Sumikaflex 510HQ

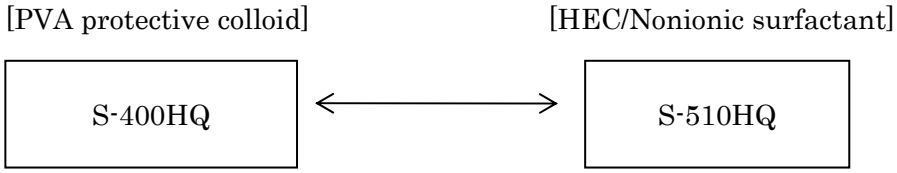
Type:	Ethylene-Vinyl acetate Copolymer Emulsion
Properties:	Sumikaflex 510HQ is HEC/nonionic surfactant emulsion. It is excellent for spray adequacy, miscibility with filler and cement, and machine stability. It has also good resistance for water and alkali liquid.
Main application:	Adhesive used for paper and textile Paint Additive for mortar

Physical properties:

Appearance		Milky white
Solid content	(%)	55 ± 1
Viscosity	(mPa·s)	10 − 400
pH		4 − 7
Ave. particle size	(μm)	0.7
Density	(g/cm^3)	1.07
MFT	(°C)	0
Particle charge		Nonionic
Mechanical stability		Good
Tg	(°C)	0
Tensile strength	(MPa)	5.8
Elongation	(%)	800

< Technical Information of Sumikaflex 510HQ >

1. Grade



2. Emulsion properties

	S-510HQ	S-400HQ
Appearance	Milky white	Milky white
Solid content (%)	55 ± 1	55 ± 1
Viscosity (mPa·s)	10 − 400	1100 − 1600
pH	4 − 7	4 − 7
Ave. particle size (μm)	0.7	0.7
Density (g/cm^3)	1.07	1.07
MFT (°C)	0	0
Particle charge	Nonionic	Nonionic
Mechanical stability	Good	Good
Tg (°C)	0	0

3. Film properties

(1) Tensile strength

		S-510HQ	S-400HQ
Original	Elongation (%)	800	550
	Strength (MPa)	5.8	12.7
Wet	Elongation (%)	600	600
	Strength (MPa)	2.9	3.3

Test method

Thickness of film: 0.15 mm

Shape of film: Dumbbell No.3

Film forming condition and aging: 23°C × 65%RH × 7 days

Measurement speed: 500 mm/min

Wet: Film in water at room temperature for 24 hours

(2) Water drop examination

	S-510HQ	S-400HQ
Whiting time (min)	> 120	2

Test method

Foam film (the thickness is 0.15 mm) on the slide glass in thelaboratory. The slide glass is on the 8 point Chinese character of the newspaper. Measure the time when the film is whitened after one droplet of water when we can't read it.

3. Application

(1) Heat sealing

Heat sealing temperature (°C)	Adhesive strength(N/25 mm)	
	S-510HQ	S-400HQ
60	9.1	10.6
80	16.2	17.4
100	27.8	32.7
120	35.6	32.2
140	42.7	33.6
160	–	38.3
180	–	–

Test method

Substrate: Cotton #40

Coating 1: Coating 0.03 mm thickness of emulsion

Coating 2: Coating 0.07 mm thickness of the emulsion after coating1 and drying 1 min

Drying: 24 hours in the laboratory

Lamination: Seal in each lamination temperature after coated sides are superposed.

Peeling speed: 300 mm/min

(2)Flock treatment

Test method

Formulation: Emulsion/Cross-linked additive/Catalyst of crosslink/Thickener
= 100 / 6 / 0.6 / α

Substrate: Cotton #40

Rubbing test: Water resistance, perchloroethylene resistance

Texture: Cantilever method

Dry condition: 80ºC × 10 min → cured 130ºC × 20 min

Textile

	S-510HQ	S-400HQ	Acryl emulsion A
Viscosity (mPa·s)	29900	37700	28800
Coating (g/m^2)	255	254	259
Water resistance (times)	4040	2780	3500
Trichloroetylene (time)	1	1	2060
Texture (cm)	6.2	8.5	5.4

Substrate: Nylon pail 1.5 d, thickness 0.5 mm

Application for shoes

	S-510HQ	S-400HQ	Acryl emulsion A
Viscosity (mPa·s)	29300	31100	29300
Coating (g/m^2)	About 250	About 250	About 250
Water resistance (times)	3800	> 6000	3800
Trichloroetylene (time)	1	1	> 4800
Texture (cm)	6.6	9.3	6.6

Substrate: Nylon pail 3.0 d, thickness 1.0 mm

Application for carpet

	S-510HQ	S-400HQ	Acryl emulsion A
Viscosity (mPa·s)	27500	35800	27500
Coating (g/m^2)	340	335	337
Water resistance (time)	1900	3280	1140

Substrate: Nylon pail 14 d, thickness 3.0 mm