

电泳涂料

Electrophoretic Coating

☎ 021-39199221

🌐 www.haolisengroup.com
www.haolisen.com

底面合一系列解决方案

PRIMER TOPCOAT SYNCRETIC COATING SOLUTIONS



扫码关注更多资讯
☒☒

集团总部：上海市嘉定区沪宜公路1185号

上海工厂：上海市南翔高科技园区惠平路158号

江苏工厂：江苏省南通市开发区通旺路18号

Group headquarters: No. 1185 Huyi High Way, Jiading District, Shanghai, China

Shanghai Factory: No. 158, Huiping Road, Nanxiang Development Area, Shanghai, China

Jiangsu Factory: No. 18, Tongwang Road, Nantong Development Zone, Jiangsu, China

应对您在材料端的挑战

DEAL WITH YOUR CHALLENGES IN MATERIAL ASPECT.



浩力森



品质无坚不摧

INDESTRUCTIBLE QUALITY

防腐老化，强效兼顾

TRONG BALANCED BETWEEN ANTI-CORROSION AND AGING



E-coating Introduction

电泳涂装概况

电泳涂装（ED）是由电泳涂料通过电化学反应在金属材料表面形成涂膜，比普通喷涂更致密附着力更强，并且具有超强的耐盐雾、耐湿热性能，其防腐能力也远高于其他类型的防腐底漆。操作安全、简单、高效、节能。

Electrophoresis coating (ED) is an electrophoretic coating by electrochemical reaction on the surface of metal materials to form a coating film, more dense and has more adhesion than ordinary spraying, as well as super salt spray resistance, moisture and heat resistance performance, its corrosion resistance is much higher than other types of anti-corrosion primer. Operation safe, simple, efficient and energy saving.

浩力森阴极电泳涂装工艺经过近 20 年的发展，以其优异的理化性能被应用到各种涂装领域中，已经成为底漆涂装的先进成熟技术厂家之一。能适应防腐、环保、节能和顾客的多样化性能要求，阴极电泳涂料的开发也取得了快速发展，阴极电泳涂料给整个涂装行业呈现出：较低的溶剂含量；较低的烘烤固化温度；不含铅、镉、汞等有害重金属；较低的涂膜密度和加热减量；高泳透力性能；耐候性、平滑性及高边缘防腐性等特殊产品要求。

HLS cathode electrophoresis coating process, with its excellent physical and chemical performance is applied to a variety of coating fields, has become one of the advanced mature technology manufacturers of primer coating after 20 years of development. We can adapt to anti-corrosion, environmental protection, energy saving and customer's diverse performance requirements, cathode electrophoresis coating development has also made rapid development, it presents these specification to the entire coating industry: lower solvent content; lower curing temperature; no lead, no cadmium, no mercury and other harmful heavy metals, lower coating density and heating reduction, high throwing power; weather resistance; high leveling and edge corrosion resistance etc. special requirements.

DEAL WITH YOUR CHALLENGES IN MATERIAL ASPECT

应对您在材料端的挑战

Product Introduction

Product Introduction

产品介绍

电泳涂料一般均作为防腐底漆涂装材料被广泛使用，但随着工业的不断发展，很多工业材料在原有盐雾性能的要求上，进一步需要将老化性能提高，从而使电泳一道阴极电泳涂料既具备底漆性能，又能够达到面漆耐老化的性能，进而满足涂装优化工艺，节约成本的需求。浩力森是进军底面合一领域的先驱者，其自动研发的 HR 系列属于业内领先地位。通过不断地优化，针对乳液在施工中的稳定性，探讨了亲水性溶剂、酸值等对乳液及电泳涂膜的影响，通过分析槽液中的树脂比例变化，从而证明底面合一系列产品在盐雾和耐候等方面达到了和谐统一，两者兼顾。根据顾客的不同需求，演变出高盐雾低耐候（800h 中性盐雾、400h 耐候）、高耐候低盐雾（800h 耐候、400h 中性盐雾）以及常规底面合一产品（600h 中性盐雾、600h 耐候）。

E-coating is generally used as anti-corrosion primer coating materials, but with the continuous development of industry, many industrial has further need on improving the aging performance in addition to salt spray resistance performance, so that a cathode E-coating not only has primer performance, but also can achieve the performance of topcoat anti-aging, and thus meet the coating optimization process, cost-saving needs. HLS is a pioneer in the field of primer topcoat syncretic coating, and its auto-developed HR series is leading in industry. The results showed that E-coating with finishing and primer topcoat syncretic coating achieved harmony and unity in salt spray and weather resistance, both of which were taken into account through continuous optimization, in view of the stability of emulsion in construction, the effects of hydrophilic solvents, acid values, etc. on emulsion and electrophoretic lacquer film were discussed, the proportion of resin in the tank fluid was analyzed, and the aging level of the paint film was demonstrated by artificial accelerated aging experiments. According to the different needs of customers, it evolves these product: high salt spray low weather resistance (800h salt spray, 400h weather resistance), high weather resistance low salt spray (800h weather resistance, 400h salt spray) and conventional finishing and primer topcoat syncretic coating (600h salt mist, 600h weather resistance) products.

1.
Advantage

耐盐雾、耐候性优异
Excellent anti-corrosion and aging resistance

2.
Advantage

低固化温度
Low curing temperature

3.
Advantage

工艺简单、节能降本
Simple process, energy saving and cost reduction

1 Advantage

盐雾性能、耐候性能优异
EXCELLENT ANTI-CORROSION AND AGING RESISTANCE



SERIES PRODUCTS

在电泳涂料制备反应过程中，环氧树脂赋予涂膜较好的盐雾性能，丙烯酸树脂通常在老化性能上优于环氧树脂，但用量较大时将对其盐雾性造成影响。所以必须平衡丙烯酸树脂与环氧树脂的比例，同时评估丙烯酸树脂与环氧树脂混合方式使涂膜既有良好的耐候性，又有较好的耐中性盐雾性能。通过对不同树脂的化学接枝方式，能够很好地达到防腐性和耐老化性，浩力森底面合一产品可以根据顾客不同的耐候和耐盐雾性需求，通过树脂类别与混合比例的考量研究，生产出适应顾客性能要求的产品。

In the process of E-coating preparation reaction, epoxy resin gives the paint film better salt spray performance, acrylic resin is usually better than epoxy resin in aging performance, but it will affect its salt spray when the amount is large. Therefore, it is necessary to balance the ratio of acrylic resin and epoxy resin, and evaluate the mixture of acrylic resin and epoxy resin to make the paint film has both good weather resistance and good salt spray resistance. Through the chemical grading method of different resins, can achieve good corrosion resistance and aging resistance, HLS finishing and primer two-in-one product can meet customer performance requirements, through considering the resin category and mixing ratio, based on the customer's different weather resistance and salt spray resistance requirements.

样板中性盐雾实验 Sample board salt spray test

SERIES PRODUCTS



800h, 样品主要表面无基体腐蚀，无气泡，划线处单边扩蚀为 $\leq 2.0\text{mm}$ ，边缘无锈蚀。
800h, the main surface of the sample without substrate corrosion, no bubbles, lineation side corrosion spread $\leq 2.0\text{mm}$, no corrosion at the edge.

样板耐候实验 Sample board weatherability test

SERIES PRODUCTS

由于沿海及近海地区的空气中富含呈弥散状微小水滴状的盐雾，容易沉降在各种物体上，对金属材料及保护涂层具有强烈的腐蚀作用。此外，涂膜在常规使用过程中随着时间的推移，不可避免地会受到内在因素及外部环境因素的相互作用而出现变色，失光，粉化，开裂，生锈，剥落，斑点等一些不可逆的破坏现象，产生涂膜老化。浩力森推出底面合一系列产品，优异的耐盐雾、耐候性能，为顾客提供了满意的服务。

Because the air along the coast and offshore areas is rich in salt mist with scattered tiny water droplets, it is easy to settle on various objects and has a strong corrosive effect on metal materials and protective coatings. In addition, the paint film will inevitably be affected by the interaction of internal factors and external environmental factors over time. It causes color change, loss of light, powdering, cracking, rust, peeling, spots and other irreversible damage phenomenon, resulting in paint film aging. HLS launched a series of products with the combination of bottom and surface, excellent salt spray resistance and weather resistance, providing customers with satisfactory service.

SERIES PRODUCTS

荧光紫外灯 QUVA 800h
Fluorescent UV lamp QUVA 800h



800h 失光率 2 级以内，变色 0 级，无粉化情况
Within 800H, the light loss rate is less than grade 2, the color change is grade 0, and there is no pulverization

氙灯法 800h
Xenon 800h



800h 失光率 2 级以内，变色 0 级，无粉化情况
Within 800H, the light loss rate is less than grade 2, the color change is grade 0, and there is no pulverization

2

Advantage

低固化温度

LOW CURING TEMPERATURE



SERIES PRODUCTS

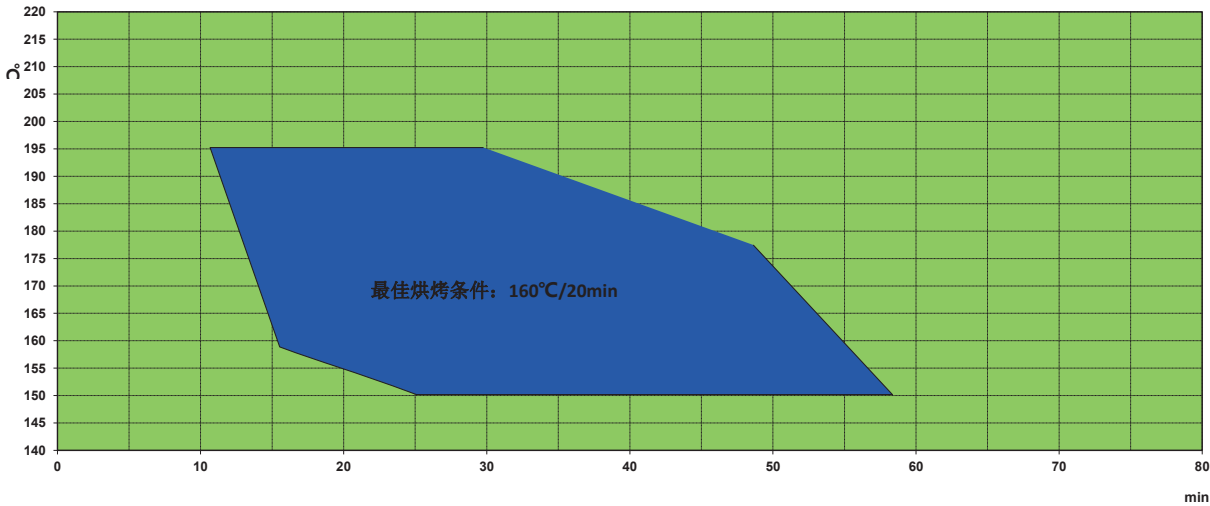
电泳涂装时，涂膜烘干环节确保了涂膜固化后的最佳性能，同时也是高能耗与高排放的主要环节。据相关统计，漆膜烘干固化温度每降低 10℃，大约减少能耗 10%。底面合一系列产品具备 160℃ / 20min 的固化水平，在市场上处于领先地位。

When E-coating, the coating drying link ensures the best performance after coating curing, but also the main link of high energy consumption and high emissions. According to statistics, the drying and curing temperature of the paint film is reduced by about 10% for lower every 10 °C . Finishing and primer two-in-one is a leading position in the market with a series of products with a drying level of 160℃ / 20min.



固化窗口 Solidification window

SERIES PRODUCTS



3

Advantage

工艺简单 节能降本

SIMPLE PROCESS, ENERGY SAVING AND COST REDUCTION



SERIES PRODUCTS

阴极电泳涂料应用于汽车底漆时具备一定的防腐性能，但随着商用车行业的迅速发展，车架等汽车黑色件在原有盐雾性能要求上，进一步要求提升老化性能，从而使电泳单涂层既具备底漆性能，又兼顾面漆耐老化性能，进而满足涂装优化工艺、节约成本的需求。目前，浩力森底面合一系列产品可满足顾客单涂层防腐性、耐老化性能的双要求，实现了缩短工艺流程、降低污染排放、节约能耗的目的。

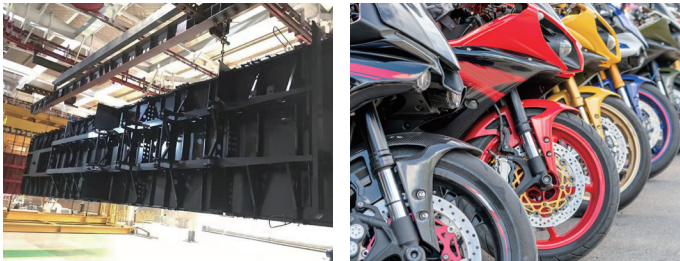
Medium-thick film cathode E-coating applied to automotive primers has a certain anti-corrosion performance, but with the rapid development of the commercial vehicle industry, Car frame and other automotive black parts further requires to improve aging performance in addition to the original salt spray performance requirements, so that it requests E-coating not only has primer performance, but also take the anti-aging performance of the finish into account, and thus meet the needs of coating optimization process, cost savings. At present, HLS primer topcoat syncretic coating products meet the customer's coating corrosion resistance, anti-aging performance both requirements, and shorten the process, reducing pollution emissions, saving energy consumption purposes.

Experimental Data

实验数据

涂膜性能指标 FILM PERFORMANCE INDEX

项目 PROJECT		指标 INDICATOR	检验标准 TEST STANDARD
外观 Appearance	≤	平整光滑 Ra ≤ 0.18μm AppearanceAppearance	粗糙度仪 Roughness tester
硬度 Hardness	≥	2H	GB/T 6739
附着力 Adhesion	级 level	0	GB/T 9286
柔韧性 Cup drawing	mm	1	GB/T 1731
冲击 Impact	Kg·cm	50	GB/T 1732
光泽 Gloss	60°	70-90	GB/T 9754
耐水性 Water resistance	h, (23±2)°C, ≥	240	GB/T 1733
耐酸性 Water resistance	h, (0.1N H ₂ SO ₄), ≥	72h	GB/T 9274
耐碱性 Water resistance	h, (0.1N NaOH)°C , ≥	72h	GB/T 9274



Application Area

应用领域

浩力森底面合一系列产品广泛应用于水泵、汽车配件、轮毂、农用机械、户外休闲用品、两轮三轮摩托车、电动车车架、商用车车身、车架等行业。

HIS finishing and primer two-in-one series of products are widely used in pumps, auto parts, wheels, agricultural machinery, outdoor leisure supplies, two-wheeled three-wheeled motorcycles, electric vehicle frames, commercial vehicle bodies, frames etc.

Customer Service

服务顾客

浩力森是国内率先进入尖端环保表面材料应用领域的自主品牌之一。目前，电泳涂料、水性涂料、低碳涂料、粉末涂料、新材料等各类产品，广泛应用于汽车及汽车零部件行业，工程机械行业，轨道交通行业，航天海运行业，摩电行业，电梯行业，集装箱行业，家电家居行业，3C 电子行业，重防腐行业等众多领域。

HLS is one of the first domestic brands who is first to enter the field of cutting-edge environmentally friendly surface materials applications. At present, E-coating, water-based coating, low-carbon coating, powder coating, new material etc. products' applications cover automobile and auto parts industry, construction machinery industry, rail transit industry, air and sea transportation, motorcycle and electric vehicle industry, elevator industry, container industry, home appliances industry, home furnishing industry, 3C electronics industry and heavy duty etc.



部分合作顾客，排序不分先后。
All of cooperative customers, in no particular order.

☎ 021-39199221

🌐 www.haolisengroup.com

www.haolisen.com

了解更多产品、技术、服务等信息请咨询浩力森客服人员。

For more product, technology, service and other information,
please consult Holisen customer service staff.



浩力森公众号
HLS Official accounts



浩力森公众号
HLS Official accounts

咨询方式：

扫描客服二维码添加微信即可在线与客服人员沟通。

更可参加浩力森不定期推出的各类活动。

Consultation method:

Scan customer service QR code to add WeChat to communicate
with customer service staff online.

Can participate in a variety of activities from time to time HLS.



浩力森客服：Lily
Customer service: Lily

