SUMIKAFLEX 401HQ

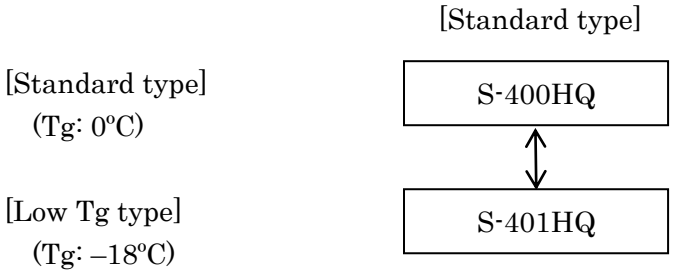
Type:	Ethylene-Vinyl acetate Copolymer Emulsion
Properties:	SUMIKAFLEX 401HQ (S-401HQ) has higher ethylene content than SUMIKAFLEX 400HQ, and its film is softer than SUMIKAFLEX 400HQ. It is good for low-temperature adhesion and alkaline resistance. It is also more stable than SBR latex.
Main application:	Adhesives for paper and textile

Physical properties:

Appearance		Milky white
Solid content	(%)	55 ± 1
Viscosity	(mPa·s)	800 − 1600
pH		4 − 7
Ave. particle size	(μm)	0.7
Density	(g/cm^3)	1.04
MFT	(°C)	0
Particle charge		Nonionic
Mechanical stability		Good
Tg	(°C)	−18
Tensile strength	(MPa)	6.2
Tensile elongation	(%)	850

< Technical Information of SUMIKAFLEX 401HQ >

1. Grade positioning



2. Emulsion properties

		S-401HQ
Appearance		Milky white
Solid content	(%)	55 ± 1
Viscosity	(mPa·s)	800 – 1600
pH		4 – 7
Ave. particle size	(μm)	0.8
Density	(g/cm^3)	1.04
MFT	(ºC)	0
Particle charge		Nonionic
Mechanical stability		Good
Tg	(ºC)	–18

3. Film properties

(1) Tensile strength

		S-401HQ	S-400HQ
Original	Elongation (%)	850	550
	Strength (MPa)	6.2	12.7

Test method

Thickness of film : 0.15 mm
Shape of film : Dumbbell No.3
Film forming condition and aging : 23ºC × 65%RH × 7 days
Measurement speed : 500 mm/min

4. Application

(1) Adhesive

		S-401HQ	S-400HQ
Original adhesive strength (N/25 mm)	PET	5.9	0.7
	OPP	2.6	0.8
	Aluminum	8.8	7.8
Wet adhesive strength (N/25 mm)	PET	1.5	0.2
	OPP	2.0	0.8
	Aluminum	1.5	0.7

Test method

Substrate	: Cotton #40/PET (thickness: 0.075 mm) or OPP (thickness: 0.040 mm) or Aluminum (thickness: 0.1 mm)
Coating	: 100 g/m^2 (40% concentration emulsion)
Lamination	: Laminate soon after coating and press with hand roller
Aging	: 4 days after clamping (23°C × 65%RH)
Original adhesive strength	: Peel 200 mm/min of at a 180° angle
Wet adhesive strength	: After soaking in the water for 24 hours, peel at 200 mm/min at a 180° angle

(2) Low temperature adhesion

	Toluene / Emulsion = 3 / 100		Toluene / Emulsion = 6 / 100	
	Viscosity (25°C) (BH-10 rpm)	Low temperature adhesion	Viscosity (25°C) (BH-10 rpm)	Low temperature adhesion
S-401HQ	3500	Good	7500	Good
S-400HQ	5000	Bad	10000	Bad

At 5ºC atmospheric room, the substrate, emulsion, and apparatus are left for 1 day. We conduct the examination and measure samples.

Test method

PVC sheet	: Half semi-rigid
Wood free paper	: Basis weight of 150 g/m^2
Formulation	: Emulsion / Toluene = 100 / 3, 6
Coating weight	: Wet 50 g/m^2
Clamping	: 1 kPa for 20 hours (5°C)
Aging	: 1 day after clamping (5°C)
Low temperature adhesion	: Peel fast by hand after cutting the sample to a width of 25 mm