Incozol

Oxazolidine products

Incorez

Everything begins with customer chemistry

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 high performance Incozol® additives equipped to exceed the most rigorous coatings criteria. By developing technically rewarding relationships, breaking new ground, anticipating change and adapting to meet every challenge, our Incozol range of Oxazolidines provide the definitive custom chemistry solution.

Incozol® Oxazolidines. Formulated for the future

Whatever the application, our advanced Incozol® range of Oxazolidines covers it, with polyurethane coatings, recognised for their advanced properties and renowned ability to speed up curing and prevent the generation of CO_2. The experienced application team at our manufacturing plant in Preston, UK work in partnership with your chemists to create formulations to meet even the most highly specialised requirements.

Our high performance Incozol® additives bring exceptional levels of performance to polyurethane coatings.

These advanced Oxazolidines speed up curing and prevent the generation of CO_2. This eliminates bubbling on application to help preserve aesthetics and minimise pinhole defects, giving you a better finish and improved film integrity.

Our moisture triggered chemistry enables curing in all kinds of temperature and humidity conditions resulting in tougher, more durable films. This makes the Incozol® range suitable for even the most challenging of applications.

Oxazolidines

Incozol 2
Incozol 4
Incozol LV
Incozol EH

Incozol 2

The advanced elimination of moisture

Incozol 2 acts as an effective moisture scavenger in polyurethane coatings. It is used to eliminate moisture from solvents, polyols and prepolymers and also from plasticisers and pigments. It removes residual moisture from the formulation and prevents bubbling and downglossing caused by high moisture levels either on the substrate or from the atmosphere.

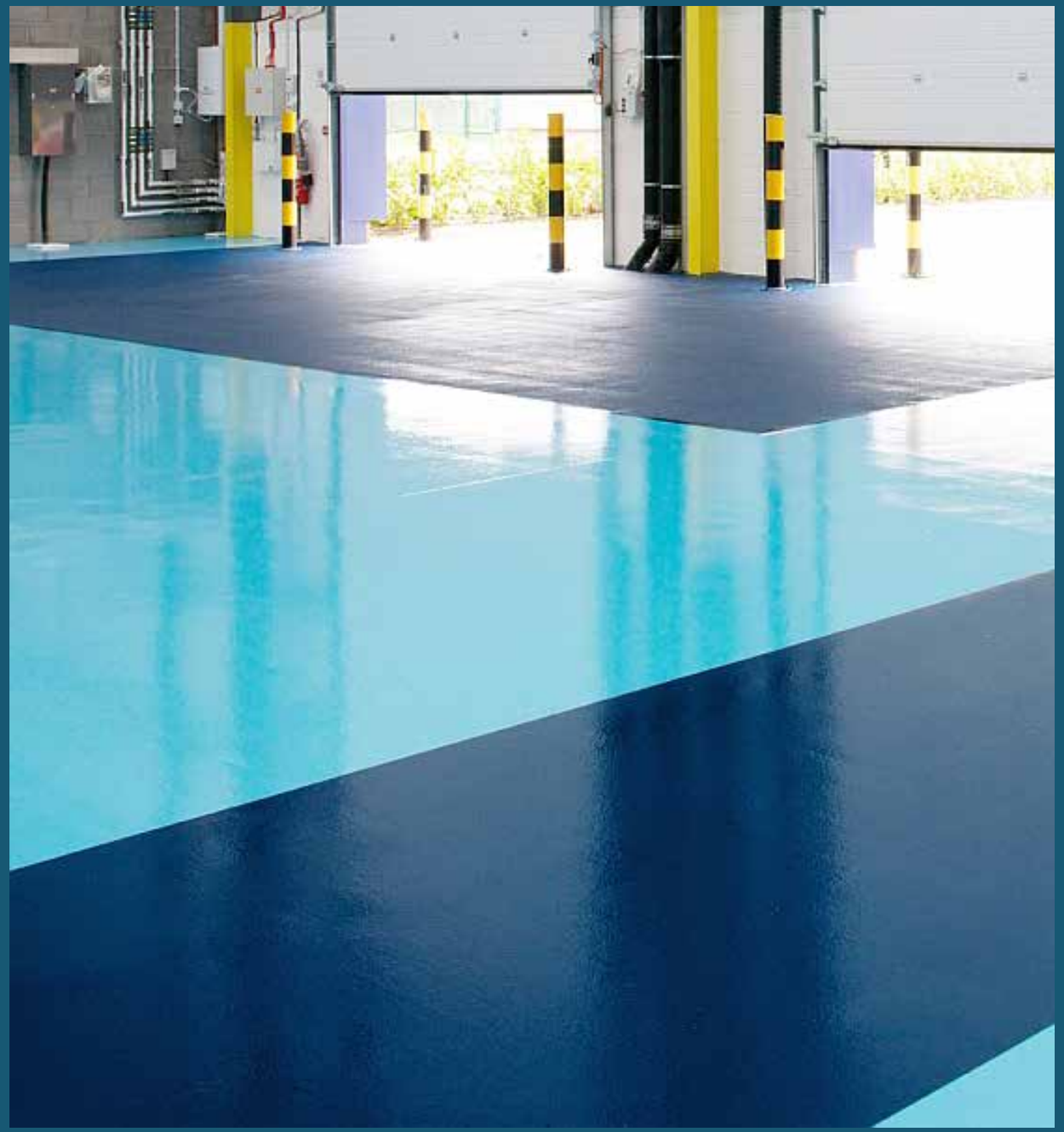
Incozol 2 is used in one or two component systems but is not generally recommended in one component systems with a low NCO content.

Features:	Benefits:
Moisture scavenger	Prevents the generation of CO_2 gas leading to defect free films
Low viscosity, mono-oxazolidine	Ease of use in 2K PU coatings
Low colour and fast reactivity	Ideal for use in 2K aliphatic, clear polyurethane coatings and polyaspartic resins
Low toxicity	Safety of use for formulators and applicators

Typical Properties:

Functionality 2	Addition Level (% wt) 2–4	Typical Viscosity @ 20°C (cP) 20
Density (g/cm^3) 0.87	Colour (APHA) Max 250	Flash Point (°C) 82

Incozol 2 Applications



Typical Applications:
2K systems including
wind turbines / automotive /
OEM / aircraft

Incozol LV

The reactive diluent with proactive performance

Incozol LV is a reactive diluent designed to help producers of polyurethane coatings attain low VOC systems. It is used in the formulation of two component coatings for example, automotive refinish and OEM coatings.

Other uses include high solids PU coatings for boats, industrial maintenance, aircraft, anti-graffiti lacquers and waterproof coatings.

Features:

- Reactive diluent
- Multi-functional (f=4)
- Very low viscosity

Benefits:

- Enables the formation of high solids, low VOC polyurethane coatings
- Provides excellent chemical resistance
- Suitable for spray applications

Typical Properties:

Functionality 4	Equivalent Weight 86	Typical Viscosity @ 20°C (cP) 55
Density (g/cm^3) 1.07	Colour (APHA) Max 250	Flash Point (°C) 76

Incozol LV Applications

Typical Applications:
2K systems including wind turbines / automotive / OEM / aircraft

Incozol EH

Exceptional performance, advanced acceleration

Incozol EH is a urethane bis-oxazolidine latent hardener for use in 1K polyurethane coatings.

Used in conjunction with low NCO polyurethane prepolymers, this hardener accelerates the cure of the prepolymer through a moisture triggered mechanism to afford cross-linking benefits to the 1K urethane. In addition, it enhances properties such as through cure development and mechanical strength through the elimination of CO_2 gassing in high build, high solids PU systems.

Incozol EH confers tolerance to the repeated opening of containers and can be used as a versatile curing agent with 2 or 4 functional mix ratios.

Features:	Benefits:
Moisture triggered chemistry	Enables the polyurethane coatings to be cured across a wide range of atmospheric conditions
Does not crystallise	Can be stored at subzero temperatures, making handling and storage easier and more convenient than other types of bis-oxazolidine
Bis-oxazolidine	Increases the cure speed of 1K PU coatings without the need for metal catalyst addition
Less volatile leaving group (2-ethyl hexanal)	Less pungent odour than bis-oxazolidines based on isobutyraldehyde

Typical Properties:

Functionality 4	Equivalent Weight 150	Typical Viscosity @ 20°C (cP) 4,000
Density (g/cm^3) 1.03	Colour (APHA) Colourless to slightly yellow	Flash Point (°C) 107

Incozol EH Applications

Typical Applications:
1K systems including roof, balcony & floor coatings

Incozol 4

The high-performing latent hardener for high-build coatings

A bis-oxazolidine curing agent, which hydrolyses on exposure to moisture, yielding a reactive amine and hydroxyl functional cross-linking agent.

Incozol 4 can be used in one component PU systems, where it is normally used with aliphatic prepolymers.

Features:

- Moisture triggered chemistry
- Multi-functional (f=4)
- Low equivalent weight

Benefits:

- Enables the polyurethane coatings to be cured across a wide range of atmospheric conditions
- Faster through cure of the polyurethane coatings lead to increased tensile strength and tougher, more durable coatings
- Reduce usage in the polyurethane coating formulation

Typical Properties:

Functionality 4	Equivalent Weight 122	Typical Viscosity @ 20°C (cP) 12,000
Density (g/cm^3) 1.08	Colour (APHA) Max 300	Flash Point (°C) 90

Incozol 4 Applications

Typical Applications:
1K systems including roof, balcony & floor coatings

Selection Chart

	Incozol 2	Incozol LV	Incozol EH	Incozol 4
Moisture scavenger	✓	✓	✓	✓
Use with low NCO prepolymers			✓	✓
Lowering viscosity	✓	✓		
Reducing VOC		✓		
Low temp storage & handling		✓	✓	
Stability in 1K aliphatic systems		✓	✓	✓
Stability in 1K (TDI only) aromatic systems		✓	✓	✓
Use in 2K systems	✓	✓		

✓ Recommended
✓ Suitable

Technical Data

	Incozol 2	Incozol LV	Incozol EH	Incozol 4
Functionality	2	4	4	4
Equivalent Weight	114	86	150	122
Viscosity @ 20°C (cP)	20	50	6,000	10,000
Density (g/cm^3)	0.87	1.07	1.03	1.08
Colour (APHA)	Max 200	Max 250	Max 400	Max 300
Flash Point (°C)	82	76	107	90

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'd like further information about how we can tailor our Incozol range of Oxazolidines to suit your needs, simply contact our Applications Team:

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Customer Chemistry

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