

NIAX* silicone L-895

URETHANE ADDITIVES - FLEXIBLE SLABSTOCK FOAM



Niax silicone L-895 is a high potency silicone with reduced, low molecular weight siloxanes content that is an excellent candidate to consider for the production of flexible slabstock foam. It is a high performance stabilizer that promotes well-balanced processing and yields good foam porosity, fine cells and superior density distribution compared to traditional stabilizers. Niax silicone L-895 demonstrates broad processing latitude in virtually all grades of conventional flexible foam and can process a wide range of foam density. It also provides good stability and fine cells in liquid CO₂ processes.

Key Features and Typical Benefits

- generally provides optimum cell stabilization in flexible PU foam blocks with minimum settle
- low molecular weight siloxanes content
- combines excellent foaming stability with good air flow over a broad range of foam densities
- full scale industrial trial has demonstrated fine and regular foam structure uniformity, and excellent density distribution with minimal pea holes
- promotes thinner top and bottom skins with generally uniform foam physical properties from top to bottom
- non-FR type silicone surfactant structure
- typically offers good froth stability required for CO₂ processes
- may be used in most foaming machines

Typical Physical Properties	
Appearance	Clear, light, straw colored liquid
Viscosity, 25°C (cSt)	1900-2900
Specific Gravity, 25°C	1.027
Flash Point, °C (Pensky-Martens closed Cup) ⁽¹⁾	101

(1) ASTM Method D93

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

NIAX* silicone L-895 for polyurethane flexible slabstock foam

Performance

Niax silicone L-895 offers fine and regular cell structure combined with an excellent stabilizing effect that enhances the overall physical properties of the foam. It is a high performance silicone surfactant with reduced, low molecular weight siloxanes and it can be used to produce all types of conventional slabstock foam across a broad range of formulations. The excellent stabilizing effect allowed foam manufacturers to produce foam blocks with minimum settle and improved yield. Lower use level can be explored after machine-processing conditions are optimized. Higher foam block heights have been observed in full-scale production line trials.

Table 1: Performance Evaluation of Niax silicone L-895 versus Silicone X in Continuous Production Line

Foam Grade (kg/m ³)	D16		D25		D32	
Product Code	Silicone X	Niax silicone L-895	Silicone X	Niax silicone L-895	Silicone X	Niax silicone L-895
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%		++		+		+
Tensile Strength	=	=	=	=	=	=
Elongation	=	=	=	=		+
Tear		+		+		+

Table 2: Performance Evaluation of Niax silicone L-895 versus Silicone Y in Continuous Production Line (In a rectangular box – 10 m³)

Foam Grade (kg/m ³)	D18 (ABA)		D25		D33	
Product Code	Silicone Y	Niax silicone L-895	Silicone Y	Niax silicone L-895	Silicone Y	Niax silicone L-895
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%	=	=	=	=		+
Tensile Strength	=	=	=	=	=	=
Elongation		+	=	=	=	=
Tear		+	=	=		+

Note: ABA is Auxiliary Blowing Agent

Note: Test data. Actual results may vary.

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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