

Butonal[®] NS 175

Chemical Nature

Aqueous, high solids, cold-polymerized, anionic styrene-butadiene dispersion for modifying asphalt cements and anionic asphalt emulsions

Properties

Typical Properties

Solids content	%	~ 71.0
pH		~ 10.5
Viscosity (Brookfield RVT, Spindle #3, at 20 rpm)	mPa s	1000 – 1500

Other properties of the dispersion

Bound styrene	%	24
Residual monomer	%	0.08 max.
Surface tension	mN/m	34
Antioxidant		none
Glass transition temperature (DSC)	°C	-53
Weight/volume	lb/gal	~ 8.07
Specific Gravity		~ 0.97

* The above values should not be taken as specification

Application

Features

Butonal NS 175 is a mechanically stable latex polymer dispersion that can be readily pre-blended into hot asphalt cement in order to meet Superpave[®] “Plus” modified binder specifications as well as to provide improvements in conventional properties such as increased softening point and decreased penetration. It can also be used to modify asphalt cement at the hot mix plant via addition directly to the pug mill (batch HMA plant) following asphalt addition or injection into the asphalt line prior to entering the drum (continuous HMA plant). Butonal[®] NS 175 is also particularly effective at increasing asphalt viscosity and is utilized to produce modified binders for use in OGFC mixes to prevent drain-down.

Butonal NS 175 can also be incorporated into anionic asphalt emulsions via addition to the soap solution (batch process) or co-milling (continuous process).

Processing

Butonal NS 175 can be used in the following applications:

- PG-graded binders
- OGFC binders
- Chip seal
- Slurry seal
- Below-grade foundation waterproofing

Periodic mechanical stirring is required to maintain a homogeneous mixture. Some separation is possible due to the specific gravity and particle size distribution of these dispersions.

Generally, the preferred means of stirring is with a separate propeller type stirrer. This low-speed, low-shear mechanical stirrer can be located off-center, set at an angle, or side mounted near the bottom to prevent foaming or vortexing. Center stirring requires tank baffles. It is recommended that

the material be agitated for 10 - 20 minutes every 24 hours when the material is being used in production.

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 Butonal NS 175.

Storage

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

Important

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