HYWELT

Water-based Polymer Materials Applications & Product Solution



Founded in 2006 and headquartered in Hangzhou, **HYWELT** is a leading supplier in China of water-based polymer materials and comprehensive printing solutions. In line with the national "Oil-to-Water" strategy, the company is dedicated to providing high-performance, eco-friendly, and sustainable products and services centered around water-based inks, coatings, and polyurethanes, serving industries such as furniture and building materials, packaging and printing, automotive, consumer electronics, industrial manufacturing, and new energy.

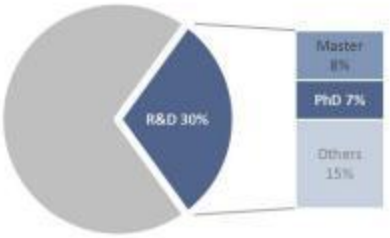
>> R&D Capabilities

Background of R&D Core Team

Originated from Chemical Engineering Faculty of Zhejiang University

Consists of 36 researchers

Appointed as as government Postdoctoral Research Station. 6 postdoctoral in total and 5 currently work in the Station.



** **Zhejiang University** according to EduRank Research Topic Breakdown (2025), Overall Engineering ranks No.2 in China and No.18 globally, and Chemical Engineering ranks No.2 globally*

Research Base

1 Research Institute
1 Postdoctoral Research Station
3 Application R&D Centers Lin'an | Lishui | Shunde

Honors | Qualifications

42 authorized invention patents
National Specialized and Innovative Enterprise
National Intellectual Property Advantage Enterprise
Chairman member of Printing Ink Committee, China Printing Association
China Timber & Wood Products Industry Innovation Award
Zhejiang Provincial Science & Technology Progress Award
Hangzhou Green & Low-Carbon Factory

Research institute

Hangzhou Hywelt Future Technology Co., Ltd.
Unit 2 Building 8, No. 669 Cangxing Cangqian St. Yuhang Dist..
Hangzhou - , Zhejiang Prov.
Tel: 0571-89390139

Founder | Chairman

> Bachelor & Master, Chemical Engineering Major, Zhejiang University
> PhD, Northwestern Polytechnical University
> President, Ink Branch of China Printing Industry Association

Co-Founder | Board Member

> Professor, PhD Supervisor, Chemical Engineering Faculty, Zhejiang University
> Post-doctoral, Georgia Institute of Technology

CTO

> PhD, Lehigh University, USA
> Registered Chemical Engineer (U.S.)
> Senior Research Scientist with 10 years of experience at 3M and DuPont

Chief Engineer

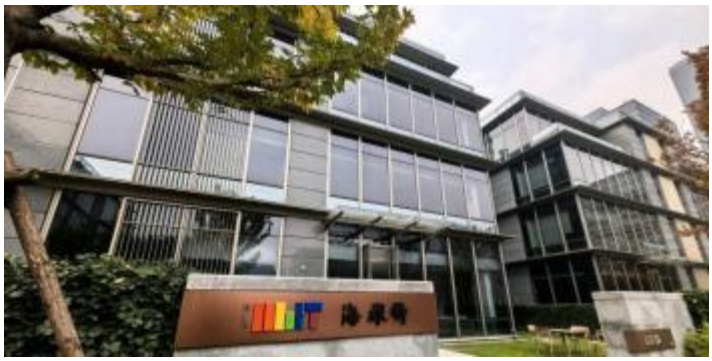
> Master, Zhejiang University

Director of Research Institute, Hangzhou

> Professor & PhD Supervisor , Zhejiang A&F University
> Member of the New Materials Expert Panel, the Provincial Department of Science and Technology

Deputy Director of Research Institute,Hangzhou

> PhD from Eindhoven University of Technology (TU/e), Netherlands



>> PRODUCTION BASE | CORE TECHNOLOGIES



4 major production bases nationwide with an annual capacity of over 250,000 tons

- Product portfolio includes water-based inks, pigments, functional resins, coatings, and adhesives

Headquarter

Hangzhou Hywelt Chemical Technology Co., Ltd.
No. 39 Zhoufu Rd., Linglong, Lin'an Dist.
Hangzhou - 200050, Zhejiang Prov.
Tel: +86-571-63812655

Lishui Plant

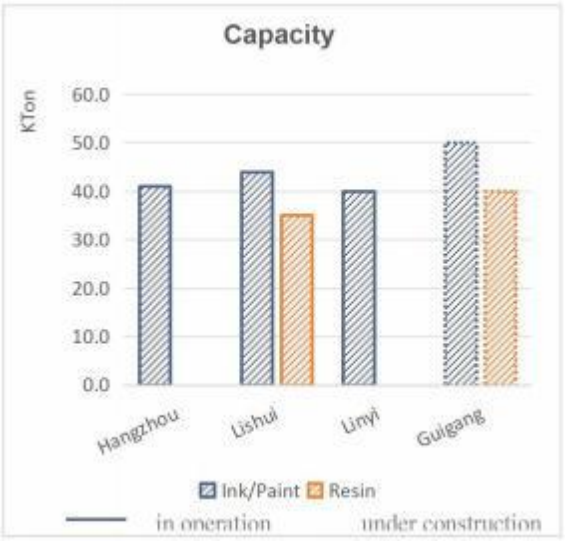
Lishui Hywelt New Materials Co., Ltd.
No. 322 Suisong Rd., Nanmingshan St., Liandu Dist.,
Lishui - 323012, Zhejiang Prov.
Tel: +86-0578-2968996

Linyi Plant

Linyi Hywelt New Materials Co., Ltd.
No. 10-1, Linyi Impregnated Paper Technology Park, Kuangken , Lanling
Linyi - 277700, Shandong Prov.
Tel: +86-0539-7357775

Guigang Plant - under construction

Guigang Hywelt New Material Co., Ltd.
New Materials Technology Park, Tantang Dist.
Guigang, Guangxi Prov.



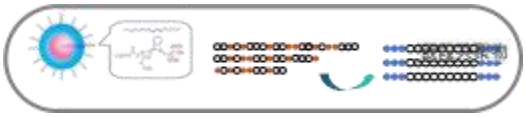
> **Nano-Dispersion Technology**

for improved pigment stability and vividness



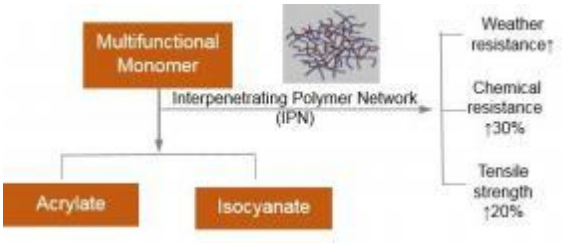
> **Multi-functional resin design**

for enhanced strength, quick drying, salt resistance, and shear resistancevividness



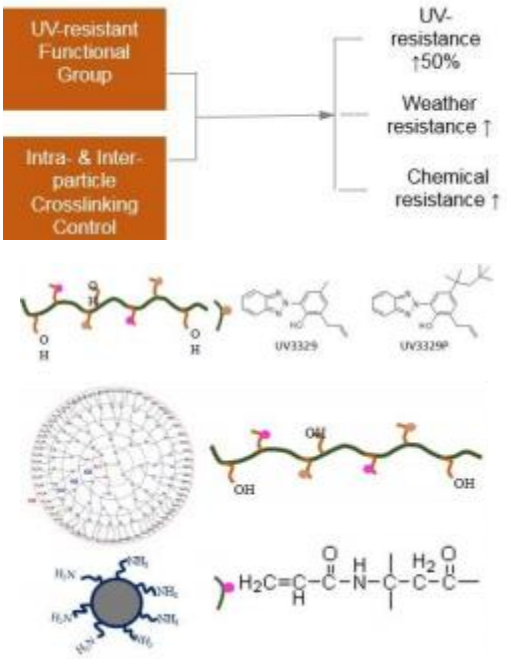
> **Interpenetrating Polymer Network (IPN)**

+30% weatherability, +20% tensile strength



> **Functional group modification and cross-linking technology**

+50% UV resistance, superior chemical durability



HYWELT, driven by "**Green Sustainability + Technological Innovation**", is committed to becoming a long-term global partner in the field of water-based materials.

>> PRODUCTS | APPLICATIONS





Automotive

interior parts, body coatings, synthetic leather, sealing & bonding

Industrial & New Energy

industrial electronics, wind turbine blades, carbon fiber composites, anti-corrosion protection





Packaging & Printing

food, pharmaceuticals, personal care flexible packaging, label films





Furniture & Building Materials

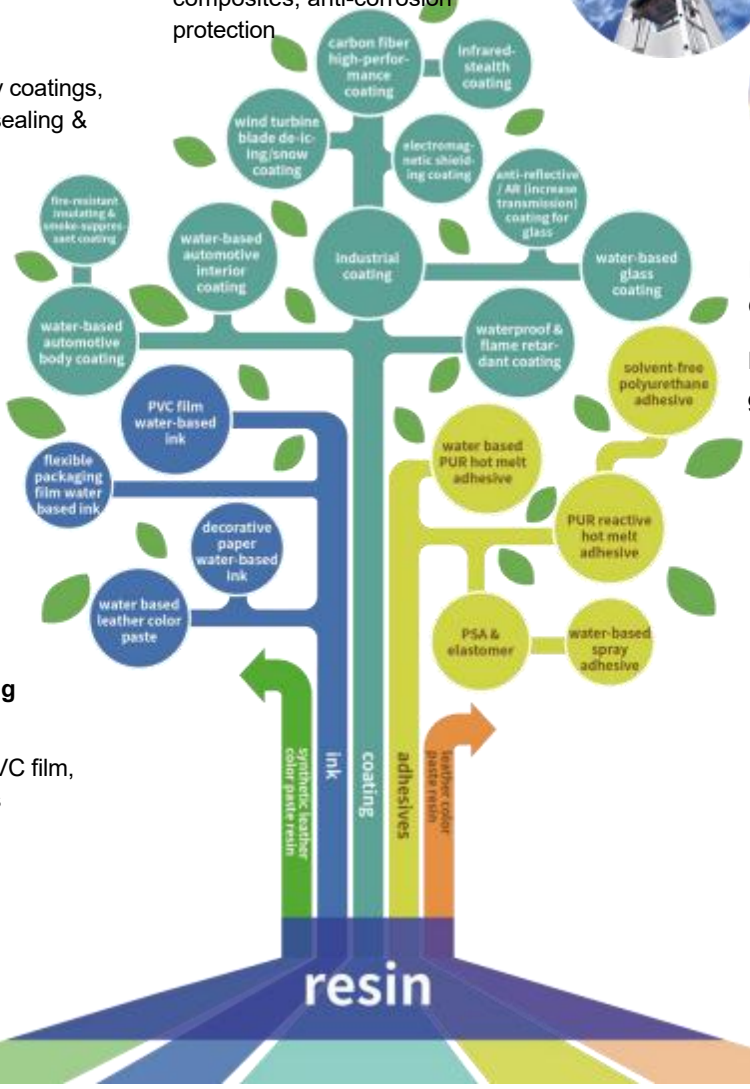
decorative paper, PVC film, flooring, door panels





Electronics & Consumer Goods

laptop shells, peripherals, glass bottle packaging



>> PRODUCTS | APPLICATIONS > Water-Based Gravure Inks for Decorative Paper

APPLICATION

furniture panels, doors, flooring, wood-grain and stone-grain decorative paper





FEATURES

core technology for the transformation of the decorative paper printing industry towards green, environmentally friendly, and sustainable development

using water instead of organic solvents, it significantly reduces VOC emissions and improves the working environment



Standardization of water-based ink, digitalization of color, and Sinicization of patterns

CATEGORIES

HYWELT | INORK - Inorganic | INCLER - SCM Special | EXTENDER

>> PRODUCTS | APPLICATIONS > Water-Based Gravure Inks & Surface Coatings for PVC Films

APPLICATIONS

PVC furniture films, automotive interior films, vinyl flooring



FEATURES

- Fast drying speed, excellent printing leveling, comparable to solvent-based ink effects
- Excellent resolubility, solving issues such as plate drying, tearing, and cleaning during printing
- Outstanding wear resistance, heat resistance, and flexural plasticity
- Can be diluted with water in any proportion during color matching, environmentally friendly
- Excellent composite adhesion, verified through years of market application

CATEGORIES



> **Gravure Printing Inks**

Designed for high-speed printing (70–180 m/min), with over 40 active clients and market leadership

> **Gravure Printing Inks Low-Alcohol**

Reduced VOC emissions for safer production environments

> **Surface Coatings (Gloss & Matte Varnishes)**

Scratch resistance, anti-fingerprint, heat and aging resistance

Water-based Gravure Printing Inks for Flexible Packaging Filming

› **Composite Inks**
for printing on PET, BOPP, and PA films, commonly applied in food pouches, retort pouches, detergent packaging, pharmaceutical packaging

› **Shrink Film Inks**
for printing on PVC and PETG heat-shrink label films, with good heat shrinkage resistance, commonly used for beverage labels, battery label packaging, etc.

› **Surface-Printing Inks**
for PE and CPP films, commonly applied in tissue paper, wet wipes,
handbags, bread bags packaging, etc.

› **Matte Varnish**
for packaging printing that requires highlighting local contrast and three-dimensional effects, commonly applied in coffee bags, facial mask bags, pet food packaging bags, etc.



Water-Based Color paste



› **Wet Process** Ultra-low VOC, excellent compatibility
› **Low-Halogen** for automotive leather, electronics, medical and aviation applications.
› **Microfiber Pad Dyeing** for leather finishing and automotive interiors.

Application Resins

applied in various production processes to meet different customer requirements



healthy and environmentally friendly, complying with various environmental safety standards
used in high-end applications such as automotive and sofa manufacturing

Automotive Leather Surface Treatment



Low VOCs emission, improves interior environment, excellent mechanical strength and wear resistance, specially designed with skin-friendly feel
Through nano-modification technology (enhancing physical properties), molecular structure design (addressing water-based system defects), and multi-functional compounding (providing intelligent characteristics), it achieves comprehensive performance surpassing solvent-based products while meeting the automotive industry's most stringent environmental and durability standards

Genuine Leather Chemicals



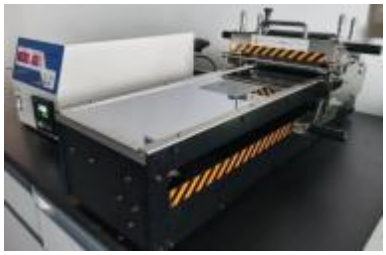
Auxiliary tanning agents with special functions, featuring high cost-effectiveness, excellent filling uniformity, environmental friendliness, dyeing performance and light resistance.
Through precise molecular structure design (charge/molecular weight/functional groups), functional monomer modification (silicone/nano-hybridization) and ecological upgrading (formaldehyde-free/bio-based), achieves synergistic optimization of filling-softness-environmental protection, replacing traditional polluting tanning agents.

Smart Color Matching System - Metering Customization Equipment (General Printing)

Achieves the leap from manual to semi-automatic dispensing
Improves measurement utilization and enables data-driven measurement management
Digitalized dispensing process, suitable for repeated production, improves efficiency



Smart Color Matching System - Decorative Material Printing Color Matching



Considers material color characteristics to prepare ink with accurate color every time
Improves overall quality and efficiency by integrating InkFormulation software with quality control/statistical process control solutions (e.g., Color IQC and ColorCert)
Uses gloss data from residual ink to create new target color formulas, achieving desired colors using waste ink and new ink

Smart Color Matching System - Leather Printing Color Matching

The high-stability benchtop spectrophotometer CS-821N is an instrument with strong measurement stability; the newly upgraded automatic calibration technology ensures excellent long-term usage and measurement stability. It maintains superior measurement stability even under severe environmental changes



ColorMeter



Portable mass color data base: Link to mobile APP, establish color data base, input color data with print, pigment, textile.
Automatic calibration: Auto calibration as turn on, test color immediately, precise and long time run
Easy to read: 1.14 inch IPS display, show all color data.
Cloud data base: Provide official color data base, user can upload color data to cloud as well, multi devises share,easy to processing, user can also share the color and formula to partner via invitation code.
Support software: Android, iOS, WeChat applet, Windows

Gravure Printing Machine

Accurate color registration
Can achieve color registration with 80 meters of paper (market average requires 200 meters)
Low energy consumption
Innovative drying oven design reduces energy usage by 30-50%
Easy to operate



Mixer



Variable frequency speed control; power options from 3 to 15KW
Hydraulic lifting ensures stable operation
Multiple working head options available for high dispersion and mixing efficiency
Customizable non-standard products can be provided

Water-Based Automotive Paint

> **Original Equipment Manufacturer Paint**

Water-based Primer Surfacer
Water-based Solid Topcoat
Metallic Monochrome Paint

> **Paint Touch-up**

> **Specialty Coatings for Automotive**

Underbody Anti-chip Coating

> **Wheel Hub Coating**

Bumpers, etc.





Water-based 2K Coatings

APPLICATION

for Substrates: PC, PC+ABS, PC+GF, PA+GF

Applied in automotive interior parts, laptops, keyboard keys, etc.

FEATURES

- Simple application, excellent adhesion, good sanding and recoating properties
- Excellent silver alignment, superior RCA wear resistance, wear resistance ≥500 cycles

Water-based 2K Coatings

APPLICATION

Top Coat: PU or UV; Base Coat: Base + Color + Aluminum Powder + Pearl Powder; Substrate: PC, PC+ABS, PC+GF, PA+GF

widely used in automotive interior parts, laptops, tablet housings, mice, etc.

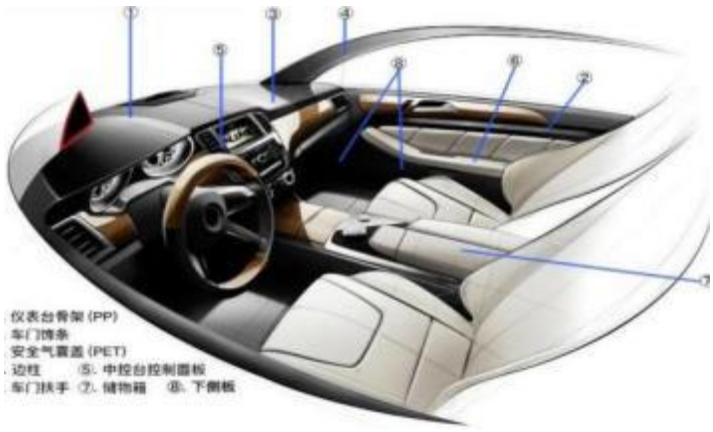


FEATURES

- Excellent adhesion, good recoatability of base coat, superior color addition property
- Strong texture, wear resistance, excellent abrasion resistance, RCA > 250 cycles
- Meets Lenovo, Asus, Dell and other standards

Automotive Interior Water-Based Coatings

① Dashboard Frame (PP)
② Door Trim
3 Airbag Cover (PET)
④ Pillar
⑤ Center Console Control Panel
⑥ Door Armrest



Two-coat Water-based Coating

APPLICATION

Top Coat: PU Elastic Touch Coating; Base Coat: Base + Color; Substrate: PC, PC+ABS, PC+GF, PA+GF

applicable for automotive interior parts, e-books, tablet housings, mice, buttons, etc.

FEATURES

Excellent adhesion, soft touch, strong fleshy texture
Wear resistance,



resistant to butyric acid wiping ≥50 times
Meets Amazon standards

Water-based Baking Paint



APPLICATION

Top Coat: Intermediate Coat; Substrate: Glass

Cosmetic glass bottles, wine bottles

FEATURES

Excellent adhesion, good recoatability of primer and intermediate coat, good hiding power

Strong texture, wear resistance, excellent abrasion resistance, resistant to boiling water, good chemical resistance

Industrial Coating for Electronic Equipment

FUNCTION | APPLICATION

- Protection against humidity, mold, and salt spray, thereby extending the service life of electronic equipment.
- Protection of various industrial circuit boards

CATEGORIES

Silicone Resin

Polyurethane Varnish

Acrylic Varnish



Wind Turbine Blade Anti-icing Coating

APPLICATION

Prevents ice formation and snow accumulation

Self-cleaning and anti-fouling, maintains surface cleanliness

Reduces drag in oil and gas pipelines, prevents wax deposition



FEATURES

- Specially formulated inorganic-organic modified resin as film-forming material, with nano-level anti-icing additives
- Features ultra-low surface energy, low friction coefficient, excellent waterproofing, aging resistance, and high-low temperature stability

Alcohol-Soluble High-Solid Two-Component Eco-Friendly Coating

APPLICATION

Corrosion protection for vessels (non-immersed areas)

Anti-Corrosion Protection for Containers

Anti-Corrosion Protection for Metal Steel Structures



FEATURES

- Environmentally friendly: Resin storage and spraying process are colorless and odorless, high solid content, low VOC (contains only a small amount of ethanol)
- High hardness: Generally reaches 3H, can achieve 5H-6H for special requirements
- High flame retardancy: Intumescent flame retardant on steel structures, self-extinguishing when removed from fire, inhibitory effect during combustion
- High gloss: Gloss can reach 100 degrees, matte effect can also be achieved by adding appropriate amount of powder
- High transparency: Transparent and sediment-free after mixing and spraying, no impurities after filtration with 300 mesh filter cloth
- High fullness: Reaches or exceeds the fullness of traditional high-end PE and PU paints, one primer and one topcoat can meet requirements
- Easy sanding: Pure resin can be sanded with 320 mesh dry sandpaper by machine or hand
- Strong water/alcohol resistance: No change after 24 hours

Carbon Fiber High-Performance Coating

APPLICATION

Industry carbon fiber components: Automotive rearview mirrors; Automotive splash shields, Automotive wheels, etc.

Extended Applications: Adding matting resin to the coating can achieve matte and sandblasted effects



FEATURES

High Hardness |High Oil Resistance | Dirt Resistance | High Light Transmittance | High Fillability | Excellent Leveling | High Adhesion | Easy Application | High Fullness | Solvent Wipe Resistance

Flame-Retardant Coatings

UL94 V-0 compliant, eco-friendly



Glass Anti-Reflective Coatings

APPLICATION

Anti-reflection and anti-glare for

surveillance, security, and machine vision; New energy vehicle HUD + displays + instrument panel covers, etc.

FEATURES

- 10-20 times glass, production efficiency increased by 10-20 times compared to PVD, meeting mass delivery demands
- Cost reduced by over 20%, AR coating process cost reduced by over 20% compared to PVD coating cost
- AR coating processing for large-sized and irregular-shaped workpieces

Security door water-based paint

FEATURES

Low VOC, non-flammable, cost-effective, widely used in doors, home appliances, and automotive exteriors.

MARKET PROSPECTS

Driven by both policy and technology, policy dividends continue to be released China's "14th Five-Year Plan" strictly controls VOC emissions, many regions prohibit new solvent-based coating projects, making water-based alternatives a necessity

Market demand is growing explosively, application areas are expanding: from security doors to automobiles, home appliances, etc.

Environmentally friendly adhesives are used in various scenarios and are gradually replacing traditional solvent-based adhesives in multiple industries, significantly reducing VOC emissions, and are more friendly to humans and the environment during production and consumer use.



Waterborne Polyurethane Adhesive

APPLICATIONS

Footwear industry, automotive dashboard wrapping, door panel lamination, seat fabric bonding

FEATURES

Uses water as dispersion medium, extremely low VOC emissions (some products reduced by up to 90%), no benzene/formaldehyde release/excellent odor grade; widely applicable to substrates (PVC, leather, fabric, ABS, etc.), yellowing resistant and low-temperature activatable.



PUR Reactive Hot Melt Adhesive

APPLICATION

Automotive headliner lamination, carpet bonding light-transmitting surface lamination (e.g., smart surfaces), wire sealing at equipment ends, bonding of various metal and plastic housing components, fixation of other parts and equipment



FEATURES

Solvent-free, cures with moisture in air to form high-strength chemical bonds; almost no VOC emissions, resistant to high temperatures/chemical corrosion, excellent sealing and waterproofing, high bonding strength, suitable for automated production line

Solvent-Free Polyurethane Adhesive

APPLICATION

Packaging bag bonding, automotive felt manufacturing, plywood layer bonding such as roof linings, windshield sealing, camera housing and lens fixation, circuit board and component fixation and protection, sealing of various structures

FEATURES

Two-component AB system, 100% solid content, solvent-free, extremely low VOC, no benzene/formaldehyde release, excellent odor grade; wide range of applications, high strength, good weather resistance.

