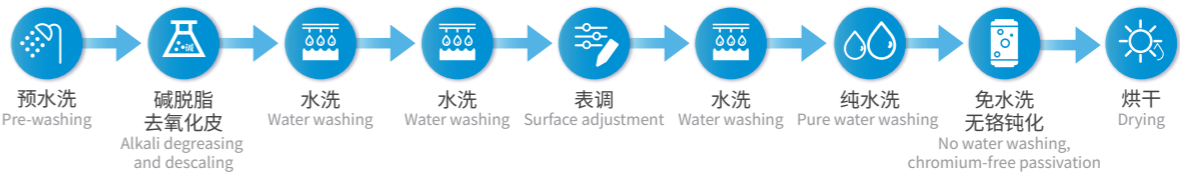
耗水少，废水处理简单  
Water consumption is low, and wastewater treatment is simple.

减少废渣50%以上 且废渣属于普通固废  
The waste residue can be reduced by more than 50%, and is classified into general solid waste.

环保节能，经济高效  
It has the performance of environmental protection, energy conservation, and economic efficiency.



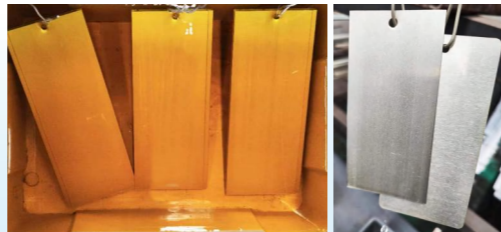
创新碱洗无铬钝化工艺流程 Innovative alkali washing chromium-free passivation process flow



## 低铬钝化工艺

Low-chromium passivation process

本产品可用于挤压铝材、压铸铝、汽车轮毂等前处理  
It is suitable for pretreatment of extruded aluminum, die-casting aluminum, automotive wheel hubs, etc.



Humber

### 产品信息 Product Information

- 低铬钝化剂A-150 是一种含六价铬的液体产品,用于铝及其合金的化学氧化,钝化膜接近无色透明,喷浸皆宜。
- 钝化膜主要由六价铬和无机盐复合形成,可以增强铝材与漆膜的结合力。
- Low-chromium passivation agent A-150 is a liquid product containing hexavalent chromium, which is suitable for chemical oxidation of aluminum and its alloys. The passivation film is nearly colorless and transparent, which is suitable for both spraying and immersion.
- The passivation film is mainly composed of hexavalent chromium and inorganic salts, which can enhance the adhesion between aluminum and paint film.

### 工艺特点 Process Characteristics

- 低铬钝化的性能优于无铬钝化,也优于国内普通六价铬钝化膜。
- 经低铬钝化处理的铝型材性能完全可以达到国标GB5237.4-2017的标准。
- 低铬钝化工艺的废水六价铬含量仅为传统六价铬钝化废水的20%-25%,极大减少含铬废渣量,减少废水处理化学成本。
- The performance of low-chromium passivation is better than that of chromium-free passivation, and also better than general hexavalent chromium passivation films in China.
- The performance of aluminum profiles treated with low-chromium passivation can fully meet the national standard GB5237.4-2017.
- The hexavalent chromium content in the wastewater of the low-chromium passivation process is only 20% -25% of that of traditional hexavalent chromium passivation wastewater. The amount of chromium containing waste residue can be greatly reduced, and the chemical cost of wastewater treatment is decreased.

### 低铬钝化工艺流程 Low-chromium passivation process flow



## 陶化工艺

Ceramic processing

适用于五金行业、重型机械、机箱机柜  
It is suitable for hardware industry, heavy machinery, chassis and cabinets

### 无磷陶化优点有什么?

What are advantages of phosphate-free ceramic processing?

- |                                |   |
|--------------------------------|---|
| 1. 节省大量废水处理的投入                 | 1. Saving a lot of investment in wastewater treatment   |
| 2. 提高生产效率                      | 2. Improving production efficiency  |
| 3. 废水处理排放简化,维护成本大大降低,达到节能减排的效果 | 3. Simplifying wastewater treatment and discharge, greatly reducing maintenance costs, and achieving energy-saving and emission reduction |
| 4. 提高产品知名度,更大的市场空间和认同度         | 4. Improving product awareness, and expanding market and recognition  |
| 5. 改善生产环境,减少职业病产生              | 5. Improving the production environment, and reducing the occurrence of occupational diseases   |
| 6. 利国利民,造福子孙后代                 | 6. Benefiting the country and the people, and benefiting future generations   |

### 什么是无磷陶化?

What is phosphate-free ceramic processing?

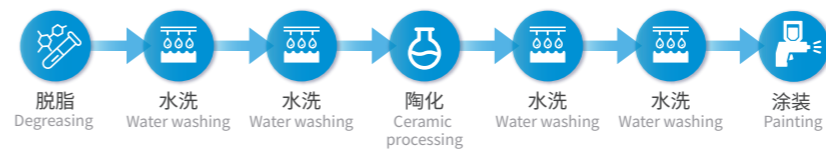
- |                        |   |
|------------------------|---|
| 1. 以氟锆盐为基础,内含纳米级新型材料   | 1. Fluorozirconate-based, containing nanoscale new materials                    |
| 2. 新型的前处理技术替代铁系磷化和锌系磷化 | 2. New pretreatment technology, replacing iron-based and zinc-based phosphating |
| 3. 提供涂装结合力和耐蚀性         | 3. Coating adhesion and corrosion resistance is provided                        |
| 4. 多金属处理(铁、锌、铝)        | 4. Multi-metal treatment (iron, zinc, aluminum)                                 |
| 5. 形成一薄层“陶瓷”转化膜(纳米陶瓷)  | 5. A thin layer of "ceramic" conversion film (nano ceramic) is formed           |
| 6. 浸泡和喷淋处理             | 6. Soaking and spraying treatment.  |



### 陶化工艺流程 Ceramic processing flow

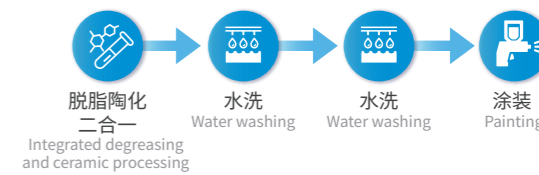
有独立脱脂工位的工艺:

Process with independent degreasing station:



脱脂陶化二合一工艺:

Integrated degreasing and ceramic processing flow:



金属防锈

Metal rust prevention

适用于金属零部件的临时防锈和长期防锈

It is suitable for temporary and long-term rust prevention of metal components



产品信息 Product Information

- HB6587是一种水溶性中性清洗剂、防锈剂，不易挥发，同时具备清洗功能和防锈功能。
- 用于钢、铁和铝合金机加工、冲压后的清洗及临时的防锈。
- 用于超声波和喷淋工艺，适合高压喷淋工艺。
- HB6587 is a water-soluble neutral cleaning agent and rust inhibitor, which is not volatile, with the functions of cleaning and rust prevention.
- It is available for cleaning and temporary rust prevention after machining and stamping of steel, iron, and aluminum alloys.
- It is suitable for ultrasonic and spray processes, and high-pressure spray processes.

工艺特点 Process Characteristics

- 常规生产条件下防锈时间可达30-180天
- 产品涂装要求不高情况可做钝化剂使用
- 易漂洗，无常规油性防锈剂的难清洗问题
- The rust prevention performance can last 30-180 days under general production conditions;
- It can be used as a passivation agent when the product coating requirements are not high;
- It is easy to rinse, unlike conventional oily rust inhibitors that are difficult to clean;



TR系列控制器

TR series controller



产品信息 Product Information

- 自动检测连续式投加技术，保证各种药剂精确、及时、稳定、可靠的投加及控制
- 检测参数可自由选择，实时显示，可存储数据
- 自动与手动投加双模式自由切换
- 液晶触摸屏显示，多通道测量实时监控，液位监控实时监控原液使用情况（可选）
- 最高可控制8个槽
- The automatic detection continuous dosing technology can ensure accurate, timely, stable and reliable dosing and control of various reagents;
- The detection parameters can be freely selected, and displayed in real-time, and data can be stored;
- The automatic and manual dosing modes can be freely switched;
- It is equipped with LCD touch screen display, multi-channel measurement and real-time monitoring, liquid level monitoring and real-time monitoring of raw liquid usage (optional);
- Up to 8 slots can be controlled;

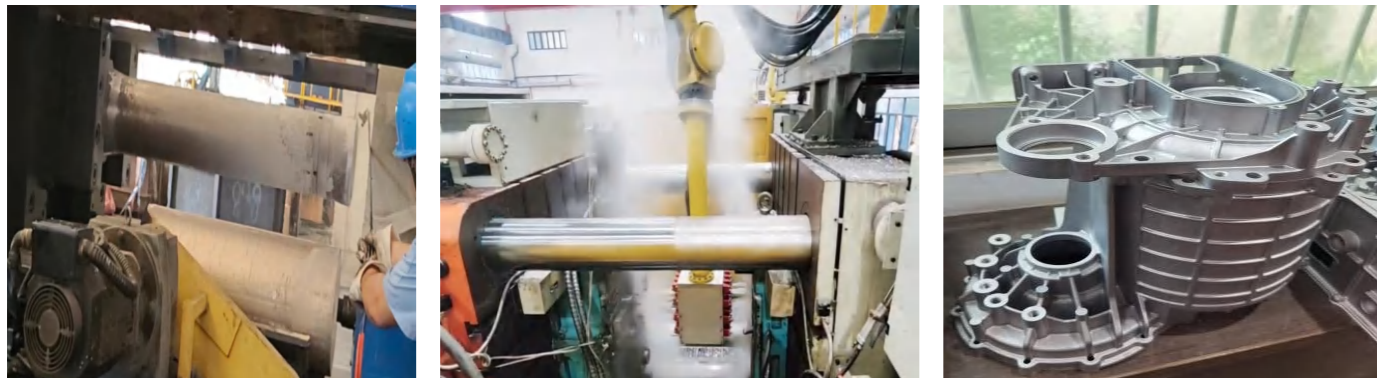
工艺特点 Process Characteristics

- TR系列数字化质量监控系统根据众多客户的实际需要设计，既能满足普遍的化学水处理需求，又可针对特殊溶剂系统灵活调整配置。
- 整套监控系统对各个精密的传感控制元件进行了优化整合，能根据系统的实际质量、监控状况调整加药设备的运行参数，操作界面友好，便于操作人员的现场监控和操作。
- 使用控制器后，可使水耗节省30%-50%
- TR series digital quality monitoring system is designed according to the actual needs of many customers, which can meet the common needs of chemical water treatment and flexibly adjust the configuration for special solvent systems.
- In the entire monitoring system, various precision sensing and control components are optimized and integrated, so that the operating parameters of the dosing equipment can be adjusted based on the actual quality and monitoring status of the system. The operating interface is user-friendly, and convenient for operators to monitor and operate on-site.
- With the controller, the water consumption can be saved by 30% -50%.



脱模分离剂  
Mold release agent

适用于发动机缸体、变速箱及汽车配件、新能源车电机外壳、新能源储能电池包壳体、5G散热片、五金件、型材、重型机械  
It is suitable for engine cylinder block, gearbox and automotive accessories, new energy vehicle motor casing, new energy storage battery pack casing, 5G cooling fin, hardware, profiles, and heavy machinery;



产品信息 Product Information

- 汉博新材料研发和销售的脱模剂专注于压铸铝行业，高温润湿性好，脱模效果佳，铸件表面干净易喷涂，且抛光后质量高，从而可以减少冷却和润湿时间，确保模具得到最好的保护，并提高生产效率。
- The release agent developed and sold by Humber, mainly used in the die-casting aluminum industry, has good high-temperature wettability, excellent release effect, clean surface of castings that is easy to spray, and high quality after polishing, which can reduce cooling and wetting time, ensure the best protection of molds, and improve the production efficiency.

工艺特点 Process Characteristics

- 使用安全，不黑化设备，延长挤压杆寿命，残留少；对人体和土壤无危害。
- Safe to use, without blackening of equipment. The service life of extrusion rod can be prolonged, and residue is minimal. No harm to human health and soil.

产品介绍 Product Introduction

压铸铝脱模剂：  
Die-casting aluminum release agent:

微喷脱模剂 Micro-spray release agent	高浓缩液，微量喷涂，减少VOC排放，节能减排，脱模性极优且抗焊合性能好，应用范围广 High concentrated liquid, in micro-spray, with VOC emission reduction, energy-saving and emission reduction, excellent release performance and good welding resistance, and a wide range of applications;
无蜡脱模剂 Wax-free release agent	减少对蜡清洗不干净的工件，废品率大大降低 The workpieces that are not cleaned thoroughly with wax can be reduced, and the waste rate can be greatly decreased.
无硅油脱模剂 Silicone-free mold release agent	适合于对硅要求高后部加工清洗，生产效率高 It is suitable for rear processing and cleaning with high requirements for silicon, with high production efficiency.
复杂件脱模剂 Complex part demolding agent	模腔深120mm复杂槽位，高浓缩液，抗腐蚀性能好，模具冷却速度快、显著减少内壁的拉伤 The mold cavity has a depth of 120mm with complex grooves. High concentrated liquid, with good corrosion resistance, and fast cooling speed of mold, which can significantly reduce the internal wall strain

挤压分离剂：  
Extrusion separating agent:

分离剂 Separating agent	是传统分离剂（黑油、乙炔等）的升级换代产品，中性、无气味、无腐蚀性。 It is an upgraded product of traditional separating agents (black oil, acetylene, etc.), neutral, odorless and non-corrosive.
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切削液工艺应用  
Application of cutting fluid process

适用于发动机缸体、变速箱及汽车配件、新能源车电机外壳、新能源储能电池包壳体、5G散热片、五金件、型材、重型机械  
It is suitable for engine cylinder block, gearbox and automotive accessories, new energy vehicle motor casing, new energy storage battery pack casing, 5G cooling fin, hardware, profiles, and heavy machinery;



产品信息 Product Information

- 汉博切削液是一种在金属高速CNC加工过程中，低腐蚀，生物性能稳定的水溶性微乳型切削液，针对有色金属和黑色金属具有极佳的保护效果。
- 具有良好的冷却、润滑、防锈、耐硬水和易清洁功能，提高加工面光洁度和加工效率，并能延长刀具的使用寿命。
- Humber cutting fluid is a water-soluble microemulsion cutting fluid with low corrosion and stable biological properties during high-speed CNC machining of metals. It has excellent protective effect against non-ferrous and ferrous metals.
- It has good preformation of cooling, lubrication, rust prevention, hard water resistance and easy cleaning, which can improve the smoothness and efficiency of the machining surface, and extend the service life of the cutting tools.

产品介绍 Product Introduction

微乳切削液 Microemulsion cutting fluid	高浓缩液，粒径极小，适用于高速加工，节能减排，使用寿命长 High concentrated liquid with small particle size, available for high-speed machining, energy-saving and emission reduction, and long service life
乳化切削液 Emulsified cutting fluid	高比例使用，润滑好，生物性能稳定 Available in a high proportion, with good lubrication and stable biological properties
全合成切削液 Fully synthetic cutting fluid	不含亚硝酸钠，耐硬水，刀具保护性好 Free of sodium nitrite, resistant to hard water, with good tool protection
双组分切削液 Two-component cutting fluid	高浓缩液，粒径极小，AB组分可以单独使用，清洗水可以反复使用 High concentrated liquid with small particle size, AB component can be used alone, and cleaning water can be reused
锯切油 Sawing oil	高温后不留痕迹，表面易清洗，用量小 No trace left after high temperature, easy cleaning of surface, available in less dosage

双组分切削液产品特点 Characteristics of two-component cutting fluid products

切削液 Cutting fluid	HB 6587脱脂剂 HB 6587 degreaser
澄清的分散液，高润滑，不含硼、硫、氯、甲醛，消耗量低，优异的防锈性能 Clear dispersed liquid, with high lubrication, free of boron, sulfur, phosphorus, chlorine and formaldehyde, with excellent rust prevention performance	水基中性脱脂剂，在低温下具有较好的清洗性能，在所有水的硬度下无泡沫问题，优异的防锈性能较好的清洗性能在所有水的硬度下，无泡沫问题优异的防锈性能 Water-based neutral degreaser with good cleaning performance at low temperature, free of foam under the hardness of all water, with excellent antirust performance
应用：金属加工液与HB 6587一起使用，适用于有色金属和黑色金属 Application: Metal working fluid is used in conjunction with HB 6587, suitable for non-ferrous and ferrous metals	应用：中性脱脂剂可以在常温下使用，可以使用在具有高压或低压的喷淋设备；脱脂剂与切削液一起使用，大大提升切削液的使用性能。 Application: Neutral degreaser can be used at room temperature and can be used in spray equipment with high or low pressure. The degreaser can be used together with cutting fluid to greatly improve the performance of cutting fluid

案例分析 Case Study

酸洗工艺典型案例 Typical case of pickling process 湖北某卧式喷淋线体客户 A customer of a horizontal spray line in Hubei

**材料:**喷砂料、内腔料、窄体喷漆料

**存在问题:**喷漆后频繁出现局部掉膜情况。若进行线体结构调整,成本高、时间长。

**调整方案:**经汉博技术人员到客户现场实地考察,对客户原有线体布局进行微调,并搭配汉博酸洗无铬前处理工艺及产品,跟踪调试,培训客户技术人员掌握前处理最佳工艺参数及管控方法。

**优化效果:**减少打砂残留的影响,完美解决局部掉膜问题,为客户节省大量的时间和经济成本。

**Materials:** Sandblasting material, inner cavity material, narrow body spray paint material

**Existing problem:** Local film peeling after painting occurs frequently. The adjustment of wire structure is high-cost and time-consuming

**Adjustment plan:** Based on investigation of Humber technical personnel on the site of customer, the original line layout of the customer is fine-tuned, and Humber pickling chromium-free pretreatment process and products are adopted, with tracking and debugging, and technical personnel of customer are trained to master the best pretreatment process parameters and control methods.

**Optimization effect:** Impact of sand residue is reduced, and the problem of local film peeling is solved efficiently, which save a lot of time and economic costs of customer.



干湿附着着力检测 Dry and wet adhesion testing

1000h ASS盐雾检测 1000h ASS salt spray detection

低铬工艺应用案例 Application case of low chromium process 广东某知名铝材企业 A well-known aluminum material enterprise in Guangdong

**材料:**铝型材

**存在问题:**沿海高端门窗铝材加工,对产品耐盐雾性能要求高

**调整方案:**采用汉博低铬工艺及产品,提高客户产品表面的盐雾性能与裸膜盐雾性能,优良的产品附着力效果,可保证后续粉末涂层颜色不受影响,完全满足客户对成品的要求。

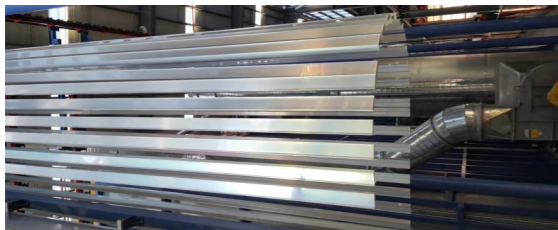
**优化效果:**提升产品性能的同时,极大地降低废水处理成本,助力企业实现降本增效、绿色发展。

**Material:** Aluminum profile

**Existing problem:** There are high requirements for product salt spray resistance during the processing of high-end aluminum doors and windows in coastal areas

**Adjustment plan:** Humber low chromium process and products are adopted to improve the salt spray performance and bare film salt spray performance on the surface of customer products, with excellent product adhesion effect, ensuring that the color of subsequent powder coatings is not affected. All these can fully meet the customer requirements for the finished product.

**Optimization effect:** Production performance is improved and wastewater treatment costs are greatly reduced, which supports the enterprise to achieve cost reduction, efficiency increase, and green development.



干湿附着着力检测 Dry and wet adhesion testing

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客户检测报告 Customer test reports

检测报告 Test reports

