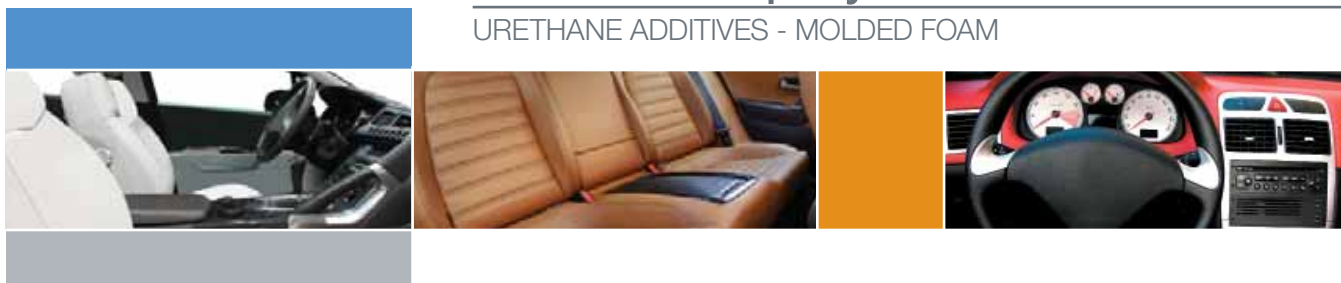


NIAX* Catalyst C-225 for molded polyether foam

URETHANE ADDITIVES - MOLDED FOAM



Niax catalyst C-225 may be used as a rapid demold catalyst for HR molded foam. As the sole amine catalyst, it effectively balances the reactions governing density reduction and urethane curing, providing optimum flowability in complex parts while also allowing decreased demold times. This catalyst finds maximum utility in carousel-type molding operations requiring rapid cycle times.

Key Features and Typical Benefits

- Allows reduced demold times for increased productivity (about 3 to 4 minutes)
- Balances catalyst reactivity with optimum flowability for complex molding
- Compatible with carousel-type molding operations
- Can give excellent foam physical property response
- Works well in both toluene diisocyanate and TDI/MDI systems

Typical Physical Properties

Total Alkalinity, meq/g	5.9
Water, wt %	1.4
Specific Gravity at 20 °C	1.056
Suspended Matter	Substantially free
Flash Point, Pensky-Martens Closed Cup ⁽¹⁾ , °C (°F)	85 (185)

(1) ASTM Method D93

Typical properties are average data and are not to be used as or to develop specifications.

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Performance Evaluation

The following table compares the performance of Niax catalyst C-225 with other frequently used amine catalysts in typical HR foam formulations.

Table 1: Comparison of Niax Catalyst C-225 with Other Amine Catalysts in HR Molded Foam

Components	Formulations, Parts by Weight			
Polyether Polyol (OH 35)	50.0	50.0	50.0	50.0
Polymer Polyol (OH 28)	50.0	50.0	50.0	50.0
Water	2.6	2.6	2.6	2.6
NiAx Catalyst A-1	0.15	0.15	—	—
NiAx Catalyst A-33	0.30	0.30	—	—
NiAx Catalyst C-225	—	—	0.70	0.70
Catalyst T-120	0.015	0.015	0.015	0.015
NiAx Silicone L-5309	1.5	1.5	1.5	1.5
Diethanolamine	1.5	1.5	1.5	1.5
Toluene Diisocyanate (TDI)	33.8	—	33.8	—
TDI/"Rubinate" M (78/22)	—	32.6	—	32.6
Processing (Benchmixing, 15 in x 15 in x 5 in Mold)				
Isocyanate Index	100	100	100	100
Mold Temperature, °F (°C)	140 (60)	140 (60)	140 (60)	140 (60)
Demold Time, min	8	8	3	3
Physical Properties (Test Blocks Postcured 1/2 hr at 250 °F)				
Density, pcf (kg/m ³)	2.46 (39.36)	2.51 (40.16)	2.47 (39.52)	2.50 (40.00)
Porosity, cfm/ft ²	43	32	40	27
IFD, lb/50 in ² (N/320 cm ²)				
Thickness, in (cm)	4.7 (11.9)	4.7 (11.9)	4.7 (11.9)	4.7 (11.9)
25% Deflection	28.3 (127)	27.0 (121)	24.8 (111)	22.5 (101)
50% Deflection	50.5 (226)	48.8 (219)	45.5 (204)	44.5 (199)
65% Deflection	77.5 (347)	75.0 (336)	70.5 (316)	72.3 (324)
Support Factor, 65%/25%	2.74	2.78	2.85	3.21
Elongation, %	140	145	175	160
Tensile Strength, psi (kPa)	20.0 (137.9)	18.7 (128.9)	22.2 (153.1)	21.9 (151.0)
75% Compression Set, %	10	10	13	11
Humid Aged Compression Set, 50%, % (6 hr/220 °F)	—	19	—	17

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