

Butofan® NS 222

Chemical Nature

Aqueous and carboxylated styrene-butadiene copolymer dispersion for the manufacture of construction and flooring adhesives

Properties			
Typical Properties	Solids content	%	~ 51.0
	pH		~ 8.8
	Viscosity at 23 °C	mPa s	~ 150 – 450
	(Brookfield RV, Spindle #2, at 20 rpm)		
Other properties of the dispersion	Density	lbs/gal	ca. 8.3
		g/cm ³	ca. 1.0
	Average particle size	µm	ca. 0.16
	Bound Styrene	%	ca. 43
	Dispersion type		anionic
Properties of the film	Antioxidant		non-staining
	Density	g/cm ³	ca. 0.98
	Glass transition temperature	°C	ca. -26
	Tg (DSC)		
	Mechanical strength*		
	Tensile strength	psi	ca. 45
	Elongation at break	%	ca. 1200
	Water absorption	%	ca. 5
	(After 72 hr immersion in water)		
	Appearance		clear, transparent
Compatible with	Surface		tacky
	Flexibility		high
*These figures should be taken for comparison purposes only. All that can be obtained from them is an idea of the order of magnitude concerned.			
Compatible with			
Polymer dispersions	Butofan® NS 209, Acronal® V 210, Acronal® A 220, Acronal® 3432, Styrofan® ND 593. Compatibility must be confirmed in each case.		
Thickeners	Rheovis® AS 1420, Rheovis® AS 1125.		
Resins	Commercial rosin and hydrocarbon tackifier dispersions. Compatibility must be tested in each case. (See Figure 1)		

Application

Field of application

Butofan NS 222 is used in the production of flooring adhesives requiring high specific adhesion to a variety of substrates, such as VCT. However, it is not recommended for use in adhesives for highly plasticized homogenous vinyl flooring or PVC backed carpet tiles where plasticizer migration is a concern.

Manufacture of pressure-sensitive adhesives for self-adhesive products is often done in combination with tackifier resins. Figure 1 summarizes a lab study in which several commercially available tackifier dispersions were blended with Butofan NS 222 and tested for pressure sensitive performance.

Tackifier Response

Data produced in Figure 1 compares peel, loop tack, and shear performance of adhesives prepared with 75 parts dry tackifier blended with 100 parts dry polymer. Adhesive formulations were direct coated to polyester film, oven dried, and bonded to stainless steel. Coat weights were approximately one mil dry.

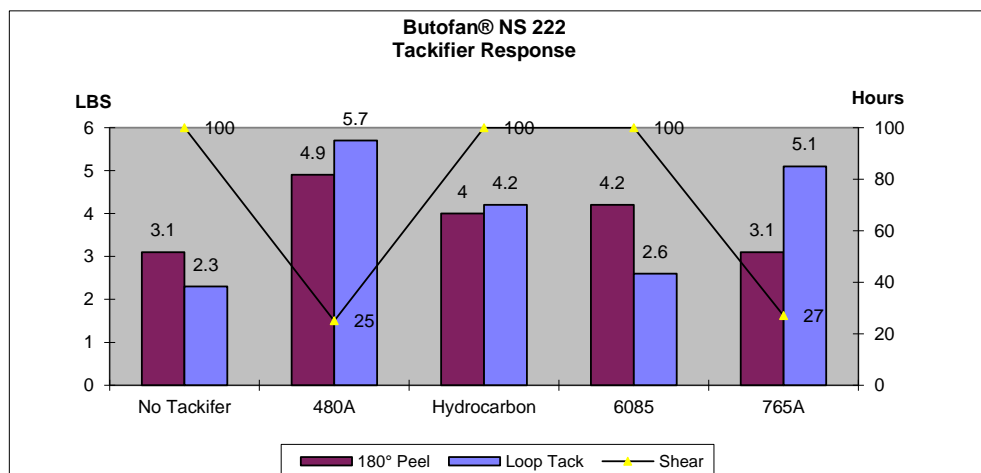


FIGURE 1

Tackifier Supplier Information

- Snowtac® 480A – Eka Chemical
- Hydrocarbon resin
- Aquatac® 6085 – Arizona Chemical
- Snowtac® 765A – Eka Chemical

Processing

Butofan NS 222 exhibits good chemical and mechanical stability. Adhesives based on Butofan NS 222 can be processed using standard latex compounding and applied by conventional coating methods such as Meyer bar, reverse roll, reverse gravure and slot die.

The addition of about 0.5% wetting agent (e.g., Lumiten® IRA or Pluronic® L-92) can help if problems of poor substrate wettability arise. Commercial defoamers can be used (e.g., Ashland Drewplus™ L108) up to approximately 0.2% on the adhesive.

It is recommended that a preservative be added to adhesives containing Butofan NS 222 to protect from microbial attack. Selection and suitability of such additives must be verified by trials. Recommendations available.

Safety

General

The usual safety precautions when handling chemicals must be observed. These include the measures described in Federal, State and Local health and safety regulations, thorough ventilation of the workplace, good skin care and wearing of protective goggles.

Safety Data Sheet

All safety information is provided in the Safety Data Sheet for Butofan NS 222.

Storage

Please refer to the "Handling and Storage of Polymer Dispersions" brochure.

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