

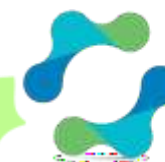
paintistanbul TURKCOAT CONGRESS

WANHUA's Novel Polyisocyanates Low VOC 2K Formulations

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Technical Manager



WANHUA



ChemMedia
PUBLISHER | CONGRESS | EVENTS | AGENCY

Company Profile



WANHUA





29,000⁺

Employees



14

National-level
laboratories or work
stations



16th

of C&EN's Global Top
50 chemical
companies



18

Sales Office



9

Production sites and
factories



\$24.29 billion

Revenue



Polyurethanes

World-leading enterprise in MDI/TDI/polyol technology

The most competitive polyurethane supplier globally



Petrochemicals

A world-class C2/C3/C4 industry chain

World-leading PO technology

World-class manufacturer of polyolefins/PVC

China's leading downstream olefin product supplier



Fine Chemicals

Technology leading enterprise in the global ADI industry chain

World-leading water-based raw materials and degradable plastics manufacturing technology

World-class high-performance materials/nutritional products supplier



Emerging Materials

Becoming a global leading company in battery materials technology



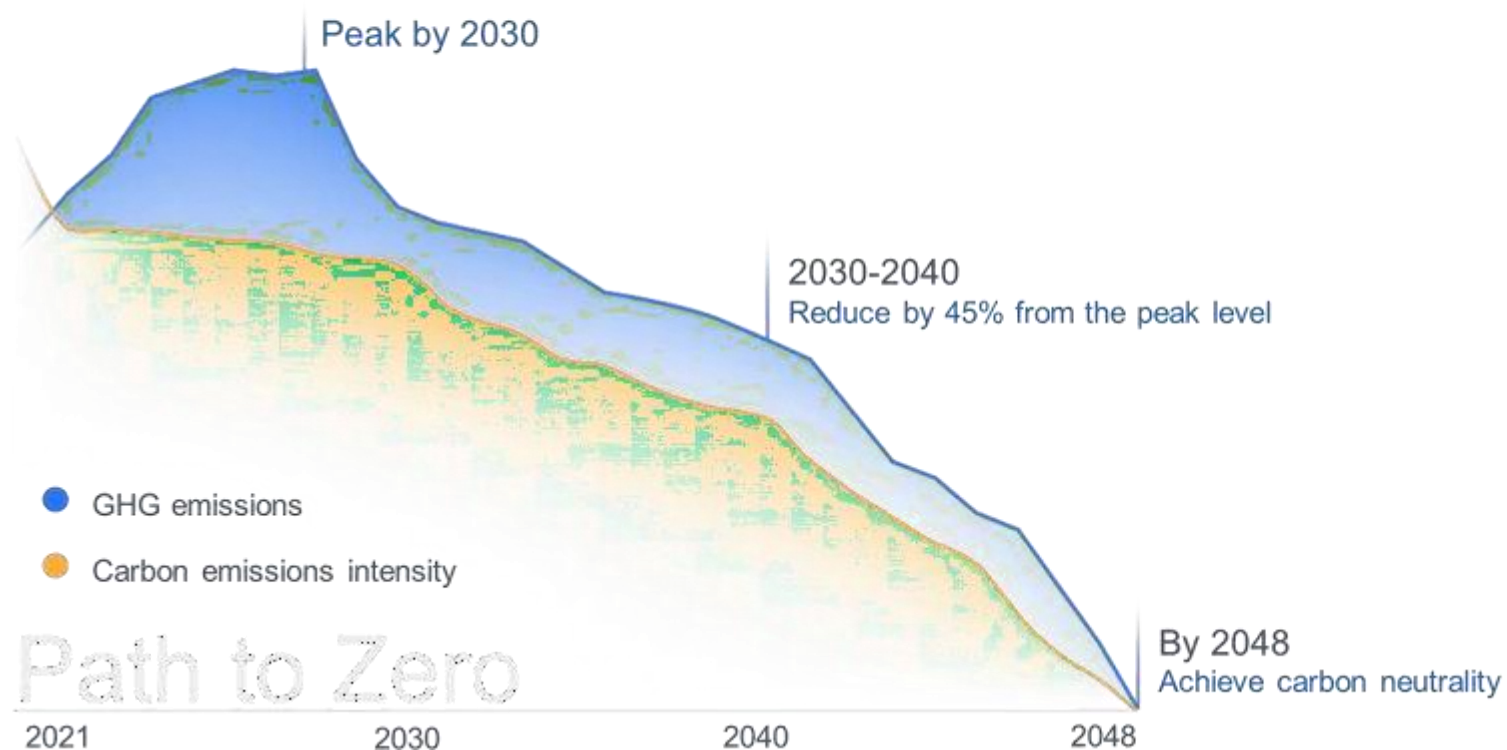
Future Industry

Accelerating the exploration of cutting-edge technologies by virtue of AI

Becoming a leader in technologies such as synthetic biology, electrochemistry, and comprehensive utilization of CO₂



Wanhua Chemical is committed to achieving carbon neutrality by 2048.



Key emission reduction measures

Clean Energy

Energy Efficiency

Innovative Technology



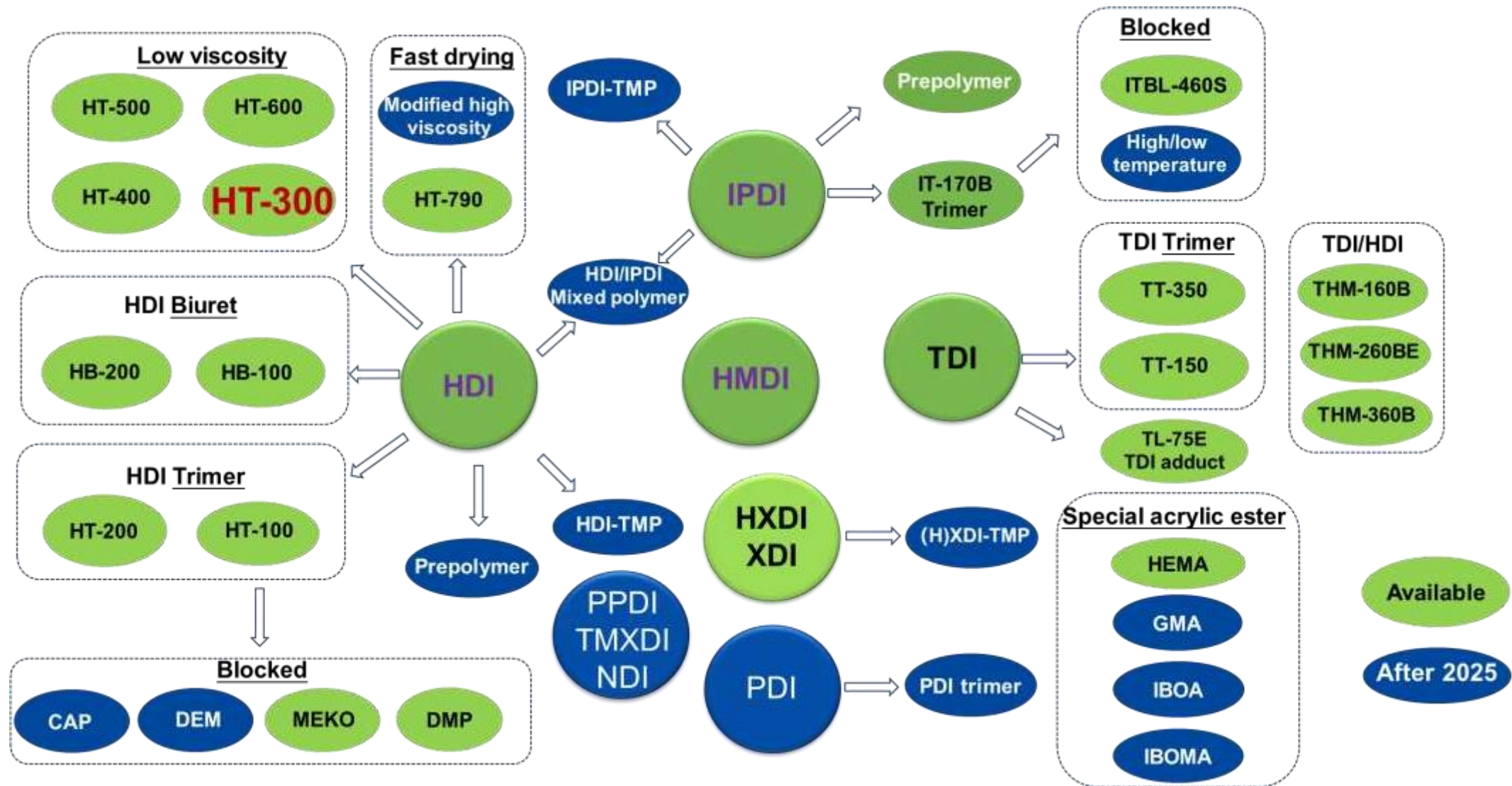
7 R&D Centers globally

- 📍 Yantai
- 📍 Beijing
- 📍 Ningbo
- 📍 Shanghai
- 📍 Shenzhen
- 📍 Gödöllő, Hungary
- 📍 **Barcelona, Spain**

Wannate® HT-300plus

Versatile
Applications







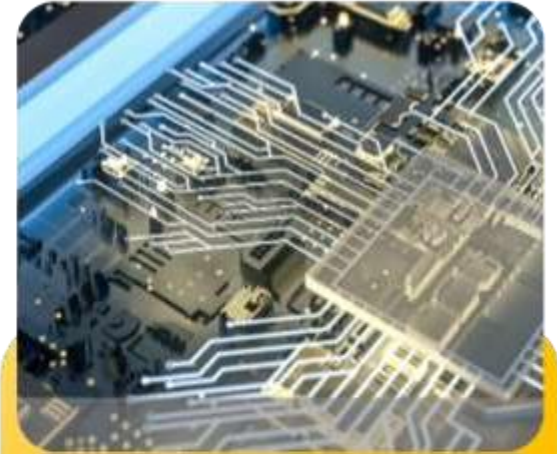
Polyaspartic Coatings



Flooring Coatings

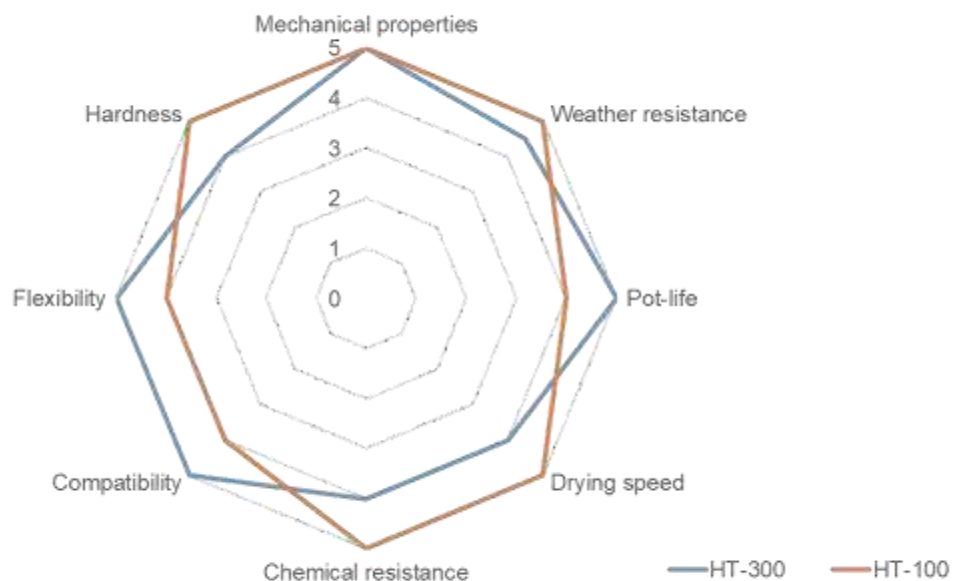


Runway Adhesives



UV & Waterborne

Wannate	NCO Content (%)	Viscosity 25°C,50/s (mPa·s)	Solid Content (%)	Residual Monomer (%)
HT-100plus	21.9	2500	100	<0.1
HT-600plus	23.0	1200	100	<0.1
HT-300plus	20.0	450	100	<0.1

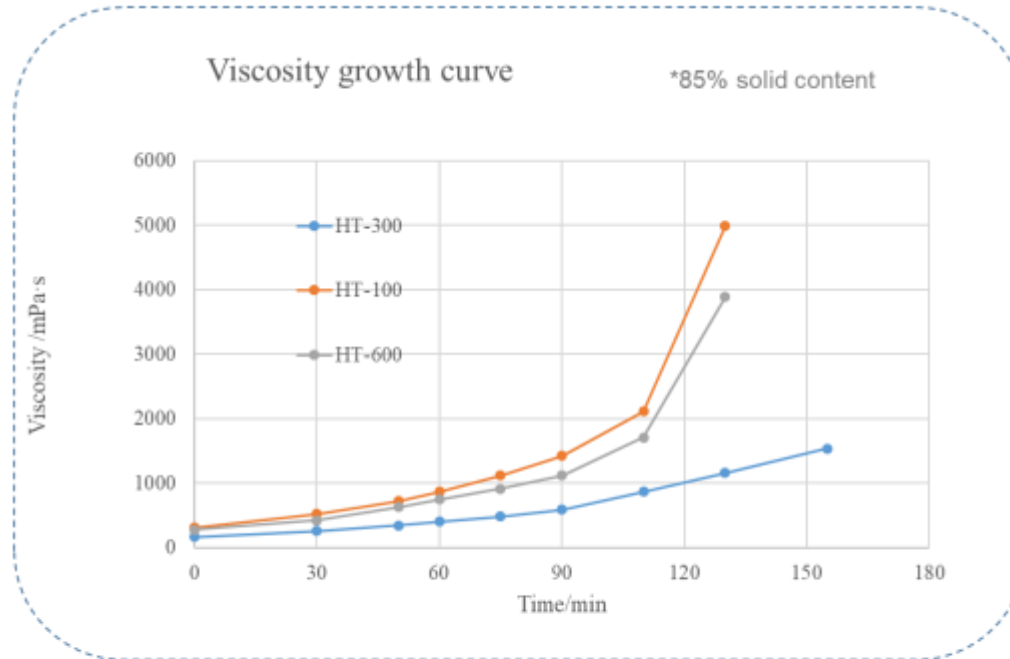


□ Characteristics

- Ultra-low viscosity
- Low free monomer
- Outstanding compatibility
- Extended pot-life especially for polyaspartic coatings
- Great flexibility

Wannate® HT-300plus - Potlife

System: Polyaspartic
Conditions: 25°C, 50%RH



- HT-300plus can extend the pot-life of (polyaspartic) coatings
- HT-300plus and HT-600plus can be blended to achieve balanced property

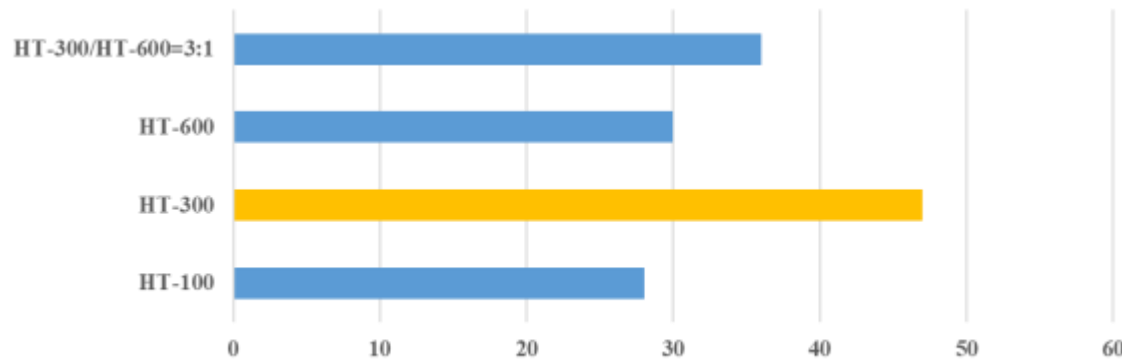
Wannate® HT-300plus – Curing/Drying

System:
Conditions:

Polyaspartic
25°C, 50%RH

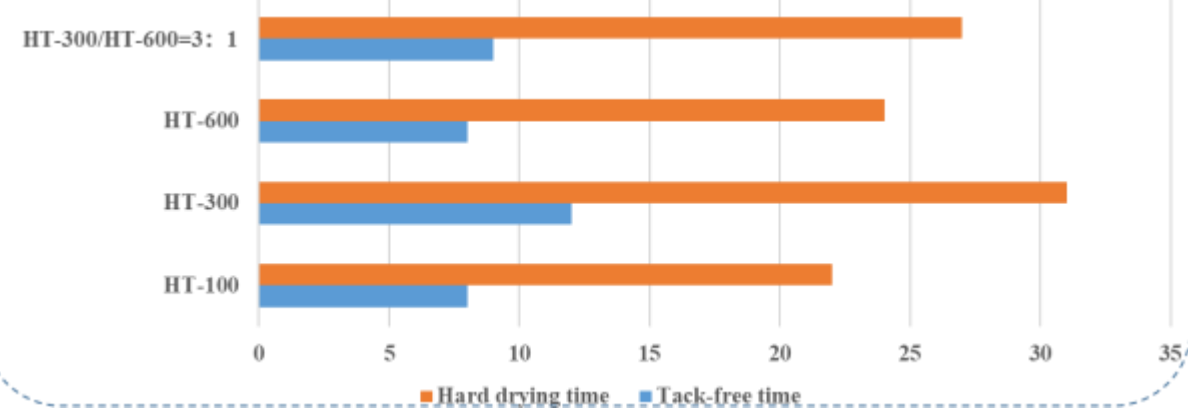
Gel time/min

*100% solid content



Drying time/min

*85% solid content



Ultra- abrasion-resistant PU Flooring Coatings



- 01 UV resistance
Yellowing resistance
- 02 Abrasion resistance
- 03 Chemical resistance
Low maintenance
- 04 Low VOC-content

Component	Parts
HT-300plus	5
Color paints	2
Filler	3

Properties	Specification
Adhesion Grade	0
Pencil Hardness	3H
Flexibility	2mm
Potlife	1h (Adjustable)
QUV-A	800h, $\Delta E=1.9$
Abrasion Resistance (1000r,1kg)	0.023g
Acid resistance (10% sulfuric acid, 7d)	√
Alkali resistance (20%NaOH, 7d)	√
Oil resistant (120#Gasoline, 3d)	√



HT-300 demonstrates better color stability for pigment blends in low VOC flooring formulations

*Formula:

Comp. A: 20g Resin based modified castor oil

Comp. B: 20g HDI hardener

Comp. C: 5g DBE

Construction Cases



CHEMICAL INDUSTRY
PINGDU



UNDERGROUND PARKING
WUHAN



FOOD FACILITIES
NANTONG



MANUFACTURING FACILITIES
CHINA



FOOD FACILITIES
CHINA



LABORATORY
YANTAI, CHINA

Construction Cases



CHILDREN'S PLAYGROUND
HANGZHOU, CHINA



PARK
HANGZHOU, CHINA



SCHOOL
FOSHAN, CHINA

The introduction of HT-300 can significantly improve the performance of the runway adhesive

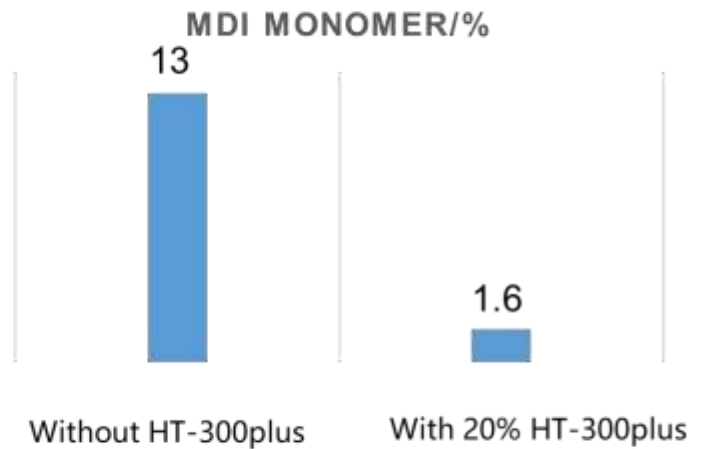
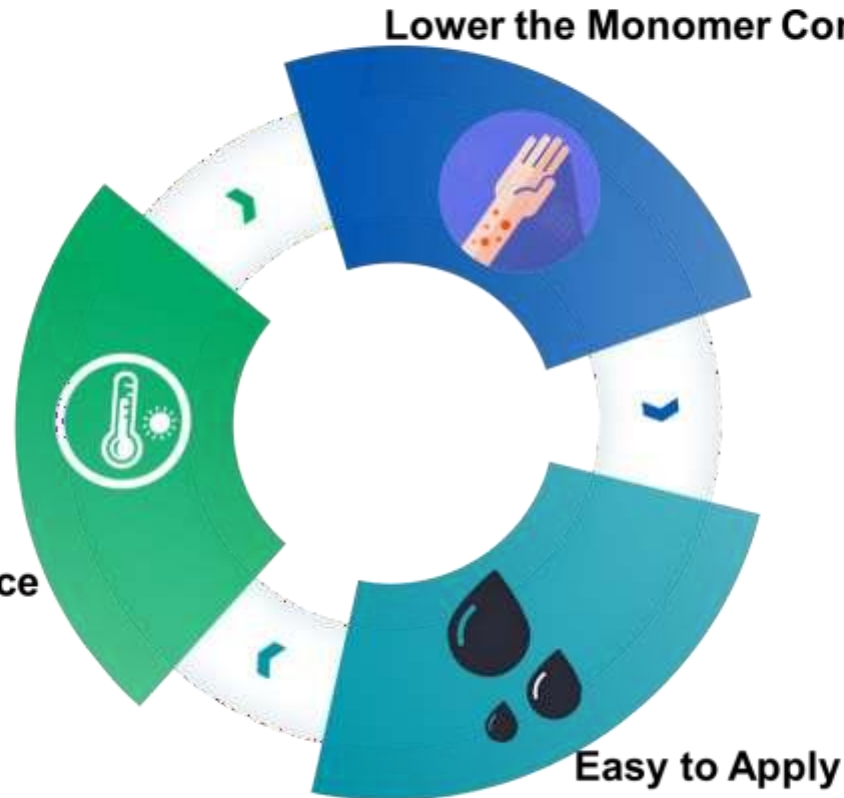
With 20% HT-300plus

Without HT-300plus

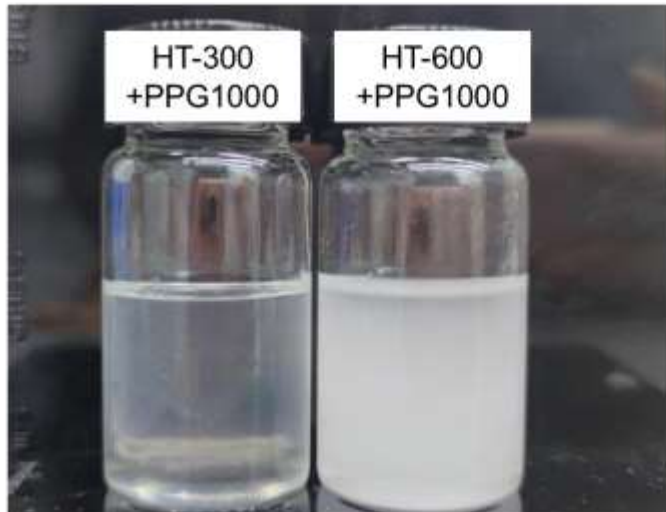


After UV and water treatment

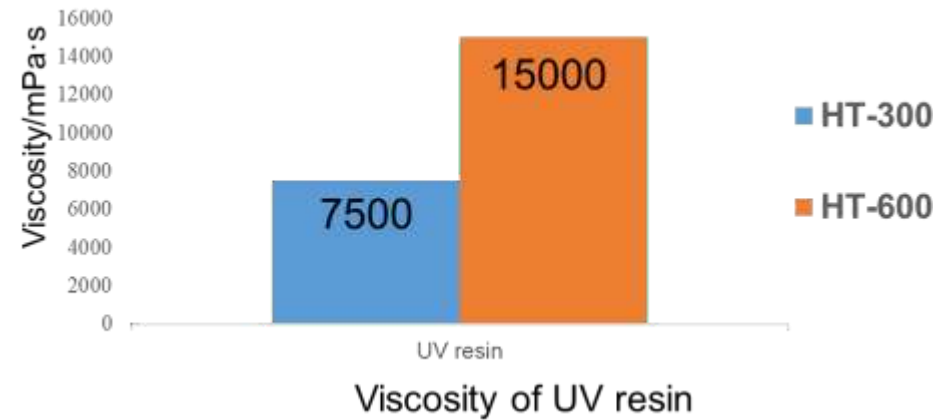
Improve Weather-resistance



Wannate® HT-300plus in UV resin synthesis



Miscibility test with polyols



Wannate® HT-300plus:

- Low viscosity possible for UV resin preparation
- Better miscibility with various polyols

HT-300plus applied in Waterborne Coatings

Items	HT-300plus
NCO (%)	20.0
Viscosity (cP, 25°C)	450
Gloss (20°/60°)	81/89
DOI	89.4
35°C Pot-life	
Viscosity	18
Initial	19
2 hours	22
3 hours	Bubbles, no flow
3.5 hours	
Gloss(20°/60°)	80/89
Initial	74/87
2 hours	72/87
3 hours	14/65
3.5 hours	

Flash off @RT 15min + 70°C cure for 40min + 7d aging RT

- **Wannate® HT-300plus can be used in the water-borne system directly or along with water dispersible polyisocyanate**
- **When Wannate® HT-300plus is used in high compatibility water-borne resin system, high gloss and other excellent properties can be obtained**
- **Tips & tricks available**

HT-300plus applied in Waterborne Coatings

Items		HT-300plus
Adhesion (GT)		0
Impact resistance (cm)		100
Pencil hardness		H
Chemical resistance	40°C water	48h
	10% NaOH	72h, Gloss loss 15%
	10% H ₂ SO ₄	72h
	MEK (DB,1kg)	> 100 times

Flash off @RT 15min + 70°C cure for 40min + 7d aging RT





Creating Opportunities Together with You!



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Booth 103