



Dispurez

products



Dispurez[®]. Providing a firm foundation for future performance.

At Incorez, we specialise in customer chemistry, with a more inclusive approach, and an absolute focus on delivering innovative tailored solutions. Our industry-leading product portfolio sets us apart, and includes Dispurez[®] polyurethane (PU) dispersions, formulated to deliver optimum performance, outstanding cohesion, and greater toughness. This makes it the perfect non-hazardous foundation for durable rigid plastics, flexible films and waterproofing equivalents.

By developing technically rewarding relationships, breaking new ground, anticipating change, and adapting to meet every challenge, our Dispurez[®] range provides the definitive custom chemistry solution.



Dispurez[®]. The ability to adapt, the capability to perform.

Dispurez[®] can be tailored and adapted to fit all application scenarios. We adapt our chemistry to improve the individual characteristics of every waterborne coating, turning each application into a more exact science. Whether used as PU dispersions, or combined with acrylic, our hazard-free polyurethane dispersions produce a range of coatings, from hard crystalline, to flexible amorphous polyurethanes. We start with the problem, and develop a solution from the ground up, providing outstanding performance, delivering protection with precision, and providing polymers for all kinds of plastic substrates, from rigid uPVC, to flexible PET.

The experienced R&D and Applications teams at our manufacturing plant in Preston, UK, develop fully customisable Dispurez[®] solutions, working in partnership with you, to create robust, hazard-free, future-ready formulations. It's all part of our custom chemistry that can enhance coating performance in any environment.



The clean and versatile performance of Dispurez®

The effectiveness of polyurethane dispersions in enhancing the performance of acrylics has long been recognised by waterborne coating formulators. They combine strength and scratch/chemical resistance with low temperature flexibility and tack-free performance that acrylics and other polymers can't match.

Incorez is dedicated to developing innovative, non-toxic and environmentally friendly PUDs.

Achieving coalescence excellence

We developed proprietary chemistries and processes to create a range of hazard-free PU and PU-Acrylic dispersions, creating hard, crystalline polyurethane coatings, which are more than a match for the physical properties of pyrrolidone-based solvents.

To do this, we had to achieve good coalescence without the need for significant amounts of VOC-increasing co-solvent, as required in dipropylene glycol dimethyl ether based dispersions. The technology we developed achieves excellent coalescence, and a hard, crystalline coating, with minimal additional co-solvent, enabling protective coatings specialists to limit VOC content, and satisfy the most stringent legal requirements.



Dispurez® is our most customisable solution. At every stage, we adapt our chemistry to suit you, with every formulation informed by customer feedback and key performance data, to create tougher, more resistant solutions.

Our primary focus is creating a truly bespoke, intuitive solution, with the polyurethane properties you're looking for.

Whether used as PU dispersions or in combination with acrylic, Dispurez® formulations safely overcome performance issues, increasing cohesion and impact resistance.

Rigid plastics absorb impact energy, making them scratch resistant and tough. Top coats and lacquers provide more comprehensive protection and chemical resistance. Flexible films stay tack-free without any stickiness at ambient temperatures, and our waterproofing solutions remain resolutely crack-free and consistently waterproof.



Polyurethane Dispersions

Dispurez 101

Dispurez 102

Dispurez 101A

Dispurez 103

Dispurez 201

Dispurez

101

Elevating top coat performance

Dispurez® 101 provides outstanding protection because it is technically equipped to stand up to just about anything; it is a high Tg, crystalline waterborne polyurethane dispersion, with excellent chemical resistance.

All of which makes it eminently suitable for protective top coats and lacquers on rigid plastics such as uPVC/ABS/PC.

Features & Benefits

- ✔ High Tg, hard, crystalline waterborne polyurethane dispersion with excellent chemical resistance
- ✔ Suitable for clear protective top coats and lacquers

Typical Applications

- ✔ Protective coatings on rigid plastics, including a wide range of applications, such as:
 - window frames
 - cladding
 - doors

Typical Properties

Polyol Type	Typical Viscosity @ 20°C (cP)
Polycarbonate	175
pH	Solids (%)
10	31

Typical Film Properties*

Pencil Hardness	Persoz Hardness (secs)	UTS (MPa)
H	300	26
Elongation at Break (%)	MFFT (°C)	Tg (°C)
120	<-10	58

*Thin Film [50-100 microns] dried at 22°C / 50% RH for 14 days

Dispurez 101 Applications



Typical Applications:
Protective coatings on rigid plastics, including
window frames / cladding / doors

Dispurez

102

Technology that makes a clear difference

Technically advanced to deliver greater optical clarity, Dispurez® 102 is a flexible, reliably tough self-crosslinking polyurethane dispersion, that offers a high degree of chemical and block resistance.

The result is unrivalled performance and application versatility, including flexible films with a tough finish, for PET, plasticised PVC and pre-treated PP/PE.

Features & Benefits

- ✓ Flexible, toughened, self-crosslinking polyurethane dispersion with excellent mar, scratch and block resistance properties
- ✓ TEA-free

Typical Applications

- ✓ Flexible films including:
 - packaging
 - print receptive films
- ✓ Binder for inks

Typical Properties

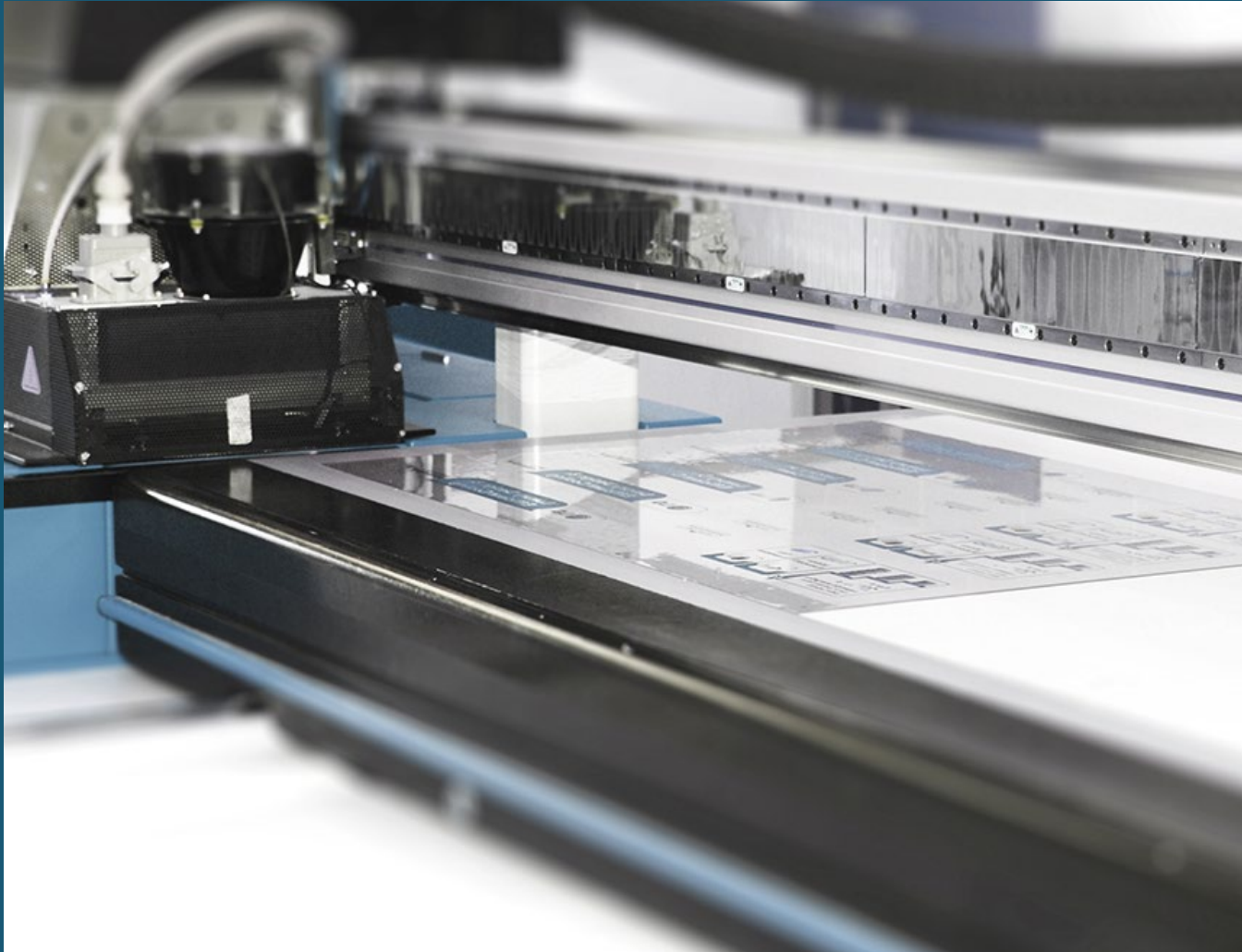
Polyol Type	Typical Viscosity @ 20°C (cP)
Polycarbonate	175
pH	Solids (%)
8	33

Typical Film Properties*

Pencil Hardness	Persoz Hardness (secs)	UTS (MPa)
F	230	26
Elongation at Break (%)	MFFT (°C)	Tg (°C)
300	-6	60

*Thin Film [50-100 microns] dried at 22°C / 50% RH for 14 days

Dispurez 102 Applications



Typical Applications:
Packaging / Print receptive films / Binder for inks

Dispurez

101A

The only name in the colour coated frame

Exhibiting excellent water and chemical resistance, Dispurez® 101A is a hard polyurethane acrylic dispersion, designed for excellent pigment compatibility.

Its ease of pigmentability makes it ideal for colour coated frames and other tough coatings, bringing dependability and durability to every application.

Features & Benefits

- ✔ Hard polyurethane acrylic dispersion designed for excellent pigment compatibility
- ✔ Excellent adhesion to uPVC
- ✔ Good water and chemical resistance
- ✔ Excellent weathering resistance

Typical Applications

- ✔ Protective coatings on rigid plastics, including a wide range of applications, such as:
 - window frames
 - cladding
 - doors

Typical Properties

Polyol Type	Typical Viscosity @ 20°C (cP)
Polycarbonate	200
pH	Solids (%)
8	40

Typical Film Properties*

Pencil Hardness	Persoz Hardness (secs)	UTS (MPa)
F	250	10
Elongation at Break (%)	MFFT (°C)	Tg (°C)
150	-4	25

*Thin Film [50-100 microns] dried at 22°C / 50% RH for 14 days

Dispurez 101A Applications



Typical Applications:
Protective coatings on rigid plastics, including
window frames / cladding / doors

Dispurez

103

Driving peak performance for protective coatings

Dispurez® 103 is a flexible, toughened polyurethane dispersion that forms films with excellent optical clarity and good chemical and block resistance. Upon application, the water evaporates to yield a tough and flexible transparent film.

Films derived from Dispurez® 103 exhibit good chemical, stain and hydrolysis resistance, making them particularly suited for automotive and waterproofing applications.

Features & Benefits

- ✔ Tough and flexible waterborne polyurethane dispersion with excellent hydrolysis and chemical resistance
- ✔ Excellent adhesion to wide variety of plastics (ABS, Polycarbonate, PET, etc.)
- ✔ Excellent weathering resistance, when used in combination with suitable UV stabilisers

Typical Applications

- ✔ Durable coating for interior and exterior automotive plastic substrates
- ✔ Can be added to waterbased waterproofing acrylic formulation to improve toughness (tensile strength) and reduce water uptake
- ✔ For improved UV resistance, we recommend Tinuvin 292 in combination with Tinuvin 9945 DW (0.5% each)

Typical Properties

Polyol Type	Typical Viscosity @ 20°C (cP)
Polycarbonate	100
pH	Solids (%)
8	31

Typical Film Properties*

Pencil Hardness	Persoz Hardness (secs)	UTS (MPa)
HB	140	30
Elongation at Break (%)	MFFT (°C)	Tg (°C)
300	-9	-36

*Thin Film [50-100 microns] dried at 22°C / 50% RH for 14 days

Dispurez 103 Applications



Typical Applications:
Interior and exterior automotive plastic /
Waterproofing membranes

Dispurez

201

Flexible packaging all wrapped up

Wherever flexibility and durability is required, Dispurez® 201 covers all the specification bases. This VOC-free polyurethane dispersion is soft and flexible, with good impact resistance and low temperature flexibility, making it suitable for a wide variety of packaging and laminating applications.

Features & Benefits

- ✔ VOC-free polyurethane dispersion that is soft and flexible but with good impact resistance and low temperature flexibility

Typical Applications

- ✔ Suitable for packaging/laminating applications

Typical Properties

Polyol Type	Typical Viscosity @ 20°C (cP)
Polyester	175
pH	Solids (%)
9	34

Typical Film Properties*

Pencil Hardness	PersoZ Hardness (secs)	UTS (MPa)
HB	200	15
Elongation at Break (%)	MFFT (°C)	Tg (°C)
550	0	-23

*Thin Film [50-100 microns] dried at 22°C / 50% RH for 14 days

Dispurez 201 Applications



Typical Applications:
Packaging / laminating applications

Technical Data

Typical Properties

Product	Dispurez 101	Dispurez 102	Dispurez 101A	Dispurez 103	Dispurez 201
Type	PUD	PUD	PU/Acrylic	PUD	PUD
Polyol Type	Polycarbonate	Polycarbonate	Polycarbonate	Polycarbonate	Polyester
Typical Viscosity @ 20°C (cP)	175	175	200	100	175
Solids (%)	31	33	40	31	34
pH	10	8	8	8	9

Typical Properties*

Product	Dispurez 101	Dispurez 102	Dispurez 101A	Dispurez 103	Dispurez 201
Pencil Hardness	H	F	F	HB	HB
Persoz Hardness (secs)	300	230	250	140	200
UTS (MPa)	26	26	10	30	15
Elongation at Break (%)	120	300	150	300	550
MFFT (°C)	<-10	-6	-4	-9	0
Tg (°C)	58	60	25	-36	-23

*Thin Film [50-100 microns] dried at 22°C / 50% RH for 14 days

Technical Data

Recommended Additives

The following additives are recommended for use with the Dispurez® range of polyurethane and polyurethane/acrylic dispersions

Dispurez Range

Substrate Wetting Agents	Matting Agents	Defoamers	Thickeners
Byk 348, 349, 3445	Pergopak M3	Byk 012, 024, 025	Rheovis PU 1214
TEGO Twin 4100, 4200	Ceraflour 920	Surfynol MD20	Rheovis AS 1180
TEGO Wet 240, 250	Acematt TS 100	TEGO Airex 902 W	Optiflo T1010
	Deuteron MK-F, MK-F6	TEGO Foamex 800, 810, 822, 825	TEGO ViscoPlus 3000, 3010, 3030, 3060

Coalescing Solvents	Slip ad Mar Agents	Pigment Dispersing Agents	Low Boiling Solvents [drying aids]	Crosslinkers	UK Stabilisers
Butyl diglycol	BYK 333	Efka 6230	Acetone	Carbodilite E-05, E-02	Tinuvin 292, 9945 DW
Ethylene glycol	Tego Glide 482	TEGO Dispers 747 W, 750 W, 755 W, 757 W	Isopropyl alcohol	Picassian XL-732	
Dowanol DPnB				Epocros WS-700	



Creating the right customer chemistry

The way we approach our relationships defines everything we do, from continuous product development, to consistently breaking new ground.

If you would like further information about how we can tailor our Dispurez[®] polyurethane dispersions range to suit your needs, simply contact our Applications Team:

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Customer Chemistry

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