PLASTICIZER COMPARISON
IN VINREZ 202A

PRESENTED BY:

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DSW 587101

STLCOPCB4092436

VISCOSITY STABILITY EVALUATION

Plasticizer, 10%	0.5 Hr.	1 Day	7 Days	14 Days
Santicizer® 160	2300	2500	2550	2450
Benzoflex 9-88	2500	2550	2600	2550
Benzoflex 50	2400	2500	2650	2550
DBP	2450	2600	2650	2600

Viscosity is measured in centipoise units.

Initial Viscosity of Vinrez 202A = 1650 cps.

- The initial viscosities (0.5 phr) for all plasticizers tested are within 100 to 200 centipoise, which is probably not significant from a statistical point of view.

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WET TACK AND OPEN TIME RESULTS

	Wet Tack (sec)				Open Time (sec)			
	1	2	3	Average	1	2	3	Average
Santicizer® 160	18	16	17	17	60	75	75	70
Benzoflex 9-88	16	17	15	16	75	75	75	75
Benzoflex 50	18	17	19	18	75	75	75	75
DBP	19	19	18	19	90	105	90	93

- The wet tack time of Santicizer 160 containing adhesive is essentially equivalent to the Benzoflexes, while DBP developed a slightly higher result.

- Santicizer 160 containing adhesive achieved the shortest open time.

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SUMMARY

1. The initial viscosity (0.5 hr.) increase of the plasticizers tested are very similar.

2. The wet tack time of adhesive containing Santicizer® 160 is essentially equivalent to the Benzoflexes, while DBP developed a slightly longer result.

3. Santicizer 160 containing adhesive achieved a shorter open time.

DSW 587104

STLCOPCB4092439

PLASTICIZER COMPARISON
IN POLYCO 571

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STLCOPCB4092440

FORMULATION TESTED AND TESTS USED FOR EVALUATION

Ingredients	Concentration, %
Polyco 571	89.9
Plasticizer	10.0
Colloid 770	0.1

Plasticizers Evaluated

1. Santicizer® 160
2. Benzoflex 9-88
3. Benzoflex 50
4. DBP

Tests:

1. Viscosity and viscosity stability,

   a.) Viscometer - Brookfield, Model HAT,
   b.) Spindle - #3 run at 12 rpm,
   c.) Adhesive stored and tested in CTH room.

2. Wet Tack - A 0.004" thick film of adhesive is drawn down on Kraft paper. Another piece of Kraft paper is placed on the wet film and an 8.8 lb. roller is passed over the composite three times. The two pieces of paper are slowly torn apart until 100% fiber pick is noted at which time, wet tack time is designated.

3. Open Time - A 0.003" thick film of adhesive is drawn down on Kraft paper. The wet film is then covered with strips of Kraft paper at 15 second intervals until a strip fails to bond. The strip that bonded before total bond failure is designated as open time of that adhesive.

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VISCOSITY STABILITY OF PLASTICIZED POLYCO 571

	0.5 Hr.	1 Day		7 Days	14 Days	
Santicizer® 160	1500	1700	13.3	1850	1800	20.0
Benzoflex 9-88	1550	1800	16.1	1950	1900	22.6
Benzoflex 50	1500	1700	13.3	1800	1800	20.0
DBP	1500	1750	16.7	1850	1850	23.3

Viscosities are reported in centipoise units.

Polyco 571 initial viscosity = 1300 cps

- Santicizer 160 built initial viscosity (0.5 hr.) equal to that of the competitive plasticizers.

- Viscosity stability from 0.5 hr. to 1 day is approximately the same for all plasticizers tested with Santicizer 160 and Benzoflex 50 exhibiting the lowest viscosity increase.

S-160 +200
B 9-88 +250
B 50 +200
DBP +250

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WET TACK AND

OPEN TIME RESULTS

	Wet Tack (sec.)				Open Time (sec.)			
Plasticizer, 10%	1	2	3	Average	1	2	3	Average
Santicizer® 160	21	20	19	20	75	75	75	75
Benzoflex 9-88	19	17	17	18	90	75	75	80
Benzoflex 50	20	17	18	18	90	90	75	85
DBP	21	22	20	21	105	120	105	110

- While Santicizer 160 has a slightly longer wet tack time than the Benzoflexes, its open time is somewhat shorter.

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SUMMARY

1. Initial viscosity build is essentially the same for all plasticizers tested.

2. The viscosity stability of Santicizer® 160 containing adhesive is as good as that achieved by the competitive plasticizers.

3. Santicizer 160 achieved a wet tack time slightly longer than the Benzoflexes, while its open time is somewhat shorter.

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