

NIAX* Silicone L-595

URETHANE ADDITIVES - FLEXIBLE SLABSTOCK FOAM



Niax silicone L-595 is a medium-high potency silicone to consider for use in the production of flexible slabstock foam. It is a high performance stabilizer that can help promote well-balanced processing and yield good foam breathability, fine regular cell and superior density distribution. Niax silicone L-595 typically demonstrates broad process latitude in all grades of conventional flexible foam including those with low density where a high loading of auxiliary blowing agents is used. It may also provide good stability for the slabstock foam using a liquid CO₂ process.

Key Features and Typical Benefits

- helps provide optimum cell stabilization in flexible PU foam blocks with minimum sink back
- superior density distribution when compared to traditional silicones
- very fine, regular and uniform cell structure
- excellent foaming stability effect with good air flow over a broad range of foam densities
- thinner top and bottom skins
- non-FR type silicone surfactant
- can offer good froth stability required for CO₂ processes
- may be suitable for all types of foam machines

Applications

Niax silicone L-595 can help provide fine, regular and uniform cell structure, combining excellent stabilizing effect with improved physical properties of the foam. It is a high performance silicone surfactant that may be considered for use in production of a wide variety of conventional slabstock foam. The excellent stabilizing effect can assist foam manufacturers in producing foam block with minimum sink back and improve yield rate. Higher foam block heights have been observed in full-scale production line trials.

Typical Physical Properties

Appearance	Clear, light straw color liquid
Specific Gravity @ 25°C	1.027
Viscosity, cSt @ 25°C	1800 - 2200
Flash Point (Pensky-Marten Closed Cup) (ASTM D 93), °C	101

Note: Typical data are average data. The actual values may vary.
Product specifications for specific applications need to be agreed upon individually

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Performance Evaluation

Table 1: Performance evaluation of Niox Silicone L-595 vs. competitor grade (X) in continuous production line

Foam Grade	D16	D16	D25	D25	D32	D32
Product Code	Competitor X	Niox Silicone L-595	Competitor X	Niox Silicone L-595	Competitor X	Niox Silicone L-595
Cell Structure (1 = coarse; 5 = fine)	2	3	4	4	4	4
Sink Back (1 = excessive; 5 = stable)	3	3	3	4	3	4
Density Gradient	=	=		+		+
Foam Hardness	=	=	=	=	=	=
Sag Factor	=	=	=	=	=	=
Foam Porosity		+		++		++
Resiliency		+		++		++
Compression Set @ 50%		++		+		+
Elongation	=	=	=	=		+
Tensile Strength	=	=	=	=	=	=
Tear		+		+		+

Table 2: Performance evaluation of Niox Silicone L-595 vs. competitor grade (Y) in discontinuous line (rectangular box -10m³)

Foam Grade	D18 (ABA)	D18 (ABA)	D25	D25	D33	D33
Product Code	Competitor Y	Niox Silicone L-595	Competitor Y	Niox Silicone L-595	Competitor Y	Niox Silicone L-595
Cell Structure (1 = coarse; 5 = fine)	2	4	3	4	3	4
Sink Back (1 = excessive; 5 = stable)	3	3	3	4	3	4
Density Gradient	=	=		+		+
Foam Hardness	=	=		+		+
Sag Factor	=	=	=	+		+
Foam Porosity	=	=		++		++
Resiliency	=	=		++		++
Compression Set @ 50%	=	=	=	=		+
Elongation	=	=	=	=	=	=
Tensile Strength		+	=	=	=	=
Tear		+	=	=		+

Note: ABA is Auxiliary Blowing Agent

Note: Test data. Actual results may vary.

Patent Status

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Customer Service Centers

Worldwide

4information@momentive.com

+1 614 986 2495 / T +1 800 295 2392

North America

Silicones

T +1 800 332 3390

Consumer Sealants/ Construction Sealants and Adhesives

T +1 877 943 7325

Latin America

South America

T +55 11 4534 9650

Mexico and Central America

T +52 55 2169 7670

Europe, Middle East, Africa and India

T +00 800 4321 1000 / +40 21 3111848

Pacific

China

T +800 820 0202 / +86 21 3860 4892

Japan

T +0120 975 400 / +81 276 20 6182

Korea

T +82 2 6201 4600

Malaysia

T +60 3 9206 1532

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22 Corporate Woods Boulevard
Albany, NY 12211 USA
momentive.com