# Sumikaflex 755

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|---|---|
| Type: | Ethylene-Vinyl acetate Copolymer Emulsion |
| Properties: | Sumikaflex 755 has a self-cross-linking functional group, and its film is soft texture. A film is superior in water solvent resistance. It has also sanitation. |
| Main application: | Non-woven fabric binder<br>Impregnated paper binder<br>Flocky finish<br>Plastics lamination<br>Paper and fabric adhesive use |

Physical properties:

| | | |
|---|---|---|
| Appearance | | Milky white |
| Solid content | (%) | 51 ± 1 |
| Viscosity | (mPa·s) | 500 − 1500 |
| pH | | 4 − 7 |
| Ave. particle size | (μm) | 0.5 |
| Density | ($g/cm^3$) | 1.05 |
| MFT | (°C) | 0 |
| Particle charge | | Nonionic |
| Mechanical stability | | Good |
| Tg | (°C) | − 15 |
| Tensile strength | (MPa) | 1.0 |
| Elongation | (%) | > 1500 |

# < Technical Information of Sumikaflex 755 >

1. Grade

Sumikaflex 752: self-cross-linked, hard texture film (Tg: 15ºC)

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Sumikaflex 755: self-cross-linked, soft texture film (Tg: − 15ºC)

2. Emulsion properties

| | S-752 | S-755 |
|---|---|---|
| Appearance | Milky white | Milky white |
| Solid content (%) | 50 ± 1 | 51 ± 1 |
| Viscosity (mPa·s) | 400 − 1300 | 500 − 1500 |
| pH | 4 − 7 | 4 − 7 |
| Ave. particle size (μm) | 0.5 | 0.5 |
| Density ($g/cm^3$) | 1.09 | 1.05 |
| MFT (ºC) | 9 | 0 |
| Particle charge | Nonionic | Nonionic |
| Mechanical stability | Good | Good |
| Tg (ºC) | 15 | − 15 |

3. Film properties

(1) Tensile strength

| | | S-752 | S-755 |
|---|---|---|---|
| Tg (ºC) | | 15 | − 15 |
| Original state | Elongation (%) | 360 | > 1500 |
| | Strength (MPa) | 23.0 | 1.0 |
| Wet strength | Elongation (%) | 380 | 1000 |
| | Strength (MPa) | 3.0 | 0.9 |

Test method

Thickness of film: 0.15 mm

Shape of film: Dumbbell No.3

Film forming condition: 23ºC × 65%RH × 7 days

Measurement speed: 500 mm/min

4. Application

(1) Compared EVA emulsion, another emulsion and latex

| | Texture | Adhesive | Light resistance | Heat resistance | Cleaning resistance | Dry cleaning resistance | Heat sealing ability | High frequency treatment ability |
|---|---|---|---|---|---|---|---|---|
| Sumikaflex 752 | H | 3 | 3 | 3 | 3 | 3 | 2 | 2 |
| Sumikaflex 755 | S | 2 | 3 | 3 | 3 | 2 | 2 | 2 |
| Acryl emulsion | M | 3 | 3 | 3 | 2 | 3 | 2 | 2 |
| NBR latex | M | 2 | 1 | 1 | 1 | 3 | 1 | 1 |
| SBR latex | M | 2 | 1 | 1 | 2 | 2 | 1 | 1 |

Texture H: hard, M: middle, S: soft, excellent 3 − 2 − 1 not suitable

(2) Non-woven binder

| | | S-752 | S-755 | Acrylic emulsion A |
|---|---|---|---|---|
| Basic weight (g/m$^2$) | | 47.0 | 46.5 | 45.7 |
| Dry Pick Up (%) | | 28.4 | 26.9 | 27.9 |
| Dry strength | Strength (N/5 cm) | 55.3 | 27.6 | 21.1 |
| | KGSC value* | 2353 | 1187 | 923 |
| Wet strength | Strength (N/5 cm) | 15.9 | 13.3 | 10.1 |
| | KGSC value* | 677 | 572 | 442 |
| Cantilever method (mm) | | 290 | 175 | 160 |
| Dry cleaning resistance | Absorption (%) | 4.0 | 9.9 | 5.1 |
| | KGSC value | 451 | 245 | 343 |
| Heat resistance | | 14.6 | 15.1 | 15.2 |
| Light resistance (yellow index) | | 7.0 | 6.9 | 7.1 |

*: KGSC value = strength (N/cm)/basic weight (g/cm$^2$)

Test method

Substrate: Rayon (basic weight 35 to 40 g/m$^2$)

Dipping: Mangle condition (sandwich non-woven between nylon mesh)

Nip pressure: 0.1 MPa

DPU: 25 to 30%

Drying: 150°C × 48 sec

Curing: 130°C × 5 min
Strength: JIS L-1085
Texture (cantilever method): JIS L-1085
Dry cleaning resistance: JIS L-1085
Heat resistance: After 150°C × 60min, measured by hunter color difference meter with Greenfilter
Light resistance: After Fade-O-Meter for 80 hours, measured by hunter color difference meter

(3) Application for impregnated paper

| | | | S-752 | S-755 | Acrylic emulsion A |
|---|---|---|---|---|---|
| Dry Pick Up (%) | | | 27.7 | 26.3 | 26.7 |
| Dry tensile strength 130°C × 3 min | | Strength (N/1.5 cm) | 111 | 69 | 72 |
| | | Breaking length (km) | 4.82 | 3.08 | 3.11 |
| Wet strength | Strength (N/1.5 cm) | 130°C × 1 min | 19.0 | 9.3 | 19.6 |
| | | 130°C × 3 min | 37.2 | 19.9 | 30.6 |
| | | 130°C × 5 min | 41.7 | 25.3 | 35.6 |
| | Breaking length (km) | 130°C × 1 min | 0.82 | 0.41 | 0.85 |
| | | 130°C × 3 min | 1.61 | 0.89 | 1.32 |
| | | 130°C × 5 min | 1.81 | 1.13 | 1.54 |
| Sizing degree (sec) | | 130°C × 1 min | 5 | 31 | 17 |
| | | 130°C × 3 min | 6 | 64 | 36 |
| | | 130°C × 5 min | 10 | 112 | 41 |
| Folding resistance (time) 130°C × 3 min | | | 381 | 641 | 585 |
| Tear strength (g) 130°C × 3 min | | | 154 | 146 | 145 |

Test method
Master paper: filter paper No.2 (basic weight: 120 g/m$^2$)
Dipping: Mangle condition
Concentrate of emulsion 20%
Nip pressure 0.2 MPa
DPU 26 to 28%
Drying: at room temperature
Curing: 130°C × 1, 3 and 5 min