

Fabrics	Plastic liq. & the condition of application				Degree of Recovery from of the Treated				Creasing of the Untrated		The increased Amt. of Recov.	
					warp		weft		warp	weft	warp	waft
	liq.	dip	cure	min	Angle	(%)	Angle	(%)	(%)	(%)	(%)	()
Spun Rayon Serge a	(A ₂) 1/2.5	1.5	5		139	77.4	139.5	77.6	61.7	55.5	15.7	22.1
“ “	“ 1/3	2	6 1/4		133.5	74.2	135	75.0	“	“	12.5	19.5
“ “	“ “	4	6 1/4		132	73.4	131.5	73.1	“	“	11.9	17.6
Spun Rayon Mousseline	(A ₂) 1/3	2	6 1/4		148	82.2	152.5	84.0	56.0	61.0	26.2	23.8
“	“ “	4	6 1/4		145	80.6	153.0	85.0	“	“	24.6	24.0
Rayon Crape	“ 50'	3	3		136	75.5	127.5	84.0	39.5	40.0	36.0	30.9
Benberg Crape	“ “	4	7		149	82.0	123.0	68.4	71.1	60.0	11.7	8.4
Cotton Broad Cloth	“ “	2	6 1/4		94.5	52.3	96.0	54.0	37.0	40.0	15.0	14.0

the following data as tested by the improved Shirley Institute Method.

These results actually surpass those which as hitherto been usually obtained, and this the author deem to have originated from the fact that the proportion of the plastics, both thermosetting and thermoplastic in nature were distributed and set in and out of the fiber itself, the former mostly in the core.

32. On the Continuous Method of Preparation of Viscose. (I)

On the Continuous Mercerisation

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It was found that the following method was effective for the preparation of slurry of alkali-cellulose in the course of the continuous process of manufacturing the alkali-cellulose by means of the screw press.

A cylindrical space has a rotating shaft equipped with a number of bars as in a stirrer, into which the pulp is charged from one side with a definite proportion of alkali liquor. While these two are moved forward a slurry is prepared together with a proper condition for an effective mercerization, and these are transported directly to the screw press. Those number of bars afford a best efficiency when they

are inbeded to the shaft so as to form a screw line when radially connected from one to the next.

33. On the Possibilities of the Attainment to Azeotropic Conditions in the Copolymerization of Vinylacetate and Acrylonitrile

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As already known in two-components systems, the azeotropic conditions are attained following cases ;

$$\frac{r_1 M_1 + M_2}{M_1 + r_2 M_2} = 1$$

at the equation of the composition ;

$$\frac{dM_1}{dM_2} = \frac{M_1}{M_2} \cdot \frac{r_1 M_1 + M_2}{M_1 + r_2 M_2}$$

in which M_1 and M_2 represent the concentration of comonomers, r_1 and r_2 the monomer reactivity ratios respectively.

In this paper, we considered on the case of three-components and, finally found that the azeotropess in respect of M_1 and M_2 should be attained at the following conditions ;

$$\frac{\left(r_1 + \frac{M_2}{M_1} + C_1 r_1 \frac{M_3}{M_1}\right) \left(2 + C_2 r_2 \frac{M_3}{M_1}\right)}{\left(C_1 + r_2 \frac{M_2}{M_1} + C_2 r_2 \frac{M_3}{M_1}\right) \left(2 + C_1 r_1 \frac{M_3}{M_2}\right)} =$$

in which $r_1 = k_{11}/k_{12}$, $C_1 = k_{13}/k_{11}$ and $C_2 = k_{23}/k_{22}$. Putting $M_3/M_1 = x$ and $M_2/M_1 = K$, then ;

$$(r_1 + K + C_1 r_1 x)(2 + C_2 r_2 x) = (1 + r_2 K + C_2 x) \left(2 + C_1 r_1 \frac{K}{x}\right)$$

From above equation, we will obtain x at giving C_1 , C_2 , r_1 , and r_2 , and also K .

At the copolymerisation of vinylacetate and acrylonitrile with using diethylfumarate or trichloroethylene as the third components, x was obtained as a larger value than unity. Therefore the azeotrope was found to be practically impossible to attain by these directions.