

# NIAX\* Silicone L-620

URETHANE ADDITIVES - FLEXIBLE SLABSTOCK FOAM



Niax silicone L-620 is a high-performance alkyl-pendant type organosilicone silicone designed for use in conventional flexible slabstock foam. It offers superior performance in low-combustibility, all-water or methylene chloride blown filled and sponge foams. It gives maximum stability in formulations with reduced blowing agents using Geolite\* modifiers. In all of these formulations, Niax silicone L-620 provides superior foam processability compared to any currently used silicone.

Niax silicone L-620 is a high-efficiency silicone that produces foam with minimum top collapse, high breathability, and a wide processing latitude. The use of Niax silicone L-620 results in minimized density and breathability gradients.

The superiority of Niax silicone L-620 has been demonstrated in both bench and full-scale machine trials for a wide range of flexible urethane slabstock formulations. Overall, Niax silicone L-620 is the superior product for the stabilization of conventional flexible slabstock foam.

## Key Features and Typical Benefits

- provides superior processing for the full range of conventional, as well as low-combustibility, flexible slabstock polyether foams on all types of foam production equipment.
- offers a wide breathability profile for all formulations over a wide range of silicone and tin catalyst levels
- excellent stability
- provides narrow density and IFD gradients
- suitable for use in the full range of flexible polyether slabstock foams, including low-combustibility foams.

NUMERICAL FLAME SPREAD RATINGS ARE NOT INTENDED TO REFLECT HAZARDS PRESENTED BY THIS OR ANY OTHER MATERIAL UNDER ACTUAL FIRE CONDITIONS.

## Typical Physical Properties

Physical Form	Liquid
Viscosity at 25°C, cSt	750
Color, GVS, (Gardner Varnish Standards)	>2
Specific Gravity at 20/20°C	1.04
Density at 25°C, lb/gal (kg/L)	8.64 (1.04)
Coefficient of Expansion, per °C	0.00077
Flash Point, Pensky-Martens Closed Cup <sup>(1)</sup> , °F (°C)	212 (100)

(1) ASTM D93

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## Performance

**Table 1: Screening Formulations for the Evaluation of Nix Silicone L-620**

Component	Formulation, pphp				
	A	B	C	D	E
Polyol <sup>(1)</sup>	100.00	100.00	100.00	100.00	100.00
Water, Total	4.70	5.50	7.00	5.80	2.50
Nix Amine Catalyst <sup>(2)</sup>	0.10	0.20	0.30	0.10	0.20
Stannous Octoate	0.25	0.23	0.27	0.25	0.18
TCFM-11	12.00	—	—	—	—
Methylene Chloride	—	10.00	9.00	2.00	4.50
Geolite* Modifier 91	—	—	1.10	—	—
DE-60F <sup>(3)</sup>	—	—	—	14.00	—
TDI 80:20 (Index)	(110)	(112)	(100)	(111)	(110)
Silicone	Varies	Varies	Varies	Varies	Varies

(1) Typical conventional slabstock polyols of OH-value between 42 and 58 mg KOH/g

(2) A = Nix catalyst A-1

B = Nix catalyst A-200

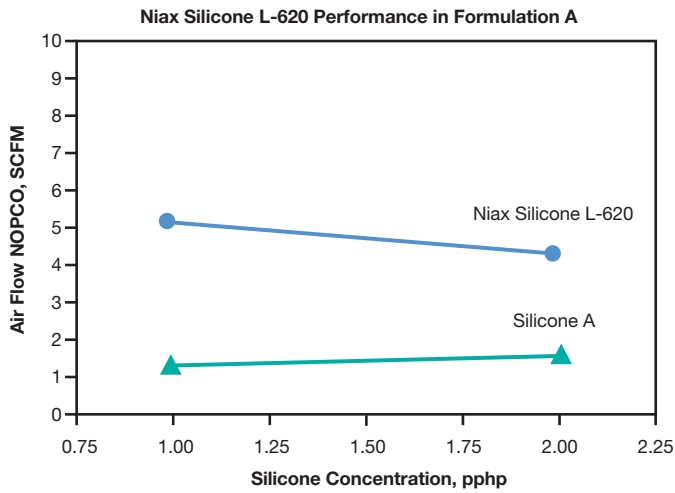
C = Nix catalyst A-220

D = Nix catalyst B-4 (available in Europe only)

E = Nix catalyst C-183

(3) Great Lakes Chemical

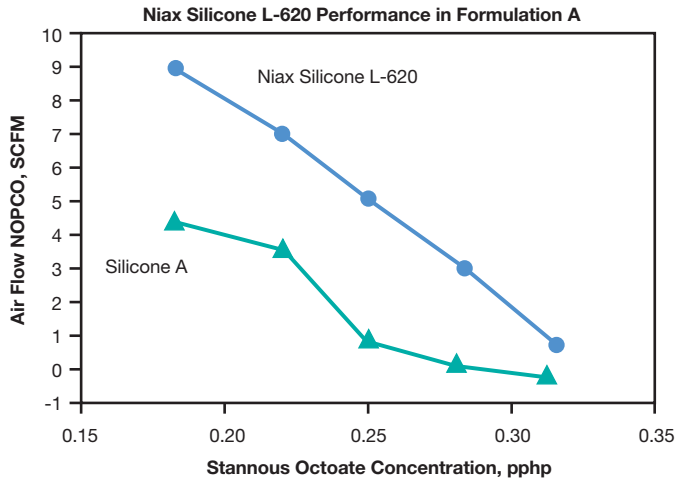
**Figure 1: Foam Breathability Response to Silicone Level Variations in a Fluorocarbon-Blown Foam Formulation**



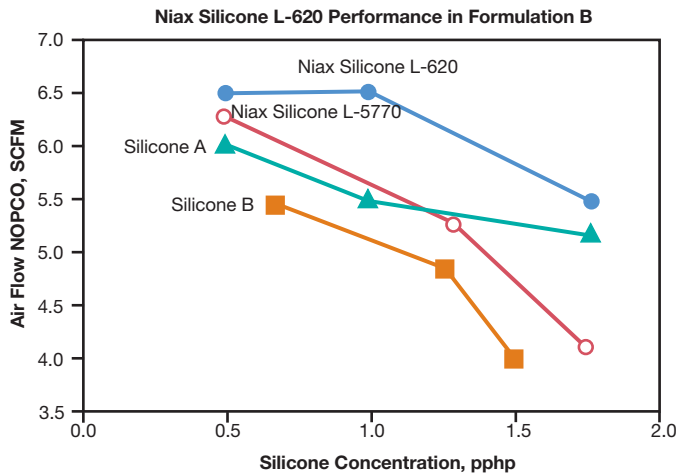
# NIAX\* Silicone L-620

## Performance (continued)

**Figure 2: Foam Breathability Response to Tin Catalyst Level Variations in a Fluorocarbon-Blown Foam Formulation**



**Figure 3: Foam Breathability Response to Silicone Level Variations in a Methylene Chloride-Blown Foam Formulation**



\*Niax is a trademark of Momentive Performance Materials Inc.

Performance (continued)

Figure 4: Foam Height Response to Silicone Level Variations in a Methylene Chloride-Blown Foam Formulation

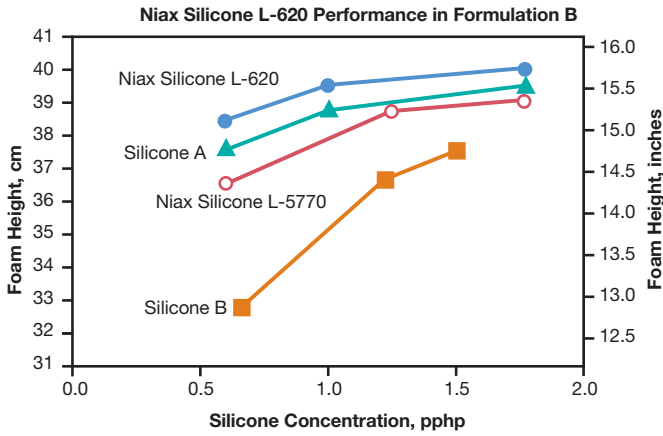
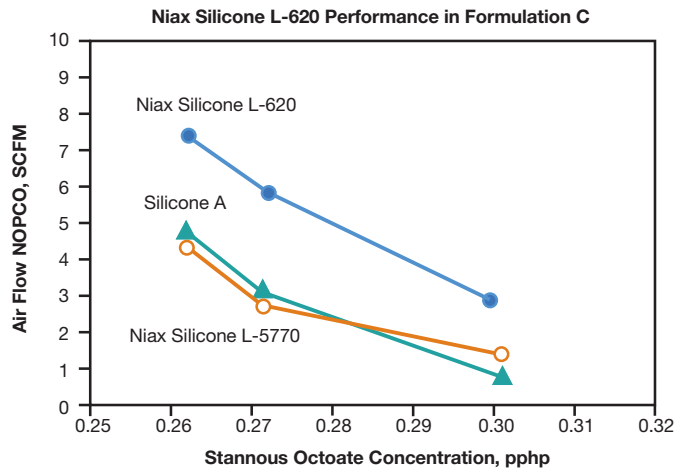


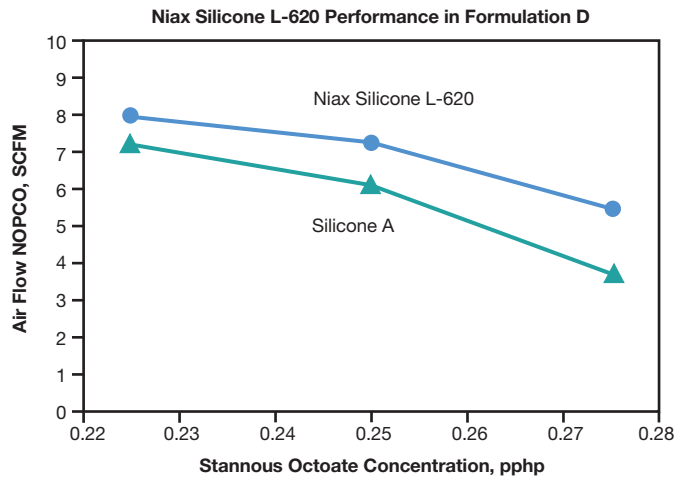
Figure 5: Foam Breathability Response to Silicone Level Variations in a Foam Formulation Using Geolite\* Modifier 91



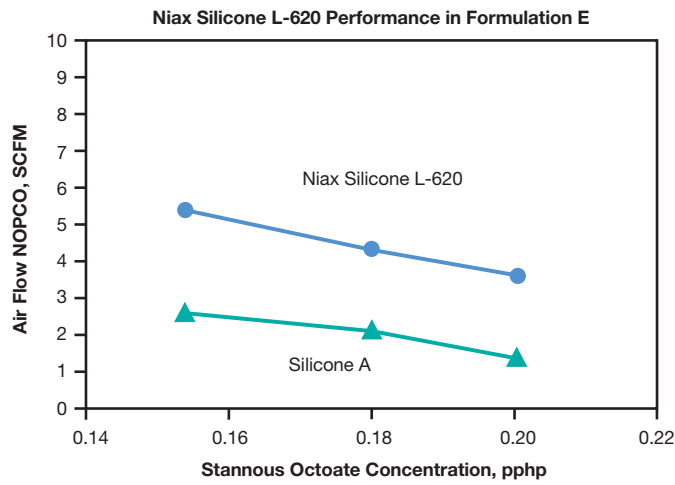
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**Figure 6: Foam Breathability Response to Tin Catalyst Levels for Machine Trials of 1.34 pcf/34 IFD (22 kg/m<sup>3</sup> / 135N) FR Foam**



**Figure 7: Foam Breathability Response to Tin Catalyst Levels for Machine Trials of 2.0 pcf/35 IFD (16 kg/m<sup>3</sup> / 140N) Foam**



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## **NIAX\* Silicone L-620**

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## NIAX\* Silicone L-620

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