SUMIKAFLEX 467HQ

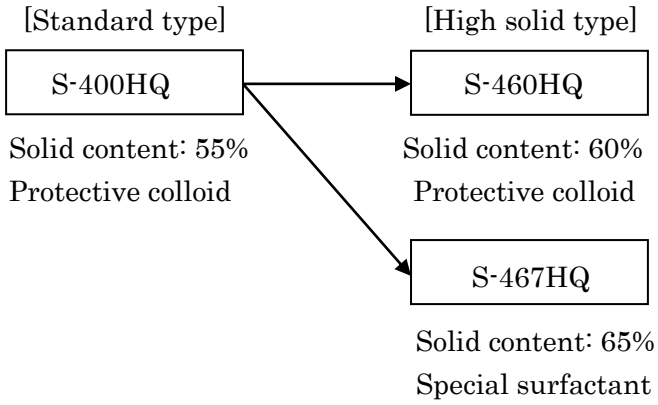
Type:	Ethylene-Vinyl acetate Copolymer Emulsion
Properties:	SUMIKAFLEX 467HQ (S-467HQ) is a high solid content of ethylene vinyl acetate copolymer emulsion, which gives excellent adhesiveness against each plastic. Specifically, it has performance in set time, water resistance and heat resistance against creep, along with good miscibility with fillers, can be easily worked or additive applications.
Main application:	Adhesives

Physical properties

Appearance		Milky white
Solid content	(%)	65 ± 1
Viscosity	(mPa·s)	2000 – 6000
pH		4 – 7
Ave. particle size	(μm)	0.8
Density	(g/cm^3)	1.08
MFT	(°C)	0
Particle charge		Nonionic
Mechanical stability		Good
Tg	(°C)	0
Tensile strength	(MPa)	5.8
Tensile elongation	(%)	790

< Technical Information of SUMIKAFLEX 467HQ >

1. Grade positioning



2. Emulsion properties

		Emulsion properties
Appearance		Milky white
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Viscosity	(mPa·s)	2000 – 6000
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Mechanical stability		Good
Tg	(°C)	0

3. Film properties

(1) Tensile strength

		Value
Original	Elongation (%)	790
	Strength (MPa)	5.8
Wet	Elongation (%)	840
	Strength (MPa)	2.0

Test method

Thickness of film	: 0.15 mm
Shape of film	: Dumbbell No.3
Film forming condition and aging	: 23ºC × 65%RH × 7 days
Wet film strength	: film in water at room temperature for 24 hours
Measurement speed	: 500 mm/min

(2) Water drop examination

	S-467HQ	S-400HQ	S-460HQ
Whiting time (min.)	> 120	2	5

Test method

Foam film (the thickness: 0.15 mm) on the slide glass in the laboratory. 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 cannot read it.

(3) Water resistance and Alkali liquid resistance

		S-467HQ	S-400HQ	S-460HQ
Water resistance	Elusion (%)	1	5	9
	Absorption (%)	12	16	19
Alkali liquid resistance	Elusion (%)	1	9	12
	Absorption (%)	15	20	28

Test method

Thickness of film	: 0.15 mm
Water resistance	: Film immersed in water for 4 days at 23 ºC
Alkali resistance	: Film immersed in 1 N NaOH for 4 days at 23 ºC

4. Application

(1) Set time

	S-467HQ	S-400HQ	S-460HQ
Set time (sec)	12	22	18

Test piece: Liner paper (basic weight 200 g/m^2)/Wood free (basic weight 90 g/m^2)

Coating: Coating weight is 75 g/m^2. Coat glue on liner paper.

Lamination: Laminate soon after coating and press by hand roller.

Measure: Peel soon after lamination and measure the time when the paper is broken completely.

(2) Adhesion for PET or OPP and Cotton textile

		S-467HQ	S-400HQ	S-460HQ
Original strength (N/25 mm)	PET	4.3	0.7	0.6
	OPP	3.1	0.8	0.9
Wet Strength (N/25 mm)	PET	3.6	0.2	0.3
	OPP	1.9	0.8	0.7

Test piece: Cotton textile # 40/ Plastic film (PET or PP) PP is corona treatment.
Coating weight: 100 g/m^2 (as wet)
Lamination: Laminate soon after coating and press
Aging: 4 days 23°C × 65%RH
Original adhesive strength: Peel at 200 mm/min at a 180° angle
Wet adhesive strength: Peel at 200 mm/min at a 180° angle after 24 hours in water

(3) PVC sheet to plywood

	S-467HQ	S-400HQ	S-460HQ
Original adhesive strength (N/25 mm)	47	49	48
Wet Adhesive Strength (N/25 mm)	18	15	16
60°C creep (mm/hr)	20	40	38

Test method

PVC sheet	: Half semi-rigid PVC sheet
Plywood	: Lauan Type I 3-ply, 3 mm thick
Formulation	: Emulsion / Toluene = 100 / 6
Coating weight	: Wet 130 g/m^2
Clamping	: 50 kg / 30 cm × 30 cm at 20 hours (23°C × 65%RH)
Aging	: 6 days after clamping (23°C × 65%RH)
Original adhesive strength	: Peel at 100 mm/min of at a 180° angle
Wet adhesive strength	: After soaking in water for 20 hours, peel at 100 mm/min at a 180° angle

60°C Creep : 60°C, 500 g weight and a 90° angle for static load test

(4) Adhesive for textile / textile

	S-467HQ	S-400HQ	S-460HQ
Original adhesive strength (N/25 mm)	44	43	45
Wet Adhesive Strength (N/25 mm)	18	5	7
80°C creep (mm/hr)	12	14	14

Test method

Textile: Cotton #40

Coating: 100 g/m^2 (40% concentration emulsion)

Dry in 80°C × 10 min

100 g/m^2 (emulsion)

Lamination: Laminate soon after coating and press by hand roller.

Clamping: 2 kg/15 cm×15 cm for 20 hours (23°C × 65%RH)

Aging: 7 days after clamping (23°C × 65%RH)

Original adhesive strength: Peel at 200 mm/min of at a180° angle

Wet adhesive strength: After in the water for 20 hours, peel at 200 mm/min at a 180° angle

80°C creep: 80°C, 500 g weight of static load test