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TAMANOL 500 Series Resin for Chloroprene Cement

20020402

1. Introduction

TAMANOL 500 series resins are 100% Alkyl Phenolic resin, especially prepared for use in Chloroprene rubber base adhesives.

Chloroprene rubber has an excellent weathering, oil and chemical resistance. However, it is necessary, in practice, to make use of a modifying agent to improve the properties of Chloroprene rubber adhesive, such as tackiness retention time, phasing stability, heat resistance and adhesion strength.

TAMANOL 500 series resins have excellent compatibility with Chloroprene rubber and therefore it is indispensable modifying agent for Chloroprene rubber for manufacturing adhesive to meet specific purpose.

2. Typical Properties

Grade	Color (Gardner, 50%Toluene)	SP (R&B, °C)	Tolerance (cc/g)		Reactivity (MgO, %)
			Methanol	n-Hexane	
520S	1	120	3.1	>25	6.2
521	1	105	6.0	>25	5.5
526	1	120	3.1	8.7	6.5
581	1	100	9.4	8.6	7.0
586	1	122	2.7	>25	6.8

3. Test results

a) Formulation

	Ingredient	Parts by weight
Part A	Neoprene AC	100
	MgO	4
	ZnO	5
Part B	TAMANOL Resin	50
	Toluene	150
	MgO	5
	Water	0.5
Part C	Solvent (Toluene/n-Hexane/Ethyl Acetate=2/1/1)	342

b) Preparation

- I) Pre-mix ingredients of Part A with milling roll and dissolved by Part C
- II) Put TAMANOL resin into the kettle and add toluene. After TAMANOL completely dissolved, add MgO and water and keep stirred for 5 hours.
- III) Add prepared Part A/C solution to reacted TAMANOL solution (Part B) and mix for 5 hours

c) Test results

Remarks:

Grade	Adhesive Properties						Characteristic
	Phasing Resistance	Tack Retention	Heat Resistance	Adhesion Strength			
				1 day	2 day	3 day	
520S	Fair	510	90	5.5	12.8	14.8	High heat resistance
521	Good	720	80	4.0	8.7	13.5	Long tack retention
526	Good	615	84	4.8	11.6	14.8	General purpose
581	Fair	645	84	4.6	11.4	14.5	General purpose
586	Good	585	92	5.6	12.0	15.0	High heat resistance

- 1) Phasing Resistance: Visual observation after one month.
- 2) Tack Retention: Time (sec) until loss of tackiness.
- 3) Heat Resistance
Temperature (°C) at fall
Steel to Vulcanized rubber, Open time 10 min, Aged 3 days,
Heating speed 2°C/5 min, Load 500g
ASTM-D-816-55
- 4) Adhesion Strength
Kg/25mm, Steel to Canvas, 180° peel, 200 mm/min, 20°C

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