

NIAX* processing additive DP-1022

URETHANE ADDITIVES - FLEXIBLE SLABSTOCK FOAM



Niax processing additive DP-1022 is a reactive polyfunctional additive that finds utility in improving significantly Tensile/Elongation/ Tear properties of a number of urethane foam applications like high resiliency technologies (HR), formulations using inorganic fillers as well as specialty formulations such as viscoelastic foams.

Key Features and Typical Benefits

The use of Niax processing additive DP-1022 will result in:

- increased Tear resistance
- increased Tensile/Elongation of the foams

Specially in formulations using inorganic fillers and High Resilience foams.

Typical Physical Properties

Form	Clear liquid
Specific Gravity, 20/25°C	1.02
Viscosity at 25°C, cps	175
Flash Point °C	>230
Purity, Wt %	>98.0
Water, Wt %	0.05 max.
Color, Pt-Co	50 max.
Hydroxyl Number, mg KOH/g	1200

NIAX* Processing Additive DP-1022

Formulation and Use

The use of Niax processing additive DP-1022 in low-medium density formulations can help reduce processing problems often encountered when foaming with fillers. At 0.5 - 1.5 php, Niax processing additive DP-1022 provides excellent foam processing and improvements in Tensile/Elongation/Tear properties. Only minor catalyst adjustments are needed. A reduction of stannous octoate by 5 - 10% is required for optimum processability. This will vary depending on the formulation.

Niix processing additive DP-1022 has been found to improve overall HR foam properties.

Niix Processing Additive DP-1022 in Conventional Foams (with and without fillers)

The following are some typical formulations utilizing Niix processing additive DP-1022:

Table 1:

Component	Parts by Weight							
	100	100	100	100	-	-	-	-
Polyol (MW:3500, OH = 48mg KOH/g)	100	100	100	100	-	-	-	-
Polymer Polyol (10% Solids)	-	-	-	-	96	95	96	95
Niix hardener FH-300					4	4	4	4
Niix processing additive DP-1022	-	0.5	1.0	2.0	-	1.0	-	1.0
Calcium Carbonate	-	-	-	-	15	15	15	15
Water, Total	4.5	4.5	4.5	4.5	5.0	5.0	3.9	3.9
Niix Stannous Octoate	0.22	0.18	0.16	0.16	0.14	0.12	0.14	0.12
Niix catalyst B-4	0.15	0.15	0.15	0.15	-	-	-	-
Niix catalyst B-18	-	-	-	-	0.12	0.12	0.12	0.12
Niix silicone L-620	1.0	1.0	1.0	1.0	0.9	0.9	0.9	0.9
TDI	55	56	57	59	64.8	64.6	54.6	56.5
TDI Index	108	108	108	108	116	112	120	120
Density, kg/m ³	21.0	21.3	21.1	21.0	21.8	22.1	24.6	24.5
Nopco, scfm	4.3	5.6	4.1	1.1	6.3	6.5	5.5	5.8
CLD 40%, kPa	3.2	2.6	3.5	4.8	4.3	4.1	4.2	4.4
Tensile Strength, kPa	118	124	126	126	-	-	-	-
Tear, N/cm	3.3	4.7	4.5	4.2	2.1	3.5	3.2	4.1

Niix Processing Additive DP-1022 in HR Foams

The following are some typical formulations utilizing Niix processing additive DP-1022:

Table 2:

Components	Parts by Weight		
	100	100	100
Polyol (OH nr.30)	100	100	100
Niix processing additive DP-1022	-	0.5	1.0
Water, Total	4.3	4.3	4.3
DEOA pure	1.1	1.1	1.1
Stannous Octoate	0.20	0.20	0.20
Niix catalyst A-133	0.26	0.26	0.26
Niix silicone L-2100	1.0	1.0	1.0
TDI	47.7	48.6	49.6
TDI Index	100	100	100
Density, kg/m ³	22.0	22.3	21.8
CLD 40%, kPa	1.6	1.4	1.3
Nopco, scfm	5.2	5.9	4.4
Tensile Strength, kPa	113	117	121

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Niix Processing Additive DP-1022 Application Guide

Niix processing additive DP-1022 (parts)	
0	1
Stannous Octoate Reduction (%)	
0	5
Amine Increase (%)	
0	5
Tensile/Elongation/Tear Properties	
Standard	Improved

Patent Status

Nothing contained herein shall be construed to imply the nonexistence of any relevant patents or to constitute the permission, inducement or recommendation to practice any invention covered by any patent, without authority from the owner of the patent.

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