



# ***SYNTHETIC ACRYLIC RESIN FOR FABRIC COATING*** ***TOA ACRON SA-410***

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## **(1)Introduction**

TOA ACRON SA-410, which is synthetic acrylic resin with very high conversion, is newly developed by TOA company. Cloth coated with TOA ACRON SA-410 can produce higher water pressure resistance. Because of introducing special functional group in SA-410, it is best-suited for fabric coating and enhances the features of any fabric.

## **(2)Features of TOA ACRON SA-410**

- (A) Since introducing reactive sites into TOA ACRON SA-410, it provides a distinguished film and improved water pressure resistance and solvent resistance.
- (B) It has splendid adhesion to nylon or polyester fabric as compared with ordinary type acrylic elastomer.
- (C) Dissolved TOA ACRON SA-410 produces excellent consistency that is best-suited for coating system and enhances working efficiency.
- (D) Such cloth coated with TOA ACRON SA-410 has no stickiness, and is hardly subjected to change in feeling by touch. Its resistance to weather is very satisfactory too.

## **(3)Form of TOA ACRON SA-410**

- Appearance: white or light yellow sponge like
- Purity: above 99.5%
- Viscosity: 30.0% toluene solution (20°C) = 58,000±10,000 cps  
(R.V.F. type viscometer)

#### (4) Usage of TOA ACRON SA-410

##### (A) Formulating solution:

- (a) It usually uses toluene or ethyl acetate as solvent for formulating solution.
- (b) Heating makes dissolving fast, but should avoid temperature above 60°C.

##### (B) Examples of coating processes:

###### (a) Recipe for coating solution:

###### (i) Solution:

SA-410	29 parts
Toluene	71.0 parts
Total	100 parts

Dissolve SA-410 thoroughly and cool down the temperature if with any heating.  
Viscosity: 30,000 ~ 50,000 cps/20°C

###### (ii) Solution for coating:

Solution above	100 parts
Crosslinking agent	2 ~ 3 parts
Toluene	within measure

It should be diluted by toluene, add crosslinking agent isocyanate (NCO%=7.5%) into it.

(b) Fabric: Nylon Taffeta (75d, #210)

(c) Coating method: Knife coat

(d) Coating quantity: 7.5 g/m<sup>2</sup>

(e) Processing method: After coating, drying 1 min by 80°C ~ 130°C gradual temperature. Wait at least 12 hrs for further or other processes, for example, dipping process.

###### (f) Result of physical property testing:

Water proofing pressure test	
Normal condition	1,150 mmH <sub>2</sub> O
Washing three times	1,000 mmH <sub>2</sub> O
Dry cleaning	1,050 mmH <sub>2</sub> O
Adhesion to fabric	excellent
Touch feeling	excellent

##### (C) Film Properties of SA-410:

Tensile resistance strength	58 Kg/cm <sup>2</sup>
Elongation percent	730%
Brittle point at low temperature	-35°C
Swelling percent in solvent	350%

Gehmon freezing point  
Swell in trichloroethylene