Type:	Ethylene-Vinyl acetate Copolymer Emulsion				
Properties:	Sumikaflex 410HQ is a high-ethylene type of ethylene vinyl acetate copolymer emulsion. Sumikaflex 410HQ has higher molecular weight than Sumikaflex 401HQ, and has good heat resistance. It has good adhesion for poor adhesive material just like the Sumikaflex 401HQ. Its handling is good because the temperature dependency of its viscosity is small.				
Main application:	General Textile f Additive	adhesive or non woven for mortar			
Physical properti					
r flysical properti	les				
Appearance				Milky white	
Solid conten	t	(%)		52 - 55	
Viscosity		(mPa·s)		2000 - 4000	
pH		$\langle \rangle$		4-7	
Ave. particle	e size	(μm)		0.9	
Density		(g/cm ³)		0	
NIF I Dortiolo chou	1000	(0)		U Nonionio	
Machanical	Particle charge			Cood	
Ta	stability	(°C)		18	
Tensile strer	nath	(MPa)		89	
Film alongation		(%)		700	

< Technical Information of Sumikaflex 410HQ >

1. Grade

Standard EVA emulsion Sumikaflex 400HQ ↓ (Tg: 0°C)

High ethylene EVA emulsion Sumikaflex 401HQ $\downarrow \quad (Tg:-18^{\circ}C)$

High molecular and high ethylene EVA emulsion Sumikaflex 410HQ (Tg: $-18^{\circ}\mathrm{C})$

2. Emulsion properties

	Emulsion properties
Appearance	Milky white
Solid content (%)	52 - 55
Viscosity (mPa·s)	2000 - 4000
pH	4 - 7
Ave. particle size (µm)	0.9
Density (g/cm ³)	1.04
MFT (°C)	0
Particle charge	Nonionic
Mechanical stability	Good
Тд (°С)	- 18

3. Film properties

(1) Tensile strength

		S-410HQ	S-401HQ	S-400HQ
Tg (°C)		- 18	- 18	0
Original	Elongation (%)	700	850	550
	Strength (MPa)	8.9	6.2	12.7
Heat resistance(°C)		224	190	195

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

Heat resistance

Substrate: Cotton #40 Adhesion area: 31.25 mm² (12.5 × 25 mm) Weight: 500 g Increase Temperature speed: 1°C /min Judgment: Separated Substrate

4. Application

(1) Adhesive for PET/paper

		S-410HQ	S-401HQ	S-400HQ
Original	Peel strength (N/25 mm)	2.1	2.1	1.9
	Broken position	Substrate	Substrate	Surface

Test method

Substrate: Wood free paper/PET

Coating: Bar coater #22 on paper

Lamination: Laminate soon after coating and press by hand roller

Aging: 3 days

Measurement: Peel 100 mm/min (T shape)

(2) Adhesive for Olefin plywood

		S-410HQ	S-401HQ	S-400HQ
Original adhesive strength (N/25 mm)		49	46	48
Wet adhesive strength (N/25 mm)		8	12	13
60°C creep	5 hours	2	35	9
	24 hours	5	-	48

Test method

Olefin sheet: Olefin sheet (surface treatment)

Plywood: Lauan Type I 3 ply 3 mm thick

Formulation: Emulsion / Toluene =100/6

Coating weight: Wet 130 g/m²

Clamping: 50 kg/30 cm×30 cm for 20 hours (23°C × 65%RH)

Aging: 6 days after clamping $(23^{\circ}C \times 65\% RH)$

Original adhesive strength: Peel 100 mm/min of 180° angle

Wet adhesive strength: after in the water for 20 hours, peel 100 mm/min of 180° angle

Creep: 60°C, 90°, 500 g weight of 90° angle for static load test measure peeling length