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Desmomelt[®] U

New possibilities for solvent-based
adhesive formulations



Desmomelt[®] U aliphatic
polyurethane powders for
adhesives | Covestro AG



Desmomelt[®] U

New versatility for polyurethane adhesives

Desmomelt[®] U is a new class of non-yellowing polyurethane (PU) adhesive raw materials. Supplied as a coarse powder or pellet, it provides the bonding characteristics of well-known and proven solvent- or water-based heat activation PU adhesives in a 100% solid form.

Desmomelt[®] U can be processed as a hotmelt in various application forms, e.g., as a fine powder, adhesive film or web, by co-extrusion, or as a filament or glue stick, enabling pre-applied adhesive applications as well as highly precise, automated digital adhesive application processes.

Desmomelt[®] U can further be formulated to yield high-performance, non-yellowing solvent-based adhesives. Those adhesives are specifically suitable for demanding contact and heat activation bonding processes, as common in footwear, textile, and automotive applications.

If used in combination with appropriate protic co-solvents, very high solid contents, even in combination with fully bio-based solvents, are feasible, effectively reducing the cost as well as the CO₂ footprint of the adhesive solution for end users.

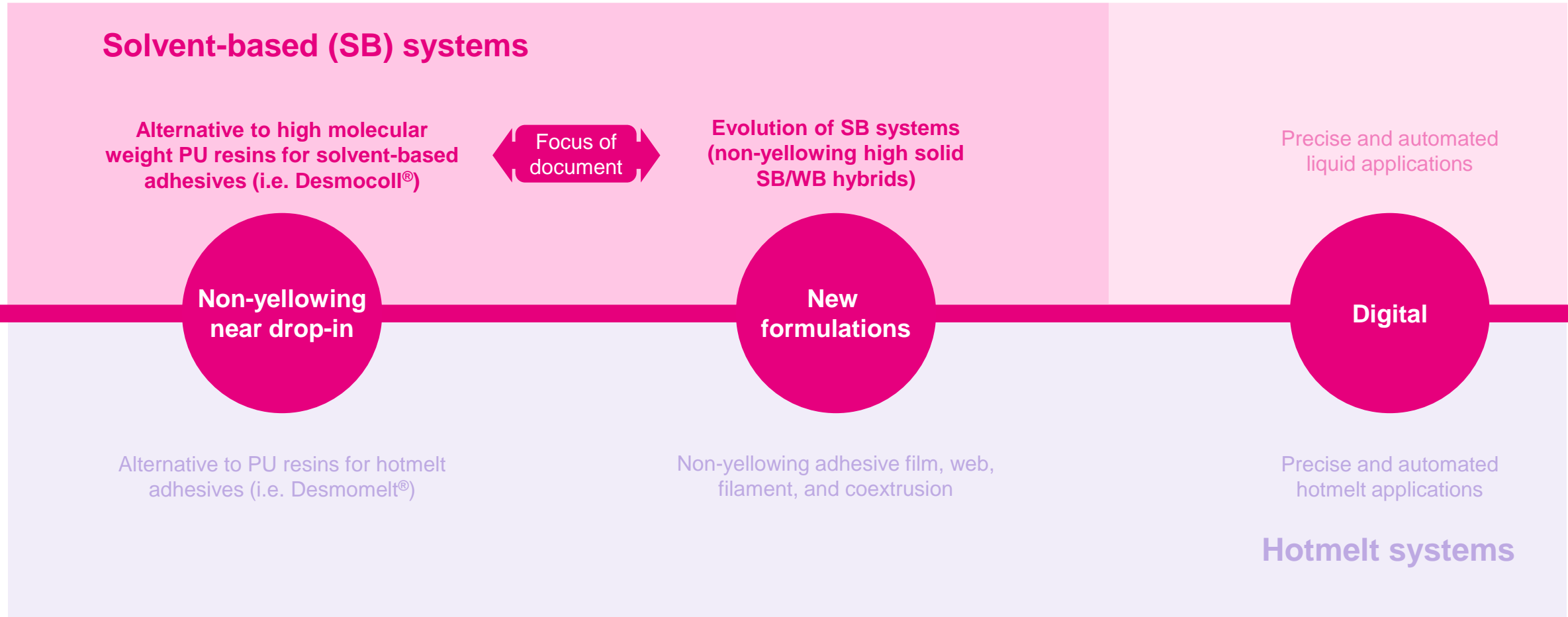
For optimized performance levels, Desmomelt[®] U can be formulated with Desmodur[®] N isocyanate crosslinkers.





Desmomelt® U

New versatile possibilities for adhesive formulators and applicators





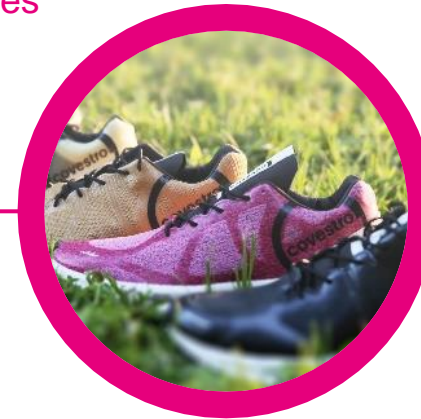
Extend your option space

Evolution of solventbased systems with Desmomelt® U



Improve compliance with OEM standards

Lowering VOC and CO_{2eq} for SB adhesives



Grow into high value segments

Non-yellowing SB adhesives









Increase capacity and productivity

Fast solubility and higher formulation freedom

Desmomelt[®] U: for solvent-based PU adhesives

A high-performance alternative to standard PU resins (e.g., Desmocoll[®])

-  Low heat activation temperatures
-  High initial bond strength and long open time
-  High weathering resistance, non-yellowing
-  High solid content formulations
-  Supremely fast solubility
-  Adjustable viscosity in solvent-based formulations





New options for the adhesive value chain

Benefits of Desmomelt® U

Adhesive formulator



SB formulations with non-yellowing properties

No residual toluene

Enabling higher solid contents

Multiple options to adjust formulation viscosity

2C formulations with long pot lives

Bio-based solvent and mass balance polymer options

Rapid processing (up to 2–5 times faster)



Adhesive applicator

One adhesive for multiple applications

Low odor and lower VOCs utilizing SB adhesives

Enabling one-step application and faster drying

Better matching applicators needs

Less waste, longer usability

Lower product carbon footprints

Better supply security with existing capacities



Desmomelt® U product line

General supply form: coarse powder sieved through 4mm



PRODUCT NAME	TYPE	MOLECULAR WEIGHT	CRYSTALLIZATION SPEED	HEAT ACTIVATION TEMPERATURE [°C]	VISCOSITY [mPas ^a]	INITIAL- / FINAL PEEL STRENGTH [N/mm ^b]
Desmomelt® U 410	Aliphatic polyester polyurethane	medium/low	++	50-60	20-50	o / ++
Desmomelt® U 320	Aliphatic polyester polyurethane	medium	+	60-70	50-200	+ / +++
Desmomelt® U 230	Aliphatic polyester polyurethane	high	o / +	70-80	200-600	++ / +++

a: 15 w% in methylethylketone (MEK) / water (16:1), (23°C, #62, 30 rpm)

b: PVC/PVC double-sided, heat activation 80 °C, 60 s, press 4 bar

*Sub grades: U320 F: sieved through 100 µm; U320 M: sieved through 500 µm, U320 P: pellets



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