

Silicone based additive

MODIPER[®] FS700

1 What is MODIPER[®] FS700 ?

- MODIPER[®] FS700 is a silicone based additive developed with highly specified blocked-copolymer technology.
- MODIPER[®] FS700 is capable of adding release properties to coating agents.
- MODIPER[®] FS700 is capable of adjusting the peeling force of adhesives.

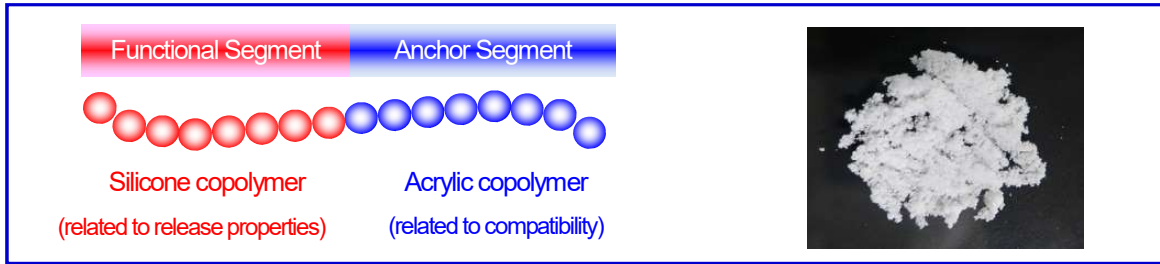


Fig. 1 Structure and Appearance of MODIPER[®] FS700

2 Characteristics of MODIPER[®] FS700

The properties of MODIPER[®] FS700 are as follows.

Table 1. Properties and Solubility of MODIPER[®] FS700

Structure		Appearance	OH Value [mgKOH/g]	Thermal Property ¹⁾		Solubility ²⁾					
Functional Segment	Anchor Segment			1% Weight Loss Temp. [°C]	5% Weight Loss Temp. [°C]	MEK	EtOAc	PGM	Toluene	IPA	n-hexane
Silicone copolymer	Acrylic copolymer	White powder	60	170	190	✓	✓	✓	✓	×	×

1) Thermo-Gravimetric Analysis, Rate of temperature rise: 10°C/min., Under N₂ atmosphere
 2) ✓: Soluble, ×: Insoluble, MEK: Methyl Ethyl Ketone, EtOAc: Ethyl Acetate, PGM: Propylene Glycol Monomethyl Ether, IPA: Isopropyl Alcohol

3 Control of the peeling force with MODIPER[®] FS700

MODIPER[®] FS700 can reduce the peeling force of release film when MODIPER[®] FS700 is added into release coating on the film. In addition, MODIPER[®] FS700 doesn't affect the counter adhesive layer, because the acrylic segment has good compatibility with release coating. Therefore, MODIPER[®] FS700 can keep this property even after using the release film repeatedly.

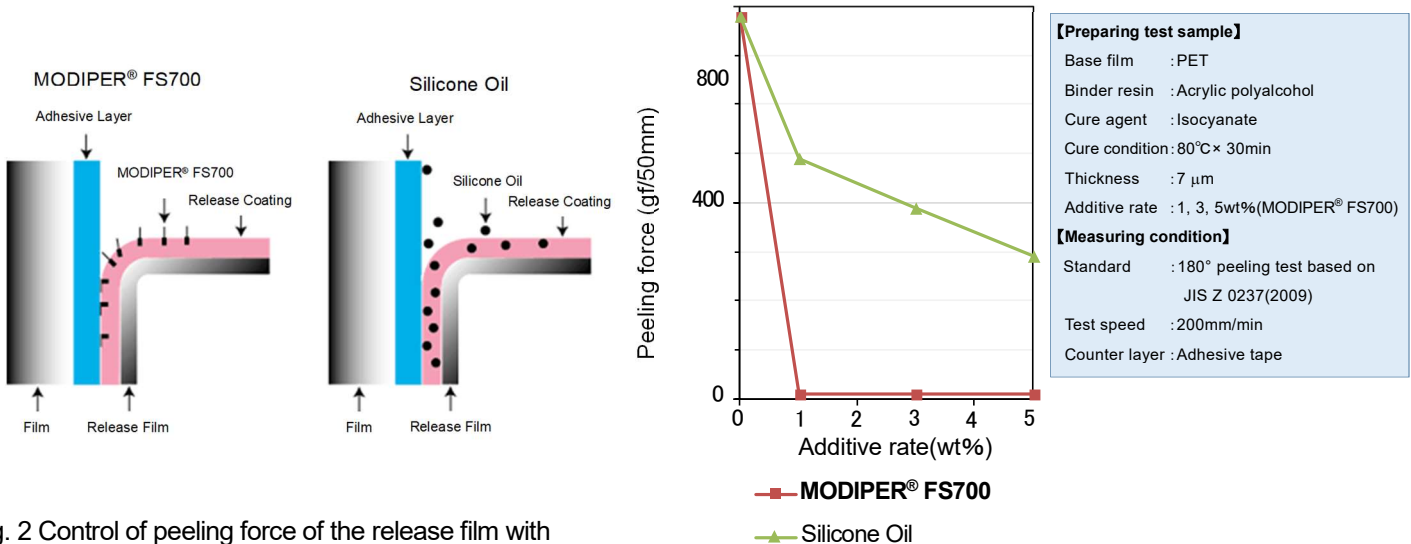


Fig. 2 Control of peeling force of the release film with MODIPER[®] FS700

Fig. 3 Peeling test of release film

4 Anti-Blocking Property of MODIPER® FS700

MODIPER® FS700 can prevent adhesion of film when MODIPER® FS700 is added into release coating on the film.

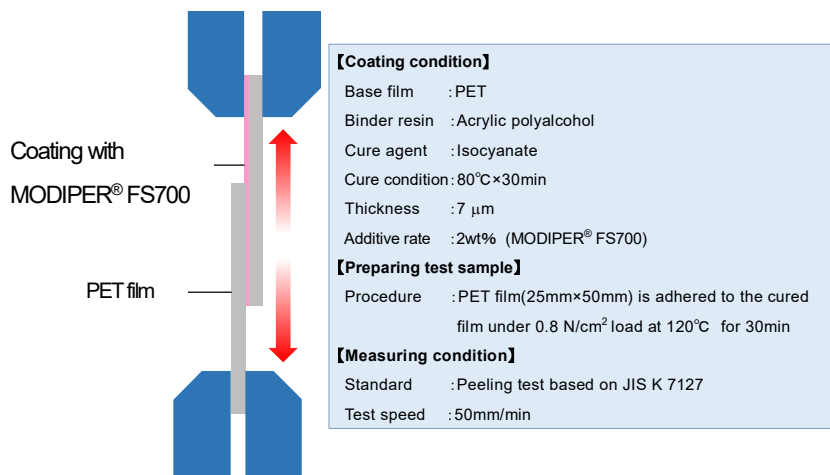


Fig. 4 Peeling test method

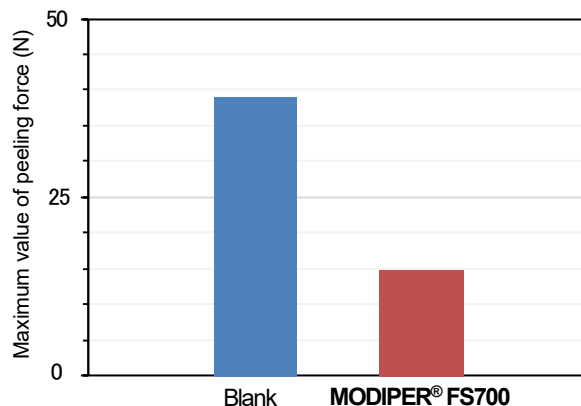


Fig. 5 Peeling test

5 Application of MODIPER® FS700

MODIPER® FS700 can control peeling force of an adhesive tape and prevent blocking problem of film roll*. In addition, when MODIPER® FS700 is added into printing ink, MODIPER® FS700 can improve printing productivity, because MODIPER® FS700 can prevent adhesion problem of the ink with printing roll.

(* When the coating film is wound to roll style, the roll is stuck, because the coated surface which has stickiness adheres to the back surface of the roll.)

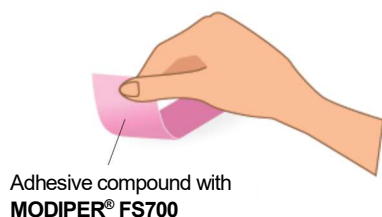


Fig. 6 Adhesive tape
(Control of peeling force)

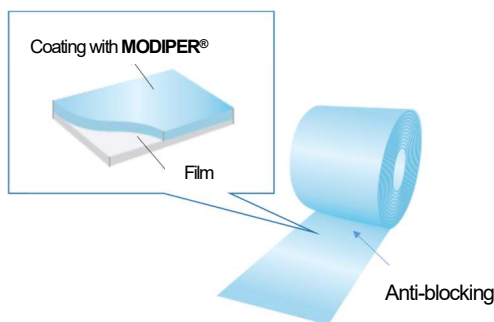


Fig. 7 Coating for film
(Anti-blocking property on film roll)

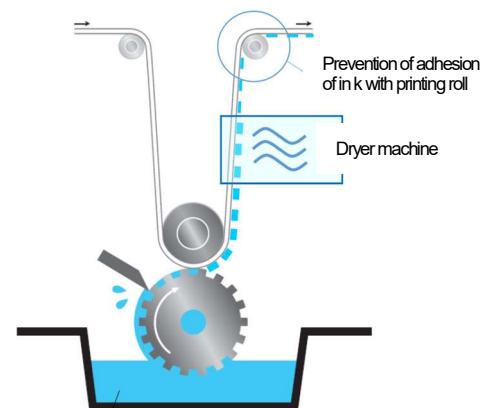


Fig. 8 Printing ink
(Prevention of adhesion of ink with printing roll)

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