



Dow Polyurethanes

SPECFLEX™ Activ Additive Polyols for Polyurethane Foam

SPECFLEX™ Activ, one of the latest innovations from Dow, is the enabler of the first truly viable amine emission-free solution for interior polyurethane (PU) applications. It offers outstanding processing advantages and physical and mechanical properties, including aging.



Making seating foam and other interior components with SPECFLEX™ Activ reduces odors and VOC and FOG emissions in vehicle interiors.

Traditionally, PU foams have required amine catalysts to promote reaction between polyols and water, along with the isocyanate component, to generate gelling and blowing reactions. Until now, these added catalysts were significant contributors to PU foam amine-emission issues that decreased process latitude and had a negative impact on physical and mechanical properties, particularly after aging.

Dow has developed a new additive polyol family with high and specifically balanced catalytic activity. This breakthrough allows foam makers to completely remove the addition of catalysts when manufacturing PU foam, eliminating amine emissions.

Product Advantages

Best-in-class solution for low emissions in TDI foams:

- Is the tier enabler for meeting the most stringent specifications including Daimler/Renault/Audi/VW
- Maintains excellent physical and mechanical properties
- Is proven with aging tests
- Has zero amine emissions



SPECFLEX™ Activ helps meet VOC and odor requirements, and physical and mechanical properties, including aging, for PU interior components.

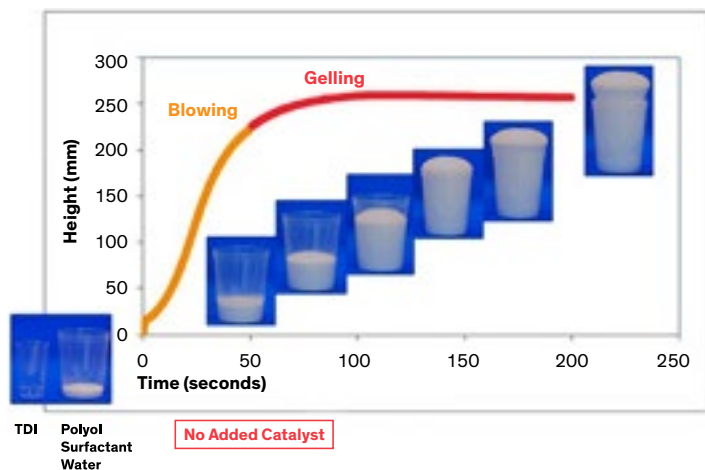
Significant process latitude improvements include:

- Liquids that blend with other polyols or additives
- Easy chemical handling for tier suppliers
- Very open TDI foams
- Crushing ease
- Excellent flow and mold filling
- Extremely high over-packing tolerance

Test	Limit	Unit	Method
Hydroxyl Number	32.5-40	mg/g	ASTM D4274
Color	200 max.	–	ASTM D4890
Viscosity, 25 °C	1050-1350	cSt	ASTM D4878
Water	0.10 max.	%	ASTM D4890

SPECFLEX™ Activ specifications enable tiers to meet the industry's most stringent requirements. Table shows typical polyol characteristics: easy to implement with standard safety labeling.

Multiple trials have confirmed the exceptional advantages of SPECFLEX™ Activ. The graph and performance data below demonstrate that the product can reduce and even eliminate amine emissions, meet physical and mechanical properties and widen processing latitude.



Performance Objectives	Test Procedure	Performance
Process window/latitude	Internal Dow; customers	Outstanding
Physical-mechanical properties, hysteresis, hardness	ISO 1856, PV3427	Meets requirements
Aging MM-CS	ISO 2440, D1046	Meets requirements
Aging M-CLD	ISO 2440, D1046	Meets requirements
VOCs and FOG	VDA 278, PV3942	Meets requirements
Amines	VDA 278, PV3942, DBL8585	Zero emissions
Odor	D49 3001, PV3900	Meets requirements
Density	DIN/ISO 845, D1045	At ideal

ABOUT DOW

Dow is a leading global provider of collaborative solutions and advanced materials for original equipment manufacturers, tier suppliers, aftermarket customers and commercial transportation manufacturers. Our materials focus includes structural, elastic and rubber-to-substrate adhesive solutions; polyurethane foams and acoustical management solutions; films; fluids; and innovative composite technologies. Offices and application development centers are located around the world to ensure regionalized technical, engineering and commercial support for customers and industry groups. For additional information, visit dow.com.

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