



PRESSURE SENSITIVE ACRYLIC RUBBER

TOA ACRON PS and XF Series

Toa Resin Corporation limited

Using polyacrylic resin for pressure sensitive adhesive has advantages of excellent weather durability, good heat and aging resistance. On the other hand, its demerits are having cold flow phenomena and lack of holding power.

Toa Acron PS and XF series are composed by acrylic monomers and polymerized to become solid form. It has rubber like properties, so also called acrylic rubber.

Features

TOA Acron PS and XF have many fortes better than others general acrylic resin.

1. High dense polymerization, good adhesion and holding power.
2. Excellent heat resistance, aging resistance and weather durability.
3. No stink smell when dissolving in different kinds of solvents.
4. It can be applied on many kinds of substrates surface.
5. Small cold flow and be able to react with crosslinker to form 3 dimensional structures.
6. Transparent and colorless film.
7. No need to pre-process kneader before use.

Category

Toa Acron PS and XF are spongy-like rubber. There are few kinds of resins below based on different molecular weights.

Products	Composition	Solid contents	Viscosity at 20°C
PS-200	Acrylic Rubber	100%	15% in toluene solution 1,500 cps
PS-210	Acrylic Rubber	100%	10,000 cps
PS-220	Acrylic Rubber	100%	15,000 cps
PS-250	Acrylic Rubber	100%	120,000 cps
XF-3388	Special AC Rubber	100%	40,000 cps
XF-3771	Special AC Rubber	100%	-
XF-1399	Special AC Rubber	100%	15,000 cps
XF-1834	Special AC Rubber	100%	-

■ Viscosity of solution also indicate the size of MW in order.

Usage

Dissolvability to organic solvents

Aromatics		Ketones	
Benzene	OK	Acetone	OK
Toluene	OK	MEK	OK
Xylene	OK	MIBK	OK
Aliphatics	No Good	Mixtures	
Alcohol		Toluene / Iso-propanol	OK
Methanol	No Good	Toluene / Ethyl Acetate	OK
Ethanol	No Good	Others	
Iso-propanol	No Good	Trichloroethylene	OK
Buthanol	No Good	D M F	OK
Esters		Cellosolve	OK
Methyl Acetate	OK	H ₂ O	No Good
Ethyl Acetate	OK		
Buthyl Acetate	OK		

OK means dissolvable / No Good means not dissolvable

The usage of Toa Acron PS and XF adhesive

Usage	Substrates
Protective Tape	Plastic Film
Packing Tape	Cellophane
Adhesive Tape	Paper and Cloth
Masking Tape	Metals
Insulation, Noise Control, baffling Tape	Foam materials
Others	Others

Major crosslinkers and adding parts

crosslinker	Amount
Isocyanate	3-10% of solid weights
Butyl Melamine	3-10% of solid weights

In order to have satisfied effects, please select and mix various kinds of Toa Acron to formulate your desired adhesive. Using special acrylic tackifier is able to co-bond larger PS molecules and smaller molecules to get excellent outcome.

Basically, using PS-210 and PS-220 as major body of recipe and adjusting amount of PS-250 can get proper cohesion. The reason of adding acrylic tackifier is to increase the tack force. Moreover, composing XF resin ratio in the formulation, a preferable adhesion can be achieved.

For protective tape application, using Toa Acron PS, and XF rubber can achieve required effects.

For packing and adhesive tape application, adjusting tackifiers' amounts to have certain proper adhesion is a necessary task.

Properties of TOA ACRON PS and XF

Product	100% Modulus (kg/cm ²)	Tensile strength (kg/cm ²)	Elongation (%)	Tg (°C)	Remark
PS-190M	4.5	60	700	-32	
PS-200	4.3	63	680	-30	
PS-210	5.1	58	730	-43	
PS-220	5.9	66	650	-43	
PS-250	7.1	75	590	-43	
XF-3388	4.0	45	650	-45	
XF-3771	7.5	78	500	-18	
XF-1399	27.0	85	460	+20	
XF-4224M	6.5	68	600	-28	

Specification of TOA ACRON PS and XF

Product	Solution (%)	Solvent	Viscosity at 20°C (cps)
PS-190M	30%	Toluene	58,000±10,000
PS-200	26.5%	Toluene	30,000±5,000
PS-210	18%	Toluene	24,000±5,000
PS-220	18%	Toluene	40,000±8,000
PS-250	9%	Toluene	15,000±3,000
XF-3388	15%	Toluene	40,000±10,000
XF-3771	30%	Toluene	40,000±8,000
XF-1399	28%	Toluene	40,000±8,000
XF-4224M	30%	Toluene	40,000±6,000