

Styrofan[®] 1186

Chemical Nature

Aqueous styrene-butadiene copolymer dispersion for use in concrete modification.

Properties

Typical Properties

Solids content	%	ca. 48
pH		ca. 10
Viscosity at 23 °C (Brookfield RVT, Spindle#1, at 20 rpm)	mPa s	ca. 38

Other properties of the dispersion

Surface Tension	dynes/cm	ca. 32
Specific Gravity	lbs/gal	ca. 8.5
	g/cm ³	ca. 1.01
Bound Styrene	%	ca. 66
Average Particle Size	µm	ca. 0.2
Dispersion type		anionic
Coagulum (100 mesh)	Wt. %	< 0.1
Sensitivity to frost	cycles	ca. 2

Properties of the film

Glass transition temperature T _g (DSC)	°C	ca. 6
Mechanical strength*		
Tensile strength	psi	ca. 600
	N/mm ²	ca. 4
Elongation at break	%	ca. 200
Appearance		slight yellow, transparent
Surface		tack-free

* The above values should not be taken as specification

Application

Fields of application

Styrofan 1186 is used mainly for modifying concrete mixtures. The most notable applications are concrete for bridge deck and parking garage overlays. The addition of Styrofan 1186 to conventional unmodified concrete mixtures reduces the amount of water required for the placement of the mix. The lower water typically results in a cured concrete with higher compressive strength. The polymer forms an elastic membrane throughout the matrix of the cured concrete, reducing the formation of voids and hairline cracks therein. Moreover, the resulting concrete mixture shows improved resistance to the penetration of oil, salts and aids in the adhesion of the new concrete to old. Flexural strength and abrasion resistance are also increased.

Styrofan 1186 has been pre-qualified by the FHWA under FHWA RD-78-35

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 Styrofan 1186.

Important

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