



Bayhydur® ultra 312

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Low-monomer hardener for
wood floor coatings



Balancing performance and safety in parquet flooring systems

Durable, high-performance parquet flooring coatings are top sellers in the architecture and construction industry. Still, rising expectations for sustainable flooring, improved indoor air quality, and enhanced user safety are making formulation more complex for manufacturers.

Bayhydur® ultra 312 addresses these challenges head-on by offering a hydrophilic aliphatic polyisocyanate based on hexamethylene diisocyanate (HDI) with a residual monomeric HDI content of less than 0.1%. Designed as a hardener for waterborne two-component (2K) polyurethane systems, it enables manufacturers to formulate low-VOC coatings that deliver excellent resistance, hardness, and aesthetic appeal, without compromising indoor air quality. Due to its easy dispersibility in water and compatibility with various polyol binders, Bayhydur® ultra 312 supports flexible formulation options for pigmented and clear coat for self-leveling floor coating and modern wood finishes, such as parquet flooring, where chemical resistance, long-term durability, and regulatory compliance are critical.

Versatile hardener for complete formulation freedom

Bayhydur® ultra 312 combines a low viscosity and high NCO content with excellent water dispersibility due to its hydrophilic nature. As a result, the solution is primarily used as a crosslinker for waterborne polyols such as Bayhydrol® and acrylics like NeoCryl®. However, it is also compatible with NeoRez® R-2180

Want to learn more?

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EU, Decovery® CQ 2110, and the Bayhydur® A range of products from Covestro. Furthermore, **Bayhydur® ultra 312** forms stable, fine-particle dispersions when used with suitable PU-grade solvents, such as methoxypropyl acetate or dipropylene glycol dimethyl ether—enhancing compatibility and formulation flexibility for waterborne 2K systems.

Key benefits of Bayhydur® ultra 312:

- <0.1% residual HDI monomer content for safer workability
- Excellent chemical and abrasion resistance
- Enables low-VOC coating systems for interiors
- Suitable for long-lasting aesthetic wood protection

Applications

- Topcoat on self-leveling PU floor systems
- Parquet and wood floor polyurethane coatings
- Premium indoor furniture and self-leveling wood surfaces
- Industrial 2K waterborne wood applications
- Low-emission finishes for residential interiors

Characteristic data*

PROPERTY	VALUE	UNIT OF MEASUREMENT	METHOD
Viscosity at 23°C	approx. 900	mPa·s	M014-ISO 3219/A.3
NCO content	approx. 22.8 ±0.5	%	M105-ISO 11909
Color value (Hazen)	approx. 100		M017-EN 1557
Monomeric HDI	< 0.10	%	M106-ISO 10283

*These values are provisional. Binding supply specifications will not be available until the final product data sheet is published.

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¹Please see the "Guidance on Use of Covestro Products in a Medical Application" document.

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