SUMIKAFLEX 950HQ

Type:	Ethylene-Vinyl Acetate-Vinyl ester of versatic acid Terpolymer Emulsion
Properties:	SUMIKAFLEX 950HQ (S-950HQ) is a designed grade that has a good contact adhesive for non-polar materials such as polyolefin. It is used for adhesive materials of plastic film and foam. For example, it can be used for packaged adhesives, paper and film adhesives.
Main application:	Contact adhesive Waterproof sheet adhesive Packaged adhesive Paper and film adhesive

Physical properties:

Appearance		Milky white
Solid content	(%)	53 ± 1
Viscosity	(mPa·s)	1000 – 2000
pH		4 – 7
Ave. particle size	(μm)	0.6
Density	(g/cm^3)	1.00
MFT	(°C)	0
Particle charge		Nonionic
Mechanical		Good
Tg	(°C)	−30
Tensile strength	(MPa)	0.2
Tensile elongation	(%)	> 1700

< Technical information of SUMIKAFLEX 950HQ >

1. Emulsion properties

		S-950HQ
Appearance		Milky white
Solid content	(%)	53 ± 1
Viscosity	(mPa·s)	1000 – 2000
pH		4 – 7
Ave. particle size	(μm)	0.6
Density	(g/cm^3)	1.00
MFT	(°C)	0
Particle charge		Nonionic
Mechanical stability		Good
Tg	(°C)	– 30

2. Film properties

(1) Tensile strength

		Typical value
Original	Elongation (%)	> 1700
	Strength (MPa)	0.2
Wet	Elongation (%)	> 1700
	Strength (MPa)	0.2

Test method

Thickness of film : 0.15 mm
Shape of film : Dumbbell No.3
Original state : 23°C × 65%RH
Wet state : After 24 hours in water,
test pieces was measured on wet condition
Measurement speed : 500 mm/min

(2) Water resistance of film

		S-950HQ	S-400HQ
Water resistance	Solve rate (%)	2	5
	Absorb rate (%)	23	16

Test method

Thickness of film : 0.15 mm

Water resistance : In water for 4 days at room temperature

3. Application

(1) Contact adhesive

	Double spread			Single spread		
	Adhesive strength (N/25 mm)		Cohesion (min)	Adhesive strength (N/25 mm)		Cohesion (min)
	Original	Wet		Original	Wet	
S-950HQ	23.7	12.0	5	18.9	12.3	5
A	18.6	1.0	120	2.0	2.0	120
B	9.8	0	12	3.9	0	13

Test method

Substrate: Flexible board / EP rubber (Water resistance sheet)

Lamination: a. Double spread

Spread: 120 g/m^2 × 2 Open time: 60 min

b. Single spread

Spread: 240 g/m^2 × 2 on flexible board Open time: 60 min

Pressure: Hand roller Aging: 1 week

Adhesive: a. Original state: Angle 180°Pealing speed: 100 mm/min

b. Wet state ··· The test pieces was in 50°C water for 7 days and cooled to room temperature. Peeling speed: 100 mm/min

c. Cohesion: Adhesive area 25 × 25 mm, 50°C, 500 g of static load measure the time until the weight falls down

(2) Application of plastic /paper adhesive

	PET		OPP	
	Original	Wet	Original	Wet
S-950HQ	Substrate failure	Substrate failure	Substrate failure	Substrate failure
EVA emulsion	Adhesive failure	Adhesive failure	Adhesive failure	Adhesive failure
VAC/acrylic emulsion	Adhesive failure	Adhesive failure	Adhesive failure	Adhesive failure
Acrylic emulsion	Cohesion failure	Substrate failure	Cohesion failure	Substrate failure

Substrate failure means paper broken.

Test method

Emulsion was coated to 3 mils thickness on the film. Then, a bond paper (100 g/m^2) was laminated on the film. After 3 days aging at room temperature, the test pieces were pealed and observed the condition of adhesive failure.

Water resistance: After test pieces in water for 1 hour, they were pealed with wet condition and observed the condition of adhesive failure.

(3) Application of adhesive

	Tackiness (Bawl No.)	Adhesive (N/25 mm)		
		SUS	PE	PP
S-950HQ	7	7.4	5.5	7.6
Acrylic emulsion for adhesive	11	7.5	2.3	4.8

Test method: Emulsion was coated to thickness 25μm (dry) on the PET. After dried, measured adhesive properties.

Tackiness: J Dow method

Adhesive strength: Pealing angle: 180° Pealing speed: 300 mm/min