# INDUSTRY WAGE SURVEY

# SYNTHETIC FIBERS

FEBRUARY—APRIL 1966

Bulletin No. 1540

UNITED STATES DEPARTMENT OF LABOR
W. Willard Wirtz, Secretary

BUREAU OF LABOR STATISTICS
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#### Preface

This bulletin summarizes the results of a Bureau of Labor Statistics survey of wages and supplementary benefits in the synthetic fibers manufacturing industries in February—April 1966.

This study was conducted in the Bureau's Division of Occupational Pay, Toivo P. Kanninen, Chief, under the general direction of L. R. Linsenmayer, Assistant Commissioner, Office of Wages and Industrial Relations. The analysis was prepared by Joseph C. Bush, under the immediate supervision of L. Earl Lewis. Field work for the survey was directed by the Assistant Regional Directors for Wages and Industrial Relations.

Other reports available from the Bureau's program of industry wage studies, as well as the addresses of the Bureau's six regional offices, are listed at the end of this bulletin.

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# Synthetic Fibers, February-April 1966

#### Summary

Straight-time hourly earnings of production and related workers in plants manufacturing synthetic fibers averaged \$2.45 in February-April 1966, according to a survey conducted by the Bureau of Labor Statistics. Virtually all of the 62,407 workers covered by the survey had hourly earnings between \$1.50 and \$3.50, with earnings of the middle half ranging from \$2.14 to \$2.69. Men, accounting for seven-tenths of the workers, averaged \$2.53 an hour, compared with \$2.27 for women. The employment of women was largely confined to the finishing, inspection, and testing jobs.

Nearly three-fifths of these workers were in plants producing noncellulosic fibers; they averaged \$2.58 an hour, compared with \$2.27 for the workers in plants producing cellulosic fibers.

Among the occupations studied separately, highest averages in both types of plants were recorded for skilled maintenance jobs. The nationwide averages for these jobs ranged between \$2.64 and \$2.76 an hour in cellulosic plants, and they were well above \$3 an hour in noncellulosic plants.

Paid holidays and vacations were provided by all establishments. Formal provisions for various types of health, insurance, and pension plans also were available to a very large majority of the production and office workers.

#### Industry Characteristics

The survey covered establishments engaged in the production of the two principal types of manmade fibers suitable for further manufacturing on textile processing equipment; cellulosic fibers (rayon and acetate) and other synthetic organic fibers, except glass (e.g., nylon, acrylics, and polyesters). Although there were a few exceptions, the large majority of the 42 establishments within the scope of the survey limited their production to one of these two major types of fibers.

Employment. Establishments engaged primarily in the production of noncellulosic fibers employed 35,695 production and related workers at the time of the survey, compared with 26,712 workers employed in plants producing cellulosic fibers. This represents a shift in the relative employments of the two branches of the industry since October 1958, the date of the Bureau's previous survey, when cellulosic fiber plants accounted for seven-tenths of the 46,471 workers then employed. Since the earlier survey, production-worker employment in noncellulosic fiber plants had increased 157 percent, while there was a decline of 18 percent in the cellulosic fibers branch. During this period, the number of noncellulosic fiber plants increased from 10 to 24, whereas the number of cellulosic fiber plants declined from 25 to 18. The national production of noncellulosic fibers increased from 491 million pounds in 1958 to 1,777 million pounds in 1965, while that of cellulosic fibers increased from 1,014 to 1,527 million pounds.

<sup>&</sup>lt;sup>1</sup> See appendix A for scope and method of survey. Wage data in this bulletin exclude premium pay for overtime and for work on weekends, holidays, and late shifts.

<sup>&</sup>lt;sup>2</sup> For results of the earlier survey, see <u>Wage Structure: Synthetic Fibers</u> (October 1958, BLS Report 143).

Source: <u>Textile Organon</u>, November 1959 and August 1966 Textile Economics Bureau, Inc.

Men accounted for three-fourths of the production workers in the cellulosic fibers branch and for slightly more than two-thirds of those in the noncellulosic fibers branch. Employment of women in both branches was largely confined to the finishing departments and to inspection and testing jobs.

Location and Ownership. All noncellulosic fibers plants were located in the South, which also accounted for slightly more than three-fourths of the production-worker employment in cellulosic fibers plants. South Carolina, Tennessee, and Virginia accounted for a large part of the noncellulosic employment. Cellulosic fibers plants, however, were more widely located, in Massachusetts, New York, Pennsylvania, Ohio, and in eight southern States. Establishments comprised of three companies accounted for approximately three-fourths of the production workers in the cellulosic fibers branch, while those of one company accounted for slightly more than one-half of the employment in the noncellulosic fibers branch.

<u>Products and Processes</u>. Approximately seven-tenths of the production workers in both branches of the industry were in establishments primarily engaged in the manufacture of multifilament yarn; most of the remaining workers were in plants primarily producing staple. Nearly two-thirds of the workers in the noncellulosic branch were in plants producing nylon fibers, while approximately the same proportion of workers in the cellulosic branch were in plants manufacturing rayon.

Production methods or processes of the various manmade fibers have much in common. Described broadly, three basic processes are involved: (1) The chemical preparation of the spinning solution; (2) the transformation of the spinning solution into solidified filaments; and (3) the finishing or textile operations which place the product in the form in which it is sold. In actual practice, however, the mechanics of these operations may be quite different, accounting in large part for variations in the occupational and wage structures of the individual establishments. These differences are described briefly in the following paragraphs.

Processes in the preparation of the spinning solution vary according to the type of fibers produced. Rayon and acetate both owe their origin to cellulose—a fibrous substance usually derived from wood pulp or cotton linters. The noncellulosic fibers, on the other hand, use chemical compounds as the raw material. Accordingly, the preparation of the spinning solution for the noncellulosics is accomplished largely through mechanical means, whereas a greater amount of manual handling is required for the cellulosics. The chemical department of a noncellulosic fiber manufacturer requires a vast amount of equipment, but comparatively few employees.

Conversion of the spinning solution into solid filaments is accomplished by one of two means. Under the wet-process method, the spinning solution is forced through the tiny holes of the spinneret into an acid bath which coagulates the fine streams of solution. The dry-process method uses warm air instead of acid to solidify the filaments. When the wet-process method is used, the filaments must be washed free from the acid and then dried; the dry-process method makes these steps unnecessary. Rayon (viscose) uses the wet-process method, whereas acetate and most noncellulosic fibers use the dry process.

For the definition of South as used in the survey, see footnote 3 to the table in appendix A.

The finishing (textile) operations depend upon the form in which the product is to be sold. Continuous filament yarn is twisted and wound on bobbins for shipment. Tow, on the other hand, is a ropelike strand of untwisted filaments which is packaged in bulk and does not require winding. Staple (tow cut to specified lengths) is handled in much the same manner as tow, with the exception of the added operations of crimping and cutting.

Method of Wage Payment. Nearly all of the workers in noncellulosic fibers plants and seven-eighths of those in plants primarily producing cellulosic fibers were paid on a time-rate basis. Formal systems providing single rates for individual occupations were most common in noncellulosic plants, whereas rate-range plans were common in cellulosic plants. Incentive wage systems, reported by 12 cellulosic plants and 3 noncellulosic plants, usually covered workers in the finishing departments.

Labor Unions. At the time of the survey, all of the cellulosic plants had collective bargaining agreements, covering a majority of their production workers. About 55 percent of the workers in noncellulosic plants were covered by such agreements. The major unions in the cellulosic fibers branch of the industry were the Textile Workers Union of America and the United Textile Workers of America. Single firm independent unions were found in several of the larger noncellulosic plants.

#### Average Hourly Earnings

Straight-time earnings of the 62,407 production and related workers in plants manufacturing synthetic fibers averaged \$2.45 an hour in February—April 1966. Workers in the noncellulosic branch averaged \$2.58 an hour, compared with \$2.27 for workers in plants primarily producing cellulosic fibers. Average earnings of workers in both branches had increased slightly more than 20 percent since October 1958, the date of the earlier survey.

Slightly more than three-fourths of the workers in the cellulosic branch were in the South. The average hourly earnings for these workers (\$2.26) was only 1 cent below the national average for cellulosic establishments. All of the noncellulosic plants were in the South.

Men, as a group, averaged 33 cents an hour more than women in the noncellulosic branch, and 21 cents more in cellulosic fibers plants. Differences in average pay levels for men and women may be the result of several factors, including variations in the distribution of the sexes among establishments and among jobs with divergent pay levels. As indicated previously, the employment of women in both branches was largely confined to the finishing departments and to inspection and testing jobs.

<sup>&</sup>lt;sup>5</sup> The straight-time average hourly earnings (excluding premium pay for overtime and for work on weekends, holidays, and late shifts) presented in this bulletin are not comparable with gross average hourly earnings published in the Bureau's monthly hours and earnings series (\$2.68 in February 1966). In this bulletin, average earnings were calculated by summing individual hourly earnings and dividing by the number of individuals; in the monthly series, the sum of man-hour totals reported by the establishments in the industry was divided into the reported payroll totals.

The number of production and related workers within scope of the survey differs from the number published in the monthly series (72.6 thousand in February 1966) primarily because of differences in the industrial classification of certain large units.

Virtually all of the workers had hourly earnings between \$1.50 and \$3.50 (table 2), with earnings of the middle half ranging from \$2.14 to \$2.69. Individual earnings were somewhat more concentrated in the cellulosic branch than in the noncellulosic branch (see tables 3 and 4). Nearly two-thirds of the cellulosic workers earned between \$2 and \$2.50 an hour. On the other hand, the largest concentration of noncellulosic workers in any 50-cent wage interval was slightly more than two-fifths for those earning between \$2.20 and \$2.70 an hour. Contributing to the dispersion of individual earnings were such factors as differences in establishment pay levels and the wide range of skill requirements.

#### Occupational Earnings

Occupational classifications for which earnings data are presented in tables 5 and 7 accounted for approximately seven-tenths of the production and related workers in both industry branches. Average hourly earnings of the seven skilled maintenance jobs were closely grouped and were the highest paid among the jobs studied separately in each branch, ranging between \$3.18 and \$3.37 an hour in noncellulosic plants and between \$2.64 and \$2.76 in cellulosic fibers plants. Janitors, averaging \$1.96 an hour, were the lowest paid workers in cellulosic fibers plants, while material handling laborers (\$2.04) were the lowest paid in noncellulosic plants.

Average hourly earnings of workers in the same occupational classification were nearly always higher in the noncellulosic branch than in the cellulosic branch of the industry. These differences ranged from only a few cents an hour, as in the case of forklift truck operators, to more than 47 cents an hour for each of the skilled maintenance jobs. This difference in occupational wage relationships is illustrated in the following tabulation which expresses averages for a few selected jobs as a percent of the averages for men janitors, which were \$2.08 in noncellulosic plants and \$1.96 in cellulosic plants.

_	Plants primarily n	nanufacturing—
Occupation	Noncellulosic fibers	Cellulosic fibers
Janitors (men)	100	100
Physical test operators		
(women)	113	103
Warper operators (women)	115	117
Laboratory assistants (men)	129	112
Spinners, dry process (men)	132	123
Chemical operators (men)	140	118
Electricians (men)	160	137

Thus, electricians averaged 37 percent more than janitors in the cellulosic fibers branch, but 60 percent more in the noncellulosic fibers branch.

Earnings of individual workers varied greatly within the same job in both branches of the industry. In many instances, hourly earnings of the highest paid workers exceeded those of the lowest paid in the same job by \$1 or more. Thus, some workers in a comparatively low-paid job (as measured by the average for all workers) earned more than some workers in jobs for which higher averages were recorded. For example, the following tabulation indicates a considerable overlap of individual rates for men material handling laborers and chemical operators in both industry branches.

_		sic fibers ants	Noncellul pla	osic fibers nts
Average hourly earnings	Laborers, material handling	Chemical operators	Laborers, material handling	Chemical operators
Under \$1, 70	-	_	69	1
\$1,70 and under \$1,80	_	-	44	1
\$1,80 and under \$1,90	2	5	2	2
\$1,90 and under \$2,00	109	8	138	1
\$2.00 and under \$2.10	244	292	30	2
\$2. 10 and under \$2. 20	98	467	350	12
\$2. 20 and under \$2. 30	297	467	_	139
\$2. 30 and under \$2. 40	56	732	11	90
\$2. 40 and under \$2. 50	1	273	2	49
\$2. 50 and under \$2. 60	_	243	-	17
\$2, 60 or more	3	165	-	1,506
Total number of workers	810	2,652	646	1,820
Average hourly earnings	\$2.14	\$2.31	\$2.02	\$2.92

The earnings dispersion for individual jobs reflects, in large measure, differences in establishment pay levels. As illustrated in the following tabulation for men chemical operators and women yarn winders in the cellulosic fibers plants, there was almost as much variation in plant averages as there was in individual earnings.

_	Men chemic	cal operators	Women ya	rn winders
Average hourly earnings	Number of establish- ments 1	Number of workers <sup>1</sup>	Number of establish- ments <sup>1</sup>	Number of workers <sup>1</sup>
\$1.60 and under \$1.70	-	-	-	48
\$1.70 and under \$1.80	-	-	3	534
\$1.80 and under \$1.90	_	5	-	108
\$1.90 and under \$2.00	-	8	4	216
\$2.00 and under \$2.10	1	292	2	360
\$2. 10 and under \$2. 20	6	467	1	143
\$2. 20 and under \$2. 30	3	467	2	255
\$2.30 and under \$2.40	2	732	1	51
\$2. 40 and under \$2. 50	3	273	3	50
\$2. 50 and under \$2. 60	2	243	-	101
\$2.60 and under \$2.70	1	145	-	68
\$2.70 and under \$2.80	-	12	-	31
\$2.80 and under \$2.90	-	8	-	47
\$2.90 and under \$3.00	_	-	_	14
\$3.00 and over	-	-	-	10

There is no necessary relationship between the number of establishments within an earnings classification and the number of workers in an earnings interval.

#### Establishment Practices and Supplementary Wage Provisions

Data were also obtained on certain establishment practices. These included shift differentials for production workers; work schedules and supplementary benefits, such as paid holidays and vacations; and various health, insurance, and retirement pension plans for production and office workers.

Scheduled Weekly Hours. Work schedules of 40 hours a week applied to more than nine-tenths of the full-time day-shift workers in both branches of the industry (table 8). Virtually all office workers were scheduled to work 40 hours a week.

Shift Differential Practices. A large proportion of the production workers are employed on shift work because of the continuous nature of synthetic fibers manufacturing operations. Approximately three-fifths of the workers were assigned to rotating shifts, whereby individuals periodically worked day, evening, and night schedules. Shift differentials for these workers varied considerably by establishment and schedule of work. Workers assigned to the day schedule of rotating shifts frequently were provided a paid lunch period not given to workers assigned to the fixed day shift. When assigned to evening and night schedules, workers on rotating shifts usually received a cents-per-hour or percentage differential above day rates, as well as a paid lunch period. Less than 5 percent of the workers in both branches were assigned to either oscillating shifts or fixed evening and night schedules (tables 9-11).

Paid Holidays. Paid holidays were provided to production and office workers by all establishments surveyed (table 12). The large majority of both groups of workers in the cellulosic fibers branch were in establishments providing 7 days a year. In the noncellulosic branch, approximately half of the workers received 9 days, with most of the remainder receiving 7 or 8 days.

Paid Vacations. Paid vacations, after qualifying periods of service, were also provided to production and office workers by all establishments. Vacation payments for office workers nearly always were determined on the basis of the employee's regular salary for a specified length of time. This method of payment also applied to a large majority of the production workers in noncellulosic plants; vacation payments for production workers in cellulosic plants, however, were most commonly based on a stipulated percent of the employee's earnings (table 13).

Production workers in cellulosic fibers plants usually received 1 week of vacation pay after 1 year of service, 2 weeks after 3 years, 3 weeks after 12 years, and 4 weeks after 20 years or more of service. Vacation provisions for production workers were somewhat more liberal in noncellulosic plants. For example, the majority of these workers were in plants providing 2 weeks of vacation pay after 1 year of service, 3 weeks after 5 years, 4 weeks after 10 years, and 5 weeks after 20 years. In the cellulosic fibers branch, vacation provisions were more liberal for office workers than for production workers. In the noncellulosic fibers branch, however, vacation provisions were generally similar for both groups of workers.

Health, Insurance, and Pension Plans. Life, hospitalization, medical, and surgical insurance, financed at least in part by employers, were reported by establishments employing over nine-tenths of the production and office workers (table 14). Sickness and accident insurance also was available to the large majority of the production workers. Although only about one-half of the office workers were provided sickness and accident insurance, nearly nine-tenths were in establishments granting paid sick leave (full pay and no waiting period), whereas the latter benefit applied to only three-tenths of the production workers. Most commonly, health and insurance benefit plans were financed entirely by the employers. In most instances, hospitalization, surgical, and medical benefits covered both the employees and their dependents.

Retirement pension benefits (other than those available under social security) applied to virtually all plant and office workers. These plans were employer-financed for a large proportion of the workers.

Other Selected Benefits. Formal provisions for payment to employees permanently separated as a result of force reduction arising out of the introduction of new equipment or from department or unit closings were reported by establishments employing 58 percent of the production workers and 50 percent of the office workers.

Fifteen percent of the production workers, employed on a fixed day shift, and 2 percent of the office workers were in establishments providing a formal paid lunch period (30 minutes).

Table 1. Average Hourly Earnings: By Selected Characteristics

(Number and average straight-time hourly earnings <sup>1</sup> of production workers in synthetic fibers manufacturing establishments by selected characteristics, United States and South, February-April 1966)

	United	States 2	South					
Item	Number	Average	Number	Average				
	of	hourly	of	hourly				
	workers	earnings	workers	earnings				
All production workers	62,407	\$2.45	56, 368	\$2. 47				
	43,996	2.53	39, 673	2. 55				
	18,411	2.27	16, 695	2. 28				
Cellulosic fibers establishments	26,712	2. 27	20,673	2. 26				
	19,950	2. 32	15,627	2. 32				
	6,762	2. 11	.5,046	2. 10				
Noncellulosic fibers establishments 3	35,695	2.58	35,695	2. 58				
	24,046	2.69	24,046	2. 69				
	11,649	2.36	11,649	2. 36				

Excludes premium pay for overtime and for work on weekends, holidays, and late shifts.
 Includes data for regions in addition to the South.
 All noncellulosic fibers establishments were located in the South.

NOTE: Dashes indicate that data do not meet publication criteria.

Table 2. Earnings Distribution: All Establishments

(Percent distribution of production workers in synthetic fibers manufacturing establishments by average straight-time hourly earnings, <sup>1</sup> United States and South, February-April 1966)

		United States 2			South	
Average hourly earnings 1	All workers	Men	Women	All workers	Men	Women
nder \$1,50	0.2	0.2	0.1	0.2	0.3	0.1
1.50 and under \$1.60	. 5	. 4	.6	.5	.4	.6
1.60 and under \$1.70	1.1	. 2	3.2	1.0	, 2	3.1
1.70 and under \$1.80	2.1	. 8	5.2	2.2	.8	5.5
1,80 and under \$1,90	4.4	2, 1	10.0	4.0	2,3	7.9
1.90 and under \$2.00	4.1	3.9	4.4	3.7	3.7	3.7
2.00 and under \$2,10	8.7	7.0	12.7	8.8	6.9	13.3
2.10 and under \$2,20	10.1	10.8	8.5	10.4	11.0	9.0
2, 20 and under \$2, 30	8.5	9.6	5.8	7.7	8.6	5.7
2.30 and under \$2.40	13.6	12.7	15.6	13.3	12.0	16.4
2.40 and under \$2.50	7.4	8.9	4.0	6.7	7.9	3.6
2.50 and under \$2.60	2, 1	2.6	1.1	1.8	2.5	. 3
2,60 and under \$2,70	12.9	8.4	23.9	13.8	8.7	26.0
2.70 and under \$2.80	2.7	3.4	. 9	2.8	3.7	.8
2.80 and under \$2.90	4.9	6.6	. 8	4.7	6.4	.7
2.90 and under \$3.00	6.7	8.4	2.5	7.3	9.3	2.7
3.00 and under \$3.10	. 5	. 7	. 1	.5	.7	(3)
3.10 and under \$3.20	2.5	3.4	. 4	2.7	3.7	. 4
3.20 and under \$3.30	2.0	2.9	(3)	2.3	3.2	(3)
3, 30 and under \$3, 40	. 5	.6	`.1	. 5	.7	`. 1
3.40 and under \$3,50	3.5	5.0	. 1	3.9	5.5	( <sup>3</sup> )
3, 50 and over	1.0	1.4	(3)	1.1	1.5	(3)
Total	100.0	100.0	100.0	100.0	100.0	100.0
umber of workers	62,407	43,996	18,411	56, 368	39,673	16,695
verage hourly earnings 1	\$2,45	\$2.53	\$2.27	\$2.47	\$2.55	\$2,28
				1	1	

Excludes premium pay for overtime and for work on weekends, holidays, and late shifts.
 Includes data for regions in addition to the South.
 Less than 0.05 percent.

Table 3. Earnings Distribution: Cellulosic Fibers

(Percent distribution of production workers in cellulosic fibers manufacturing establishments by average straight-time hourly earnings, <sup>1</sup> United States and South, February-April 1966)

		United States	2		South	
Average hourly earnings 1	All workers	Men	Women	All workers	Men	Women
Inder \$ 1.50	. (3)	(3)	0.1	(3)	(3)	
1.50 and under \$ 1.60	1.0 3.4 5.1	0.1 .3 .6 2.7 6.1	.2 3.1 11.5 12.1 10.3	0.1 .9 4.1 4.0 7.1	0.1 .2 .7 3.3 6.1	2.9 14.4 6.0 10.0
2.00 and under \$ 2.10	15.7 13.5 14.0	11.3 15.4 13.4 16.6 12.3	14.5 16.7 13.7 6.2 2.5	13.4 18.1 12.9 13.4 8.4	12,2 17,2 11,8 15,8 10,8	17.2 21.0 16.2 5.9
2.50 and under \$ 2.60	4.2 3.5 3.6	4.5 4.7 4.3 4.5 1.5	2.7 2.8 1.0 .9	3.8 4.0 4.1 2.8 1.3	4.9 4.5 5.3 3.5 1.7	.5 2.6 .5 .6
3.00 and under \$ 3.10	.6 .7 .(3)	( <sup>3</sup> ) 1,0 ( <sup>3</sup> )	. 2 . 8 ( <sup>3</sup> ) ( <sup>3</sup> ) ( <sup>3</sup> )	(3) .6 .9 (3)	( <sup>3</sup> ) .5 1.2	(3) 1,1 (3)
3.50 and over		.1	.1	,1	.1	.1
Total	100.0	100.0	100.0	100.0	100.0	100.0
umber of workersverage hourly earnings 1	26, 712 \$ 2.27	19, 950 \$ 2.32	6, 762 \$ 2.11	20,673 \$ 2,26	15,627 \$ 2.32	5,046 \$ 2.10

Excludes premium pay for overtime and for work on weekends, holidays, and late shifts.
 Includes data for regions in addition to the South.
 Less than 0.05 percent.

Table 4. Earnings Distribution: Noncellulosic Fibers

(Percent distribution of production workers in noncellulosic fibers manufacturing establishments by average straight-time hourly earnings, <sup>1</sup> United States, <sup>2</sup> February-April 1966)

Average hourly earnings 1	All workers	Men	Women
Under \$ 1.50	0.3	0.4	0.1
\$ 1.50 and under \$ 1.60	1.1 1.1 3.9	.6 .2 .9 1.6 2.2	.9 3.2 1.6 8.7
1.90 and under \$ 2.00	6.1 5.9 4.7 13.3	3.5 7.0 6.4 9.6 6.1	1.0 11.6 3.8 1.2 21.0 4.9
\$ 2.50 and under \$ 2.60	19.5 2.0 5.8	.9 11.4 2.6 8.3 14.2	36.2 .9 .7 3.7
\$ 3.00 and under \$ 3.10	4.0 3.0 .8	1.2 5.8 4.5 1.1 9.1	(3) (3) .1 .1
\$ 3.50 and over	1.6	2,4	<u> </u>
Total	100.0	100.0	100.0
Number of workersAverage hourly earnings 1	35, 695 \$ 2,58	24,046 \$ 2.69	11,649 \$ 2,36

Excludes premium pay for overtime and for work on weekends, holidays, and late shifts.
 All noncellulosic fibers establishments were located in the South.
 Less than 0.05 percent.

Table 5. Occupational Earnings: Cellulosic Fibers-United States

(Number and average straight-time hourly earnings 1 of workers in selected occupations in cellulosic fibers manufacturing establishments, United States, February-April 1966)

	Num-	Aver-	I					Nu	mber o	f work	ers rec	eiving	straig	ht-time	hour	y ear	nings	of						
Department, occupation, and sex	ber of	age hourly			\$1.60	\$1.70	\$1.80	\$1.90	\$2.00	\$2.10	\$2.20	\$2.30	\$2.40	\$2.50	\$2.60	\$2.70	\$2.80	\$2.90	\$3.00	\$3.10	\$3.20	\$3.30	\$3.40	\$3.50
Department, occupation, and sex	work-	earn-	Under \$1.50	and under	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	and
	ers	ings	\$1.50		\$1.70	\$1.80	\$1.90	\$2.00	\$2.10	\$2.20	\$2.30	\$2.40	\$2.50	\$2.60	\$2.70	\$2.80	\$2.90	\$3.00	\$3.10	\$3.20	\$3,30	\$3.40	\$3.50	over
Maintenance																								
							1	1	1									١		1	١,			
Carpenters (all men)		\$2.69 2.69	-	-	] -	_	1 :	_	_	3	9 5	3 40	22 19	19	ì	27 73	37 100	14 21	:	:	6 14	_		-
Helpers, trades (all men)	. 391	2.18	-	-	-	9	6	43	115	_	77	128	-	1	-	12	-	-	-	-	-	-	-	-
Instrument repairmen (all men)		2.66	-	-	-	-	-	-	-	-	4	44	. 8	11		29	40	11	1 -	1	11	-	-	-
Machinists (all men)		2.71	_	_		_	1 :	l ī	5	45	6 24	24 14	10 30	19 25	5 152	60 57	66	4	-	_	10 58	_		-
Millwrights (all men)		2.71	-	-	-	_	-		-	12	5	26	99	97	-	160	255	60	-	-	-		-	-
Pipefitters (all men)	406	2,76	-	-	-	-	-	-	-	7	1	22	30	41	1	108	129	33	-	-	34	-	-	-
Processing							Ì																	
Chemical operators, cellulosic																			}	·				
fiber (all men)		2.31	-	-	4	1	185	105	292 66	467 150	467 66	732 54	273 28	243 19	145	12 8	8	3	2		2	-	1	2
Men		2.05	_	-	] ]	1	4	20	55	13	-	-		1 -	-	-	i	2	-	-	ī	_	- 1	-
Women		2, 11		-	4	ı	181	85	11	137	66	54	28	19	7	8	3	1	2	-	1	-	-	2
Jetmen		2.15	-	-	-	-	35	2	19 14	66 21	23 23	19 19	12 12	-	8	-	•		_	-	- 1	-	-	-
Women		2.02	_	_	-	_	35	2	5	45	-	1 -	-	_	- 1	-	-	-	-	_	-	-	-	-
Spinners, dry process	1,403	2.40	-	-	-	-	-	-	-	9	122	578	633	-	61	-	-	-	-	-	-	-	-	-
MenSpinners, wet process (all men)	1,091	2.41		-	]	4	1	-	32	833	53 497	335 833	633 183	_	61 48	- '	-	- 1	1		-	-	-	-
Throwers (twisters)	1,406	2.09	_	-	17	100	59	247	208	370	355	33	16	1	-	-	_	-	_	[	-	_	1	-
Women	1,115	2.12	'	-	17	100	58	39	199	301	351	33	16	1	-	-	-	- 1	-	-	-	-	- [	-
Tow operators (all men)	266 744	2.34		-	_	_	48	136	43	21 174	8 102	195	40 35	14	78	9	3		4	89				
Men		2.56		-		-	-	29	-	10		- 1	- 1	-	-	-	-	] -	-	34	-	-	-}	-
Women	671	2.30	-	-	-	-	48	107	43	164	102	9	35	14	78	9	3	-	4	55	- '	-	-1	-
Washer operators (527 men and 10 women)	537	2.17	_	_	_	_	1	27	151	121	201	10	16	5	5	_	_	_	١.	ا ـ ا	_	-	-	_
Winders, yarn	2, 147	2.08	-	-	48	534	118	235	441	144	255	51	50	101	68	31	47	14	3	1	-	1	1	4
Men	- 111	2.01	-	-	-	53 <b>4</b>	10	19	81	1	255	- 51	- 50	101	- 68	31	47	- 14	3	1	-	1		-
Women	2,036	2.09	-	-	48	534	108	216	360	143	255	31	30	101	0.6	31	47	17	3	1	_	1	1	4
Inspection and testing Laboratory assistants	174	2, 25	<b>i</b> i			5	16	15	4	62	20	16	13	2	3	4	6	3	1	,				,
Men		2.20		-		. 5	16	14	3	61	14	11	9	2	3	2	5	-	i	i	-	_		2
Women	2.5	2.50	-	-	- ]	-	-	1	1	ì	6	5	4	-	-	2	1	3	-	-	-	-		1
Physical test operators		2.04	-	-	23	11	10	61 7	39 6	73 2	29 2	7	11	-	-	-	•	- '	-	-	-	-	-	-
Men Women		2.19	-	-	23	11	9	54	33	71	27	5 2	2	[ ]		-	-	_	-	-	-	_	- 1	-
Miscellaneous				i																				
Guards (all men)	75	2.19	- :	_	_	_	7	14	12	8	6	10	7	9	1	1	-	-	_	-	_	-		-
Janitors		1.96	7	-	-	-	213	94	77	57	51	4	5 5	-	-	-	-	-	-	-	-	-		4
Men		1.96	7	-	[	_	199	89 5	52 25	57	51	4	5		- [	-	- 1	_	_	_		-	- 1	-
Laborers, material handling	874	2.14	-	- :	-	-	2	109	244	162	297	56	1	-	- ]	3	-	-	-		-	-		-
Men		2.14	-	-	-	-	2	109	244	98	297	56	1		- ]	3	-	-	-	-	-	-	-	-
Stock clerks (all men) Truckers, power (forklift) (all men)		2.30	[ ]	-	] []	-	10	8	4 . 45	7 26	20 144	41 100	31 50	2	-	-	-	_	_		-	-	<u> </u>	-
Truckers, power (other than forklift)	1	]					1	ľ							j									
(all men)		2.13 2.25	-	- '	-	3	-	6	48	10	22	14 8	7	7	- [	-	-	-	-	-	-	-	-	-
Watchmen (all men)	44	4.45	] -	-	-		-	9	- i	3		°	( )	[	1	-	-	"	-	-	-	-	-	-

<sup>1</sup> Excludes premium pay for overtime and for work on weekends, holidays, and late shifts.

NOTE: Dashes indicate no data reported or data that do not meet publication criteria.

Table 6. Occupational Earnings: Cellulosic Fibers-South

(Number and average straight-time hourly earnings 1 of workers in selected occupations in cellulosic fibers manufacturing establishments, South, February-April 1966)

	Num-	Aver-						Nur	nber o	f worke	rs rec	eiving .	straigh	nt-time	hourl	y earni	ings o	f—						
Department, occupation, and sex	ber of	age hourly		\$1.50	\$1.60	\$1.70	\$1.80					\$2.30	-				_		\$3.00	\$3.10	\$3.20	\$3.30	\$3.40	\$3.50
per and the period of the peri	work- ers	03 mn -	Under \$1.50	and under	-	-	-	-	-	-	-	-	- -	-	-	-	-	÷	-	-	-	-	-	and
Maintenance				\$1.60	\$1.70	\$1.80	\$1.90	\$2.00	\$2.10	\$2.20	\$2.30	\$2.40	\$2.50	\$2.60	\$2.70	\$2.80	\$2.90	\$3.00	\$3.10	\$3.20	\$3.30	\$3.40	\$3.50	over
Carpenters (all men)	117 264 300 146 166 369 573 315	\$2.69 2.69 2.19 2.66 2.71 2.65 2.68 2.79	-	-	-	9 -	6	29 - 1	79 - - 5 -	3 - - 45 12 3	9 2 77 3 2 24 5	1 30 87 44 21 10 23	22 19 - 7 9 16 98 30	15 48 1 7 19 1 97	1 - 1 152	27 73 12 29 60 57 160 108	23 53 - 34 40 - 118 82	14 21 - 11 4 - 60 33		111111	6 14 - 11 10 58 - 34	-		-
Processing													ı							,				į
Creel tenders	2,083 415 96 319 162 75 87 1,015 703 1,653 1,234 943 253 587 73 514 411 1,706 111	2. 31 2. 05 2. 05 2. 15 2. 29 2. 02 2. 39 2. 26 2. 09 2. 12 2. 35 2. 32 2. 56 2. 28 2. 17 2. 05 2. 06	-		177 177 6	- - - - - - - - - - - - - - - - - - -	5 128 4 124 35 - - 1 11 10 - 44 4 1 11 10 31	4 49 20 29 2 - 2 - 237 29 - 116 29 87 27 17 19	260 56 55 1 16 11 5 - - 32 199 190 2 10 10 109 420 81 339	369 123 13 110 57 12 45 9 9 697 359 290 8 168 10 158 121 132	377 38 - 38 15 - 122 53 173 309 8 100 127 244	492 10 17 17 578 335 509 - 195 - 35	177 3 -3 12 12 -245 245 183 40 16 25	243	136 	12	8 2 1 1 1	222			1 1 1			1
Inspection and testing																								
Laboratory assistants	132 109 23 238 32 206	2. 26 2. 20 2. 53 2. 08 2. 19 2. 06	-	-	- - 3 - 3	5 5 10 - 10	16 16 8 1 7	15 14 1 58 7 51	3 3 - 39 6 33	28 28 73 2 71	20 14 6 29 2 27	14 9 5 7 5 2	10 6 4 11 9 2	1 1 - - -	2 2	4 2 2 - -	6 5 1	3	1 1 - -	1 1 - -	-	11111	-	3 2 1 -
Miscellaneous						i																		
Guards (all men)  Janitors  Men  Women  Laborers, material handling  Men  Stock clerks (all men)  Truckers, power (forklift) (all men)  Truckers, power (other than forklift) (all men)  Watchmen (all men)	63 428 389 39 675 611 80 327 78 36	2. 15 1. 95 1. 95 1. 98 2. 13 2. 13 2. 29 2. 26 2. 10 2. 33	- 7 7 - - - -	-	-	-	7 210 199 11 2 2 2 10	14 40 35 5 76 76 6 6	12 75 52 23 194 194 4 42 48	4 57 57 - 162 98 6 18	6 30 30 - 228 228 8 134	10 4 4 - 10 10 41 72	7 5 5 - 12 45	1 - - - 1 - 7	1     1	1 3 3	-							

Excludes premium pay for overtime and for work on weekends, holidays, and late shifts.

NOTE: Dashes indicate no data reported or data that do not meet publication criteria.

Table 7. Occupational Earnings: Noncellulosic Fibers

(Number and average straight-time hourly earnings 1 of workers in selected occupations in noncellulosic fibers manufacturing establishments, United States, 2 February—April 1966)

	Num-	Aver-	_					Nu	mber c	f work	ers re	eiving	straig	ht-tim	e hour	ly ear	nings	of—			,			
Department, occupation, and sex	ber of work- ers	age hourly earn- ings 1	Under \$1.50	and under	-	-	\$1.80 - \$1.90	\$1.90 - \$2.00	\$2.00 - \$2.10	-	\$2.20	-	-	-	-	-	-	-	-	-	-	-	-	\$3.50 and over
Maintenance	100	\$3.33								2									-	20			(3	
Carpenters (all men)		3.32	-	-		-	-	-		2 -	-	2	-	-	16	2	2	49	5 27	28 44	2 106	31	63 278	72
Helpers, trades (all men) Instrument repairmen (all men)		2.46	-	-	3	1	1	4	22	55 2	11	97	4	-	173	-	40	- 2	11	- 16	- 52	31	107	- 64
Machinists (all men)	246	3.29	-	-	-		-	_	-	2	-	3	1	-	3	-	1	18	14	36	14	18	136	-
Mechanics, general (all men)		3.24	-	-	-	-	-	4	3	27 2	25 4	24 2	19 1	28	191 5	5	3 18	97 2	19 21	172 38	178 24	117	770 97	316
Pipefitters (all men)		3, 34	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-	2	12	24	88	36	166	-
Processing			i																					
Chemical operators, noncellulosic fiber (all men)	1.820	2.92	_ :	_	1	1	2	1	2	12	139	90	49	17	131	138	13	240	73	597	314	_	_	
Creel tenders	1,326	2.21	2	10		-	20	-	361	14	486	322	111	-	-	-	-	-	-	-	-	-	- 1	-
Women		2.20	2	10	-	-	20	- :	160 201	14	386 100	88 234	111	-	-				-	-	-	-	-	-
Drawtwist operators	5,059	2.37	4	43	14	10	360	57	834	-	-	1324	382	-	1919	-	_	112	-	_	-	_		-
Men		2.33	4	43	14	6 4	74 286	57	164 670	-	1	92 1232	82 300	-	124 1795	-	- 1	112	-	-	-	_	-	-
Jetmen	221	2.59	-	-	-	12	1	-	0,0	-	5	60	2	-	31	20	62	28	- 1	-	_	_		-
MenSpinners, dry process (all men)		2,57	4	2	- 10	12 28	1	31	3	24	146	60 281	291	3	17 469	20 247	62 984	18 1862	-	-	-	-	-	-
Spinners, wet process (all men)	324	2.38	-	-	-	-	_	-	-	114	44	32	33	35	6	46	704	14	-	_	_	_	-	-
Tow operators		2.64	-	-	16	8	-	- 1	20	-	-	50 50	35 35	21 21	557 557	8 8	109	166 166	-	-	-	-	-	-
Men		2.41	-	2	5	7	139	1	114	_	1 -	358	64	21	683	-	109	100	_ `	-	-	-		_
Men		2.44	-	2	1	7	2	1		-	-	96		-	91		-	-	-	-	-	-	-	-
Women		2.40	-	2	4	35	137 254	-	114 48	-	-	262 354	64 160	_	592 18	_ [	36	-		-   -	-	-		
Women		2.06	-	2	-	35	202	-	48	-	-		104	-	-	-	17	-	-	-	-	-	-	-
Inspection and testing												:												
Laboratory assistants		2.73	-	-	3	12	23	45	19	39	39	69	26	41	127	145	294	359	16	17	11	17	15	29
MenWomen		2.68	-	-	3	11	23	45	17 2	35 4	35 4	52 17	22 4	39	121 6	45 100	281 13	121 238	12 4	11	9 2	7 10	7 8	29
Physical test operators	1,532	2.41	1	17	30	6	48	40	166	46	12	395	16	-	677	100	28	50	-	-	-	-	-	-
Men		2.55	- 1	17	30	- 6	1 47	12 28	1 165	3 43	1 1 1	138 257	1	-	174 503	-	28	48	-	-	-	-	-	-
Women	1,125	2.36	1	17	30	°	41	26	105	43	11	251	15	-	503	-	-	2	-	-	-	-	-	_
Guards (all men)	178	2.82	-	-	-	-	2	7	3	1	4	31	15	2	1	2	15	19	4	24	48	_	_	_
Janitors Men		2.08	3	16 13	-	13 13	44 44	95 89	24 24	390 344	-	-	-		-	-	-	-	-	-	-	-	-	-
Women		2,11	-	3		-	-	6	-	46	-	-	-	-	_	] ]	-	_	-	-		_	[ [	-
Laborers, material handling		2.04	26	43	-	44	2	138	30	435	-	11	2	-	-	-	-	-	-	-	-	-	-	-
MenStock clerks (all men)		2.02	26	43	- 1	44	2	138	30 7	350 3	3	11 2	2 2	2	-	2	- 58	70	-	ī	_	1	:	-
Truckers, power (forklift) (all men)		2.28	32	1	ī	1	18	5	1	2	59	49	114	16	1	1	-	38	-	-	-	-	-	-
			ļ				l ,														ŀ			

 $<sup>^{1}</sup>$  Excludes premium pay for overtime and for work on weekends, holidays, and late shifts.  $^{2}$  All noncellulosic fibers establishments were located in the South.

NOTE: Dashes indicate no data reported or data that do not meet publication criteria.

Table 8. Scheduled Weekly Hours

(Percent of production and office workers in synthetic fibers manufacturing establishments by scheduled weekly hours of day-shift workers, <sup>1</sup>
United States and South, February-April 1966)

		Pr	oduction worke	rs		Office workers								
Scheduled weekly hours	All establ	lishments	Cellulos	ic fibers	Noncellulosic	Ali estab	lishments	Cellulos	Noncellulosic					
			United States			United States	South	United South		fibers3				
All workers	100	100	100	100	100	100	100	100	100	100				
37½ hours 40 hours 42 hours	2 94 4	2 94 4	4 96 -	5 95 -	93 7	2 98 -	2 98 -	4 96 -	5 95 -	1 99 -				
	-			1										

Data relate to the predominant work schedule in each establishment.
 Includes data for regions in addition to the South.
 All noncellulosic fibers establishments were located in the South.

Table 9. Shift Differential Practices—All Establishments

(Percent of production workers assigned to selected shifts in synthetic fibers manufacturing establishments by type of shift and amount of shift differential, United States and South, February-April 1966)

			United	States 1	_				S	outh		
Shift differential	R	otating shifts	2	Oscillating shifts 3	Fixed	shifts	R	otating shift	s ²	Oscillating shifts 3	Fixe	l shifts
	Day schedules (1st)	Evening schedules (2d)	Night schedules (3d)	First or second group	Evening schedules (2d)	Night schedules (3d)	Day schedules (1st)	Evening schedules (2d)	Night schedules (3d)	First or second group	Evening schedules (2d)	Night schedules (3d)
Workers assigned to selected shifts	21.2	21.2	21.1	1.4	1.5	1.3	22.8	22.7	22.7	1.4	0.4	0.2
Receiving shift differential	15.4	21.0	21.1	.7	1.5	1.3	16.4	22.5	22.7	.6	. 3	. 1
Uniform cents per hour		3.3 .7 1.3 1.1 .1 	3.4 - .9 - - 2.0 .4 .1	.5 .1	. 2 - - ( <sup>4</sup> ) ( <sup>4</sup> ) ( <sup>4</sup> ) - . 2	. 2	-	3.9 .9 1.4 1.4 .1	4. 1 - 1. 1 - - 2. 3 . 6 . 1	. 4	-	<del>-</del> - - - -
Uniform cents per hour plus paid lunch period not provided fixed day-shift workers	2.6	13. 1 .3 3 3. 1 3. 2 1. 1 1. 1 .5 1. 3 - - 2 (4) 2. 3	13.1 .3 -1 4.7 1.5 1.1 .2 2.3 2.8	.2  (*)       	1. 2	1.1	1.4	13. 9 .4 3. 9 3. 2 1. 4 1. 4 1. 7 1. 7 1. 0	13.8 - .4 - .2 - 6.0 1.1 1.4 .3 2.9 1.7	(4) 	.3	
Uniform percentage plus paid lunch period not provided fixed day-shift workers	4.6 - 4.6	4.5 - 4.5	4.5 - 4.5	. 1 . 1 -	( <del>*</del> )	-	4. 6 4. 6	4.6	4.6 - 4.6	. 1	(*) (*)	
day-shift workers	8. 2 5. 9	. 1	. 1	.7	(*) (*)	- ( <del>1</del> )	6.3	. 1	-	. 9	( <sup>4</sup> )	- ( <sup>4</sup> )

Includes data for regions in addition to the South.

Workers assigned to rotating shifts alternately worked on the day, evening, and night schedules.

Workers assigned to oscillating shifts were of 2 groups: Those alternating between day and evening schedules, and those alternating between evening and night schedules.

Less than 0.05 percent.

Table 10. Shift Differential Practices-Cellulosic Fibers

(Percent of production workers assigned to selected shifts in cellulosic fibers manufacturing establishments by type of shift and amount of shift differential, United States and South, February-April 1966)

			United	States 1					So	uth		
Shift differential	R	Rotating shifts 2			Fixed	shifts	R	otating shift	s ²	Oscillating shifts 3	Fixed	shifts
	Day schedules (1st)	Evening schedules (2d)	Night schedules (3d)	First or second group	Evening schedules (2d)	Night schedules (3d)	Day schedules (1st)	Evening schedules (2d)	Night schedules (3d)	First or second group	Evening schedules (2d)	Night schedules (3d)
Workers assigned to selected shifts	19.7	19.6	19.5	1,7	2,8	3.0	22.0	21.9	21.8	1,8	0.1	0.3
Receiving shift differential	14.7	19.6	19.5	1.5	2,8	3.0	16.4	21.9	21,8	1.6	.1	.3
Uniform cents per hour  3 cents 5 cents 8 cents 10 cents 16 cents 123 cents 23 cents Uniform cents per hour plus paid	-	2.2 1.7 .5 - - - -	2,2	1,2	.5 - (4) (4) (4) .5	,5 - - - - - - - - - -	-	2.2	2.2	1.5 - .2 - - 1.3 - -	(4) (4)	
Uniform cents per hour plus paid lunch period not provided fixed day-shift workers.  3 cents. 5 cents. 7 cents. 10 cents. 11 cents. 12 cents. 15 cents. 16 cents. 20 cents. 20 cents. 21 cents. 21 cents. 31 cents. 32 cents. 33 cents.	5.9	17.3 .7 5.2 3.6 1.9 - .5 (4) 5.4	18.8 2.4 - 5.2 3.6 1.7 .5 (4) 5.3	.3	2,3	2.5	5.3	19.8 1.0 6.4 4.6 2.4 - - - 6 4.7 - - - -	19.6 1.0 - 6.4 4.6 2.3 .6 - 4.7	(4)		.3
Paid lunch period not provided fixed day-shift workers	8.8 5.0	.1	.1	2			11.1 5.6			.2		

Includes data for regions in addition to the South.
 Workers assigned to rotating shifts alternately worked on the day, evening, and night schedules.
 Workers assigned to oscillating shifts were of two groups: Those alternating between day and evening schedules, and those alternating between evening and night schedules.
 Less than 0.05 percent.

Table 11. Shift Differential Practices—Noncellulosic Fibers

(Percent of production workers assigned to selected shifts in noncellulosic, manufacturing establishments by type of shift and amount of shift differential, United States, <sup>1</sup> February-April 1966)

		Rotating shifts 2		Oscillating shifts 3	Fixed	shifts
Shift differential	Day schedules (1st)	Evening schedules (2d)	Night schedule (3d)	Evening schedule (2d)	Evening schedule (2d)	Night schedule (3d)
orkers assigned to selected shifts	22. 4	22, 4	22.4	1.2	0.5	0, 1
Receiving shift differential	15.7	22.0	22, 3	. 2	. 5	-
Uniform cents per hour 5 cents 6 cents	. 2	4.3 1.9 1.9	4.6	(*) -	= =	-
8 cents	. 2	. 4	. 2 3. 1	(4)		
16 cents17 cents	-	-	. 2	(4)		
Uniform cents per hour plus paid lunch period not provided fixed day-shift workers		9.8 1.6 2.8 .5 1.7 .9 2.3	9.8 - - - - - 4.4 .5 3.9	(*) - - - (*)	.4	
Uniform percentage plus paid lunch period not provided fixed day-shift workers 5 percent	8. 0 - 8. 0	8.0	8.0	.1	. 1	
Paid lunch period not provided fixed	8.0	8.0	8.0	-	•	
day-shift workers	7.5			-		
Receiving no shift differential	6.7	. 4	. 1	1, 1	. 1	. 1

All noncellulosic fibers establishments were located in the South.

Workers assigned to rotating shifts alternately worked on the day, evening, and night schedules.

Workers assigned to oscillating shifts were of two groups: Those alternating between day and evening schedules, and those alternating between evening and night schedules.

Less than 0.05 percent.

Table 12. Paid Holidays

(Percent of production and office workers in synthetic fibers manufacturing establishments with formal provisions for paid holidays, United States and South, February-April 1966)

Number of paid holidays		F	roduction worke	ers		Office workers						
	All establishments		Cellulosic fibers		Noncellulosic	All establishments		Cellulosic fibers		Noncellulosio		
	United States 1		fibers 2									
All workers	100	100	100	100	100	100	100	100	100	100		
Workers in establishments providing paid holidays	100	100	100	100	100	100	100	100	100	100		
Under 6 days	1 46 23 31	1 -40 25 34 -	- 84 16 - -	- 79 21 -	1 -8 27 54	1 3 40 24 33 ( <sup>3</sup> )	1 - 38 26 35 -	- 8 78 13 - 1	- 83 17 - -	1 - 19 30 50		

Includes data for regions in addition to the South.
 All noncellulosic fibers establishments were located in the South.
 Less than 0.5 percent.

Table 13. Paid Vacations

(Percent of production and office workers in synthetic fibers manufacturing establishments with formal provisions for paid vacations 1 after selected periods of service, United States and South, February-April 1966)

		P	roduction work	ers		Office workers						
Vacation policy 1	All establishments		I .	ic fibers	Noncellulosic		lishments	Cellulosic fibers		Noncellulosic		
	United States <sup>2</sup>	South	United States <sup>2</sup>	South	fibers <sup>3</sup>	United States <sup>2</sup>	South	United States <sup>2</sup>	South	fibers 3		
All workers	100	100	100	100	100	100	100	100	100	100		
Method of payment										1		
Workers in establishments providing							!					
paid vacations	100	100	100	100	100	100	100	100	100	100		
Length-of-time payment	58	61	20	16	87	93	92	100	100	89		
Percentage payment	30	26	60	58	7	7	8	-	-	11		
Other	12	13	20	25	6	-	-	-	-	-		
Amount of vacation pay 4												
After I year of service:					1					1		
l week	62	58	93	91	39	13	14	10	13	15		
Over 1 and under 2 weeks	3	3	4	5	2					-		
2 weeks	35	39	3	4	59	87	86	90	87	85		
After 2 years of service:	4.5	20		4.0	3.5	1.0				١,,,		
Under 2 weeks	45	39	60	48 52	35 65	10	10	-		15		
2 weeks	55	61	40	52	05	88	87	100	100	82		
Over 2 and under 3 weeks	-	-	-	-	1 - 1	2	2	-	-	3		
after 3 years of service:	18	9	39	21	1 1	(5)	( <sup>5</sup> )			/5\		
Over I and under 2 weeks	1.0	1	39	- 1	2	( )	( )	-	•	(-)		
2 weeks	80	88	57	74	97	98	98	100	100	97		
Over 2 and under 3 weeks	2	2	4	5	1 '' 1	2	1 2	100	100	3		
After 5 years of service:	ū	-		_	1	-	_		_			
2 weeks	67	63	96	95	45	66	63	100	100	47		
Over 2 and under 3 weeks	3	3	4	5	2	· -	_	-		1 -		
3 weeks	31	34	-	-	54	34	37	-	-	53		
After 10 years of service:										1		
2 weeks	35	28	64	54	13	23	21	46	46	11		
Over 2 and under 3 weeks	3	3	4	5	2		ł -	-	-	-		
3 weeks	32	35	32	41	32	42	42	54	54	36		
Over 3 and under 4 weeks	-			-	1 . 1	2 33	2	-	-	3		
4 weeks	31	34	-	-	54	33	35	-	-	50		
After 12 years of service:	12	12	17	18	9	12	10	24	18	1 ,		
Under 3 weeks	57	54	83	82	38	53	53	76	82	41		
Over 3 and under 4 weeks	2,	74	0.5	- 62	] ]	2	1 2	70	04	3		
4 weeks	31	34			54	33	35	_	I .	50		
After 15 years of service:	٠.				1 -		]		_	1 30		
2 wecks	2	2		_	4	3	4	_	_	5		
3 weeks	53	48	96	95	21	36	31	76	70	15		
Over 3 and under 4 weeks	3	3	4	5	2	2	2	_	_	3		
4 weeks	42	46	-	-	73	58	63	24	30	77		
fter 20 years of service:												
Under 4 weeks	28	29	3.5	42	22	29	27	51	52	17		
4 weeks	30	25	65	58	5	21	18	45	43	8		
Over 4 and under 5 weeks			-	-	1 -:	2	2	-	=	3		
5 weeks	42	46	-	-	73	49	53	4	5	73		
liter 25 years of service:					, J		,	٠,,	,	1 .		
Under 4 weeks	11	12	8	9	14	9	6	14	6	,6		
4 weeks	46	40	92	91	11	33	31 2	69	72	14		
Over 4 and under 5 weeks	1 42	1	_	_	73	56	61	18	22	77		
5 weeks	44	46	-	-	1 13	50	6.1	1.0	- 44	1 "		

<sup>1</sup> Includes basic plans only, Plans such as vacation-savings and those plans which offer "extended" or "sabbatical" benefits beyond basic plans to workers with qualifying lengths of service are excluded.

Includes data for regions in addition to the South.

All noncellulosic fibers establishments were located in the South.

All noncellulosic fibers establishments were located in the South.

Vacation payments such as percent of annual earnings were converted to an equivalent time basis. Periods of service were arbitrarily chosen and do not necessarily reflect individual establishment provisions for progression. For example, the changes in proportions indicated at 10 years may include changes in provisions between 5 and 10 years.

Less than 0.5 percent.

Table 14. Health, Insurance, and Pension Plans

(Percent of production and office workers in synthetic fibers manufacturing establishments with specified health, insurance, and pension plans, <sup>1</sup> United States and South, February-April 1966)

		P	roduction worke	rs		Office workers						
Type of plan	All establ	ishments	Cellulos	ic fibers	Noncellulosic	All estab	lishments	Cellulos	ic fibers	Noncellulosio		
	United States <sup>2</sup>	South	United States <sup>2</sup>	South	fibers 3	United States <sup>2</sup>	South	United States <sup>2</sup>	South	fibers 3		
All workers	100	100	100	100	100	100	100	100	100	100		
All workers	100	100	100	100	100	100	100	100	100	100		
Workers in establishments providing:									}			
Life insurance	99	99	100	100	99	99	99	100	100	99		
Jointly financed	24	2.3	8	-	37	27	28	1	-	40		
Employer financed	75	76	92	100	63	73	72	99	100	60		
Accidental death and dismemberment							ļ					
insurance	59	58	88	95	36	55	55	89	95	37		
Jointly financed	12	13	- 1	-	21	15	16	[ 1	-	23		
Employer financed	47	45	88	95	15	40	39	87	95	15		
Sickness and accident insurance or								1				
sick leave or both 4	95	94	90	87	99	97	97	100	100	96		
Sickness and accident insurance	84	82	90	87	79	51	51	26	20	65		
Jointly financed	33	34	7	5	54	33	35	1	-	50		
Employer financed	50	48	84	87	25	18	16	25	20	15		
Sick leave (full pay, no										1		
waiting period)	31	34			54	88	90	82	89	91		
Sick leave (partial pay or												
waiting period)	11	12	1		20					<del>.</del>		
Hospitalization insurance	100	100	100	100	100	100	100	100	100	100		
Jointly financed	24	23	7	-	37	26	28	1	-	40		
Covering employees only	-	-	- 1	-	-	-	-	-	-	-		
Covering employees and their			_ [									
dependents	24	2.3	7		37	26	28	1		40		
Employer financed	50	47	91	96	19	45	41	94	94	19		
Covering employees only	16	18	29	38	7	19	17	44	46	5		
Covering employees and their	33	29	61	58	12	26	3.4	50	40	1 ,,		
dependentsEmployee financed for employees;	33	29	6.1	20	12	20	2.4	20	48	14		
	27	29	3	4	44	2.8	31	5	6	41		
jointly financed for dependents Surgical insurance	99	99	100	100	99	99	99	100	100	99		
Jointly financed	24	23	7	100	37	26	28	100	100	40		
Covering employees only		-	1 '- 1	-	31	20	20		-	40		
Covering employees and their	- 1	-	_ `	_	- 1	-	_	_	_	_		
dependents	24	2.3	7		37	26	28	,		40		
Employer financed	49	47	91	96	18	45	41	94	94	18		
Covering employees only	16	18	29	38	1 6 1	18	17	44	46	1 4		
Covering employees and their		••	-	**	1 1		1	''		1		
dependents	33	29	61	58	12	26	24	50	48	14		
Employer financed for employees;	1							"				
jointly financed for dependents	2.7	29	3	4	44	28	31	5	6	41		
Medical insurance	95	94	92	90	97	95	94	94	92	95		
Jointly financed	33	33	28	27	37	33	35	19	22	40		
Covering employees only	-	-	-	-	- 1	-	_		-	-		
Covering employees and their					1			}		1		
dependents	33	33	28	27	37	33	35	19	22	40		
Employer financed	35	32	62	59	16	34	29	70	64	14		
Covering employees only	16	18	29	38	6	18	17	44	46	4		
Covering employees and their			1		1					1		
dependents	19	14	32	21	10	15	12	26	18	10		
Employer financed for employees;												
jointly financed for dependents	27	29	3	4	44	28	31	5	6	41		
,												

See footnotes at end of table.

Table 14. Health, Insurance, and Pension Plans-Continued

(Percent of production and office workers in synthetic fibers manufacturing establishments with specified health, insurance, and pension plans, <sup>1</sup>
United States and South, February-April 1966)

ł		Pi	oduction worke	rs	1	Office workers						
Type of plan	All establishments		Cellulosic fibers		Noncellulosic	All establishments		Cellulosic fibers		Noncellulosic		
	United States 2	South	United States 2	South	fibers 3	United States <sup>2</sup>	South	United States <sup>2</sup>	South	fibers 3		
orkers in establishments providing— Continued												
Catastrophe insurance	39 37 ~	38 35 -	61 58 -	62 58 -	24 21	45 40 -	44 39 -	55 50 -	54 48 -	39 35 -		
dependents Employer financed	37 1	35 2	58 -	58 -	21 2	40 3	39 3	50	48	35 4		
Covering employees onlyCovering employees and their	,		-	-		-	-	-	-	-		
dependentsEmployer financed for employees;	,	2	3	-	2	3	3	-	-	4		
jointly financed for dependents	98	99	97	100	99	99	99	99	100	99		
Jointly financed	14	16	29	37	3	22	19	50	48	6		
Employer financed	84	83	68	63	95	78	81	48	52	94		
No plans	•	-	-	-	-	-	-	-	-	-		

Includes only those plans for which at least part of the cost is borne by the employer and excludes legally required plans such as workmen's compensation and social security. Includes data for regions in addition to the South.

All noncellulosic fibers establishments were located in the South.

Unduplicated total of workers receiving sick leave or sickness and accident insurance shown separately.

## Appendix A. Scope and Method of Survey

#### Scope of Survey

The survey included establishments primarily engaged in the manufacture of cellulosic manmade fibers in the form of monofilament, yarn, staple, or tow suitable for further manufacturing on textile processing equipment and synthetic organic fibers, except cellulosic (industries 2823 and 2824 as defined in the 1957 edition of the Standard Industrial Classification Manual and 1963 Supplement, prepared by the U.S. Bureau of the Budget). The classification of establishments by industry branch was determined on the basis of the value of the principal fiber manufactured. Separate auxiliary units, such as central offices and research laboratories, were excluded. Also excluded from the survey were establishments primarily engaged in manufacturing glass fibers.

The number of establishments and workers actually studied by the Bureau, as well as the number estimated to be in the industry during the payroll period studied, are shown in the following table:

Estimated Number of Establishments and Workers Within Scope of Survey and Number Studied, Synthetic Fibers, February-April 1966

	Numb establisi		Workers in establishments				
Industry branch and region	Within		With	Studied			
masty branch and legion	scope of	Studied	_ 1	Nonsuperv			
	survey		Total 1	Production workers	Office workers	Total	
All establishments: United States 2	42 37	36 31	80, 079 72, 971	62, 407 56, 368	4, 171 3, 862	68,711 61,603	
Cellulosic fibers establishments:  United States <sup>2</sup>	18 13	18 13	32, 550 25, 442	26, 712 20, 673	1,462 1,153	32, 550 25, 442	
Noncellulosic fibers establishments: <sup>4</sup> United States	24	18	47, 529	35, 695	2,709	36, 161	

Includes executive, professional, and other workers excluded from the production and office worker categories.

<sup>4</sup> All noncellulosic fibers establishments were located in the South.

#### Method of Study

Data were obtained by personal visits of Bureau field economists under the direction of the Bureau's Assistant Regional Directors for Wages and Industrial Relations. Of the 42 establishments within the scope of the survey, data were obtained from all but 6. In combining the data, however, all establishments were given their appropriate weight. All estimates are presented, therefore, as relating to all establishments in the industry.

#### Establishment Definition

An establishment, for the purposes of this study, is defined as a single physical location where industrial operations are performed. An establishment is not necessarily identical with the company, which may consist of one or more establishments.

<sup>&</sup>lt;sup>2</sup> Includes data for regions in addition to the South.

<sup>&</sup>lt;sup>3</sup> The South as used in this survey includes: Alabama, Delaware, District of Columbia, Florida, Georgia, Kentucky, Maryland, Mississippi, North Carolina, South Carolina, Tennessee, Virginia, and West Virginia.

#### Employment

The estimates of the number of workers within the scope of the study are intended as a general guide to the size and composition of the labor force included in the survey. The advance planning necessary to make a wage survey requires the use of lists of establishments assembled considerably in advance of the payroll period studied.

#### Production Workers

The term "production workers," as used in this bulletin, includes working foremen and all nonsupervisory workers engaged in nonoffice functions. Administrative, executive, professional, and technical personnel, as well as force-account construction employees who were utilized as a separate work force on the firm's own properties, were excluded.

#### Office Workers

The term "office workers," as used in this bulletin, includes all nonsupervisory office workers and excludes administrative, executive, professional, and technical employees.

#### Occupations Selected for Study

Occupational classification was based on a uniform set of job descriptions designed to take account of interestablishment and interarea variations in duties within the same job. (See appendix B for these job descriptions.) The occupations were chosen for their numerical importance, their usefulness in collective bargaining, or their representativeness of the entire job scale in the industry. Working supervisors, apprentices, learners, beginners, trainees, handicapped, part-time, temporary, and probationary workers were not reported in the data for selected occupations but were included in the data for all production workers.

#### Wage Data

The wage information relates to average straight-time hourly earnings, excluding premium pay for overtime and for work on weekends, holidays, and late shifts. Incentive payments, such as those resulting from piecework or production bonus systems, and cost-of-living bonuses were included as part of the workers' regular pay; but nonproduction bonus payments, such as Christmas or yearend bonuses, were excluded.

Average hourly rates or earnings for each occupation or other group of workers, such as men, women, or production workers, were calculated by weighting each rate (or hourly earnings) by the number of workers receiving the rate, totaling, and dividing by the number of individuals. The hourly earnings of salaried workers were obtained by dividing straight-time salary by normal rather than actual hours.

#### Scheduled Weekly Hours

Data on weekly hours refer to the predominant work schedule for full-time production workers (or office workers) employed on the day shift.

#### Shift Practices and Differentials

Data relate to shift practices of establishments during the payroll period studied and are presented in terms of the proportion of production workers actually employed under the conditions specified. Workers assigned to rotating shifts variously work on day, evening, and night shifts, and workers assigned to fixed shifts regularly work on their assigned shift. Workers assigned to oscillating shifts were of two groups: Those alternating between day and evening schedules, and those alternating between evening and night schedules.

#### Supplementary Wage Provisions

Supplementary benefits were treated statistically on the basis that, if formal provisions were applicable to half or more of the production (or office) workers in an establishment, the benefits were considered applicable to all such workers. Similarly, if fewer than half of the workers were covered, the benefit was considered nonexistent in the establishment. The proportion of workers receiving the benefits may be smaller than estimated because of length-of-service and other eligibility requirements.

Paid Holidays. Paid holiday provisions relate to full-day and half-day holidays provided annually.

Paid Vacations. The summary of vacation plans is limited to formal arrangements, excluding informal plans whereby time off with pay is granted at the discretion of the employer or the supervisor. Payments not on a time basis were converted; for example, a payment of 2 percent of annual earnings was considered the equivalent of 1 week's pay. The periods of service for which data are presented were selected as representative of the most common practices, but they do not necessarily reflect individual establishment provisions for progression. For example, the changes in proportions indicated at 10 years of service include changes in provisions which may have occurred between 5 and 10 years.

Health, Insurance, and Retirement Plans. Data are presented for selected health, insurance, and pension plans for which all or a part of the cost is borne by the employer. Programs required by law, such as workmen's compensation and social security are excluded. Among the plans included are those underwritten by a commercial insurance company and those paid directly by the employer from his current operating funds or from a fund set aside for this purpose.

Death benefits are included as a form of life insurance. Sickness and accident insurance is limited to that type of insurance under which predetermined cash payments are made directly to the insured on a weekly or monthly basis during illness or accident disability. Information is presented for all such plans to which the employer contributes at least part of the cost. However, in New York and New Jersey, where temporary disability insurance laws require employer contributions, plans are included only if the employer (1) contributes more than is legally required, or (2) provides the employees with benefits which exceed the requirements of the law.

Tabulations of paid sick leave plans are limited to formal plans which provide full pay or a proportion of the worker's pay during absence from work because of illness; informal arrangements have been omitted. Separate tabulations are provided, according to (1) plans which provide full pay and no waiting period, and (2) plans providing either partial pay or a waiting period.

Medical insurance refers to plans providing for complete or partial payment of doctors' fees. Such plans may be underwritten by a commercial insurance company or a nonprofit organization, or they may be self-insured.

Catastrophe insurance, sometimes referred to as extended or major medical insurance, includes plans designed to cover employees in case of sickness or injury involving an expense which goes beyond the normal coverage of hospitalization, medical, and surgical plans.

Tabulations of retirement pensions are limited to plans which provide, on retirement, regular payments for the remainder of the worker's life.

Severance Pay. Data relate to formal plans providing for payments to employees permanently separated from the company through no fault of their own.

Paid Lunch Period. Data relate to formal provisions for a lunch period with pay for day-shift workers. Provisions for shift workers are reported in the shift-practices tables.

## Appendix B. Occupational Descriptions

The primary purpose of preparing job descriptions for the Bureau's wage surveys is to assist its field staff in classifying into appropriate occupations workers who are employed under a variety of payroll titles and different work arrangements from establishment to establishment and from area to area. This permits the grouping of occupational wage rates representing comparable job content. Because of this emphasis on interestablishment and interarea comparability of occupational content, the Bureau's job descriptions may differ significantly from those in use in individual establishments or those prepared for other purposes. In applying these job descriptions, the Bureau's field economists are instructed to exclude working supervisors, apprentices, learners, beginners, trainees, handicapped, part-time, temporary, and probationary workers.

#### MAINTENANCE

#### CARPENTER, MAINTENANCE

Performs the carpentry duties necessary to construct and maintain in good repair building woodwork and equipment such as bins, cribs, counters, benches, partitions, doors, floors, stairs, casings, and trim made of wood in an establishment. Work involves most of the following: Planning and laying out of work from blueprints, drawings, models, or verbal instructions; using a variety of carpenter's handtools, portable powertools, and standard measuring instruments; making standard shop computations relating to dimensions of work; and selecting materials necessary for the work. In general, the work of the maintenance carpenter requires rounded training and experience usually acquired through a formal apprenticeship or equivalent training and experience.

#### ELECTRICIAN, MAINTENANCE

Performs a variety of electrical trade functions, such as the installation, maintenance, or repair of equipment for the generation, distribution, or utilization of electric energy in an establishment. Work involves most of the following: Installing or repairing any of a variety of electrical equipment, such as generators, transformers, switchboards, controllers, circuit breakers, motors, heating units, conduit systems, or other transmission equipment; working from blueprints, drawings, layouts, or other specifications; locating and diagnosing trouble in the electrical system or equipment; working standard computations relating to load requirements of wiring or electrical equipment; and using a variety of electrician's handtools and measuring and testing instruments. In general, the work of the maintenance electrician requires rounded training and experience usually acquired through a formal apprenticeship or equivalent training and experience.

#### HELPER, MAINTENANCE TRADES

Assists one or more workers in the skilled maintenance trades by performing specific or general duties of lesser skill, such as keeping a worker supplied with materials and tools; cleaning working areas, machines, and equipment; assisting worker by holding materials or tools; and performing other unskilled tasks as directed by journeyman. The kind of work the helper is permitted to perform varies from trade to trade. In some trades, the helper is confined to supplying, lifting, and holding materials and tools and to cleaning working areas; and in others, he is permitted to perform specialized machine operations or parts of a trade that are also performed by workers on a full-time basis.

#### INSTRUMENT REPAIRMAN

Installs, maintains, adjusts, and repairs manual, pneumatic, electric, and/or electronic measuring, recording, and regulating instruments in a chemical plant. Work involves most of the following: Inspecting, testing, and adjusting instruments periodically, determining cause of trouble in instruments not functioning properly, and making necessary repairs or adjustments; disconnecting inaccurate or damaged instruments and replacing them; examining mechanisms and cleaning parts; replacing worn or broken parts; assembling instruments and installing them on testing apparatus; and calibrating instruments to established standards.

#### MACHINIST, MAINTENANCE

Produces replacement parts and new parts for mechanical equipment operated in an establishment. Work involves most of the following: Interpreting written instructions and specifications; planning and laying out of work; using a variety of machinist's handtools and precision measuring instruments; setting up and operating standard machine tools; shaping of parts to close tolerances; making standard shop computations relating to dimensions of work, tooling, feeds, and speeds of machining; knowledge of the working properties of the common metals and other materials; selecting standard materials, parts, and equipment required for his work; and fitting and assembling parts. In general, the machinist's work normally requires a rounded training in machine shop practice usually acquired through a formal apprenticeship or equivalent training and experience.

#### MECHANIC, GENERAL

Performs the work of two or more maintenance trades rather than specializing in only one trade or one type of maintenance work. In general, the work of a general mechanic requires rounded training and experience usually acquired through a formal apprenticeship or equivalent training and experience.

The classification includes workers who regularly perform two or more types of skilled maintenance work within a section or department of a large establishment, such as pipefitting, millwrighting, welding, machining, machine and equipment repairing, and carpentry, among others. It also includes workers that maintain and repair machines, mechanical and electrical equipment, and/or the structure of a small establishment where specialization in maintenance work is impractical. It does not, however, include workers who only make minor repairs or adjustments.

#### MILLWRIGHT

Installs new machines or heavy equipment and dismantles and installs machine or heavy equipment when changes in the plant layout are required. Work involves most of the following: Planning and laying out of the work; interpreting blueprints or other specifications; using a variety of handtools and rigging; making standard shop computations relating to stresses, strength of materials, and centers of gravity; alining and balancing of equipment; selecting standard tools, equipment, and parts to be used; and installing and maintaining in good order power transmission equipment, such as drives and speed reducers. In general, the millwright's work normally requires a rounded training and experience in the trade acquired through a formal apprenticeship or equivalent training and experience.

#### PIPEFITTER, MAINTENANCE

Installs or repairs water, steam, gas, or other types of pipe and pipefittings in an establishment. Work involves most of the following: Laying out of work and measuring to locate position of pipe from drawings or other written specifications; cutting various sizes of pipe to correct lengths with chisel and hammer, oxyacetylene torch, or pipe-cutting machine; threading pipe with stock and dies; bending pipe by hand-driven or power-driven machines; assembling pipe with couplings and fastening pipe to hangers; making standard shop computations relating to pressures, flow, and size of pipe required; and making standard tests to determine whether finished pipes meet specifications. In general, the work of the maintenance pipefitter requires rounded training and experience usually acquired through a formal apprenticeship or equivalent training and experience. Workers primarily engaged in installing and repairing building sanitation or heating systems are excluded.

#### CHEMICAL PREPARATION

#### CHEMICAL OPERATOR, CELLULOSIC FIBER

Operates equipment in which raw materials are treated chemically to produce a solution from which rayon or acetate fibers are spun. Work consists of most of the following: Regulates the flow of materials by turning valves; observes and controls temperatures and time elements as prescribed; and tends pumps, tanks, vessels, and other related equipment. May take batch samples for the testing laboratory.

Workers in this classification are usually designated according to their specific function, such as: Acid mixer, barratte operator, churn man, correction man, and steeping-press operator.

#### CHEMICAL OPERATOR, NONCELLULOSIC FIBER

Controls the conversion of chemical intermediates to produce a solution for spinning noncellulosic fibers by operating one of several types of equipment, such as autoclaves, reactors, retorts, etc. Observes a control board to determine the proper functioning of the chemical process as prescribed; and recognizes and reports off-standard conditions, taking necessary corrective action if due to elements under his control. Maintains proper flow of the intermediates and product by opening and closing valves; observes, records, and controls temperature and time elements; and operates pumps, tanks, vessels, and other related equipment. May obtain samples for testing laboratory and keep prescribed records of production.

Workers in this classification are usually designated according to their specific functions, such as: Polymer preparation operator, solution operator, and salt-house operator.

#### SPINNING

#### **JETMAN**

(Spinneret man; spinneret cleaner; jet handler)

Cleans from spinnerets any gummy residue (left by spinning solution) to prevent clogging of the tiny holes through which solution is forced. Dismounts spinnerets from holders and washes in acid bath; blows holes clean with compressed air; examines spinnerets for defects; and remounts spinneret in holder.

#### SPINNER, DRY-PROCESS

Works as crew member on machines that convert a liquid spinning solution into a solid filament by the dry-process method of spinning. Includes workers on the upper floor (topmen) who patrol the spinning machines for off-standard conditions as the spinning solution is forced through the spinneret and coagulated into a filament by warm air; wipe and spray the spinnerets regularly to insure an even flow of the solution; and correct for off-standard conditions as required; also, workers on the lower floor (bottom men) who receive the filaments from the floor above, string up and establish proper threadline by passing filaments through guides and attaching to the winding device, and doffs machine when the packages are full. Workers may keep records and take samples for laboratory analysis.

#### SPINNER, WET-PROCESS

Tends spinning machine that forces liquid solution through tiny holes in the spinneret (metal disc) into a solidifying acid bath and forms the resulting filaments into a thread. Duties include most of the following: Collects ends of filaments from the solidifying bath to form an untwisted thread which is passed over a wheel, through guides, and attached to a winding device; removes (doffs) full spinning boxes; and makes periodic inspections, repairing breaks as necessary.

#### FINISHING

#### CREEL TENDER

Tends creel mechanism of drawtwist machines or warpers by replacing empty packages of yarn or tow with full ones. Assists in stringing yarn from creel through guides to the drawtwist machine or warper; ties end of yarn on new package to end of yarn from exhausted package; and inspects product as it is drawn from creel and reports off-standard conditions. May take samples and keep production records.

#### DRAWTWIST OPERATOR

(Drawwind operator)

Operates a drawtwist machine that draws and twists noncellulosic yarn from a spinning package. Work includes most of the following: Stocks machines with spinning bobbins; strings up positions by threading guides, wrapping rolls, and following standard procedures and practices; repairs breaks and inspects for off-standard positions; patrols assignment for threadline breaks and improper alinement; and starts and doffs machines according to schedule. May keep production records.

#### THROWER (TWISTER)

Tends machine that twists rayon or acetate yarn in plants where box or cake method of spinning is not used. Places full bobbins and empty spools on twisting (throwing) machine, starts end of thread from bobbin and spool, ties together ends of broken threads, and removes empty bobbins and full spools from machine.

#### TOW OPERATOR

Operates any of several types of machines processing tow (a ropelike collection of untwisted filaments) immediately after spinning and just before packing. Typical of such operations are the following: (1) Takeup operator—operates machine that takes tow from the conveyor belt of the spinning machine; (2) crimper operator—operates machine that places a crimp in the tow to provide greater strength necessary for additional handling; (3) piddler-machine operator—operates a machine whose mechanism swings back and forth, lapping the tow into transport cans; and (4) cutter operator—operates machine that cuts crimped tow into specified lengths.

#### WARPER OPERATOR

(Beamer)

Operates machine that draws yarn from many individual packages and winds the strands parallel onto beams to form a warp. Work involves most of the following: Threads ends of individual strands of yarn through guides, drop wires, and comb of machine, following directions of a drawing to obtain a prescribed arrangement; fastens ends of all strands to the beam mounted in the machine; operates the powered winding mechanism to draw the yarn from the packages and wind it on the beam; and pieces together broken ends of yarn by twisting or tying the ends together. May also tend creel mechanism of machine.

#### WASHER OPERATOR

Places packages of synthetic yarn in a washing machine to remove the acid used in the spinning process. Receives full packages from the spinning machine and places on racks of the washing machine; starts machine which forces water through the packages, washing the acid from the tread; and removes cleaned packages and places on racks for drying.

#### WINDER, YARN

Tends the operation of one or more of the various type machines used to wind twisted yarn from one form to another for shipment or to facilitate handling in later processing. Work involves: placing packages of yarn on reels or spindles of machine; threading yarn through the various guides; piecing-up broken ends by twisting or tying the two ends together; and removing fully wound packages and replacing with empty bobbins, cones, tubes, or quills.

#### INSPECTION AND TESTING

#### LABORATORY ASSISTANT

(Technician; laboratorian; chemical control operator)

Performs standard and routine chemical laboratory tests or special analytical control work under the direction of a chemist or foreman. Among the types of tests that may be carried on by the laboratory assistant to determine properties of materials are viscosity tests, specific gravity tests, volumetric analysis, and colorimetric analysis. Keeps accurate records of test observations and reports to supervisor. Classification does not include workers performing physical tests. See physical test operator.

#### PHYSICAL TEST OPERATOR

Performs standard and routine physical tests to determine the specific characteristics of continuous filament yarn, staple yarn, or tow. Uses instruments and specifically designed machines, under the supervision of the laboratory foreman, to make the following types of tests: Denier, tenacity, twist determination, staple fiber length, crimp count on tow and staple, tare weight, moisture analysis, filament count, and abrasion resistance.

#### MATERIAL MOVEMENT AND HANDLING

#### LABORER, MATERIAL HANDLING

(Loader and unloader; handler and stacker; shelver; trucker; stockman or warehouseman or warehouse helper)

A worker employed in a warehouse, manufacturing plant, store, or other establishment whose duties involve one or more of the following: Loading and unloading various materials and merchandise on or from freight cars, trucks, or other transporting devices; unpacking, shelving, or placing materials or merchandise in proper storage location; transporting materials or merchandise by handtruck, car, or wheelbarrow to proper location. May keep a record of materials handled or check items against invoices or other records. Longshoremen, who load and unload ships, are excluded. If primary duty is to operate power truck, classify as truckers, power.

#### STOCK CLERK

Receives, stores, and issues equipment, material, merchandise, or tools in a stockroom or storeroom. Work involves a combination of the following: Checking incoming orders; storing supplies; applying identifications to articles; issuing supplies; taking periodic inventory or keeping perpetual inventory; making up necessary reports; and requesting or ordering supplies when needed. Stockroom laborers, tool crib attendants, and employees who supervise stock clerks and laborers are excluded.

#### TRUCKER, POWER

Operates a manually controlled gasoline- or electric-powered truck or tractor to transport goods and materials of all kinds about a warehouse, manufacturing plant, or other establishment.

For wage survey purposes, workers are classified by type of truck as follows:

Trucker, power (forklift)
Trucker, power (other than forklift)

#### CUSTODIAL

#### GUARD

Performs routine police duties, either at fixed post or on tour, maintaining order, using arms or force where necessary. Includes gatemen, who are stationed at gate and check on identity of employees and other persons entering.

#### **JANITOR**

(Day porter; sweeper; charwoman; janitress)

Cleans and keeps in an orderly condition factory working areas and washrooms, or premises of an office, apartment house, or commercial or other establishment. Duties involve a combination of the following: Sweeping, mopping, and/or scrubbing and polishing floors; removing chips, trash, and other refuse; dusting equipment, furniture, or fixtures; polishing metal fixtures or trimmings; providing supplies and minor maintenance services; and cleaning lavatories, showers, and restrooms. Workers who specialize in window washing are excluded.

#### WATCHMAN

Guards premises of plant property, warehouses, or office buildings. Makes rounds of premises periodically in protecting property against fire, theft, and illegal entry.

### Industry Wage Studies

The most recent reports for industries included in the Bureau's program of industry wage surveys since January 1950 are listed below. Those for which a price is shown are available from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C., 20402, or any of its regional sales offices. Those for which a price is not shown may be obtained free as long as a supply is available, from the Bureau of Labor Statistics, Washington, D.C., 20212, or from any of the regional offices shown on the inside back cover.

### I. Occupational Wage Studies

#### Manufacturing

Basic Iron and Steel, 1962. BLS Bulletin 1358 (30 cents).
Candy and Other Confectionery Products, 1965. BLS Bulletin 1520 (30 cents).
\*Canning and Freezing, 1957. BLS Report 136.
Cigar Manufacturing 1964. BLS Bulletin 1436 (30 cents).
Cigarette Manufacturing, 1965. BLS Bulletin 1472 (20 cents).
Cotton Textiles, 1965. BLS Bulletin 1506 (40 cents).
Distilled Liquors, 1952. Series 2, No. 88.

Fabricated Structural Steel, 1964. BLS Bulletin 1463 (30 cents). Fertilizer Manufacturing, 1962. BLS Bulletin 1362 (40 cents). Flour and Other Grain Mill Products, 1961. BLS Bulletin 1337 (30 cents). Fluid Milk Industry, 1964. BLS Bulletin 1464 (30 cents). Footwear, 1965. BLS Bulletin 1503 (50 cents). Hosiery, 1964. BLS Bulletin 1456 (45 cents).

Industrial Chemicals, 1965. BLS Bulletin 1529 (40 cents).
Iron and Steel Foundries, 1962. BLS Bulletin 1386 (40 cents).
Leather Tanning and Finishing, 1963. BLS Bulletin 1378 (40 cents).
Machinery Manufacturing, 1965. BLS Bulletin 1476 (25 cents).
Meat Products, 1963. BLS Bulletin 1415 (75 cents).
Men's and Boys' Shirts (Except Work Shirts) and Nightwear, 1964.
BLS Bulletin 1457 (40 cents).
Men's and Boys' Suits and Coats, 1963. BLS Bulletin 1424 (65 cents).
Miscellaneous Plastics Products, 1964. BLS Bulletin 1439 (35 cents).
Miscellaneous Textiles, 1953. BLS Report 56.
Motor Vehicles and Motor Vehicle Parts, 1963. BLS Bulletin 1393 (45 cents).

Nonferrous Foundries, 1965. BLS Bulletin 1498 (40 cents). Paints and Varnishes, 1965. BLS Bulletin 1524 (40 cents). Paperboard Containers and Boxes, 1964. BLS Bulletin 1478 (70 cents). Petroleum Refining, 1965. BLS Bulletin 1526 (30 cents). Pressed or Blown Glass and Glassware, 1964. BLS Bulletin 1423 (30 cents). \*Processed Waste, 1957. BLS Report 124. Pulp, Paper, and Paperboard Mills, 1962. BLS Bulletin 1341 (40 cents). Radio, Television, and Related Products, 1951. Series 2, No. 84. Railroad Cars, 1952. Series 2, No. 86. \*Raw Sugar, 1957. BLS Report 136.

Southern Sawmills and Planing Mills, 1965. BLS Bulletin 1519 (30 cents). Structural Clay Products, 1964. BLS Bulletin 1459 (45 cents). Synthetic Fibers, 1958. BLS Report 143. Synthetic Textiles, 1965. BLS Bulletin 1509 (40 cents). Textile Dyeing and Finishing, 1965-66. BLS Bulletin 1527 (45 cents).

<sup>\*</sup> Studies of the effects of the \$1 minimum wage.

#### I. Occupational Wage Studies—Continued

#### Manufacturing-Continued

\*Tobacco Stemming and Redrying, 1957. BLS Report 136.
West Coast Sawmilling, 1964. BLS Bulletin 1455 (30 cents).
Women's and Misses' Coats and Suits, 1965. BLS Bulletin 1508 (25 cents).
Women's and Misses' Dresses, 1963. BLS Bulletin 1391 (30 cents).
Wood Household Furniture, Except Upholstered, 1965. BLS Bulletin 1496 (40 cents).

\*Wooden Containers, 1957. BLS Report 126.

\*Wooden Containers, 1957. BLS Report 126. Wool Textiles, 1962. BLS Bulletin 1372 (45 cents). Work Clothing, 1964. BLS Bulletin 1440 (35 cents).

#### Nonmanufacturing

Auto Dealer Repair Shops, 1964. BLS Bulletin 1452 (30 cents). Banking, 1964. BLS Bulletin 1466 (30 cents). Bituminous Coal Mining, 1962. BLS Bulletin 1383 (45 cents). Communications, 1964. BLS Bulletin 1467 (20 cents). Contract Cleaning Services, 1965. BLS Bulletin 1507 (30 cents). Crude Petroleum and Natural Gas Production, 1960. BLS Report 181. Department and Women's Ready-to-Wear Stores, 1950. Series 2, No. 78. Eating and Drinking Places, 1963. BLS Bulletin 1400 (40 cents). Electric and Gas Utilities, 1962. BLS Bulletin 1374 (50 cents). Hospitals, 1963. BLS Bulletin 1409 (50 cents). Hotels and Motels, 1963. BLS Bulletin 1406 (40 cents). Laundries and Cleaning Services, 1963. BLS Bulletin 1401 (50 cents). Life Insurance, 1961. BLS Bulletin 1324 (30 cents). Nursing Homes and Related Facilities, 1965. BLS Bulletin 1492 (45 cents)

#### II. Earnings Distributions Studies

Factory Workers' Earnings—Distribution by Straight-Time Hourly Earnings, 1958. BLS Bulletin 1252 (40 cents).
Factory Workers' Earnings—Selected Manufacturing Industries, 1959. BLS Bulletin 1275 (35 cents).

#### Retail Trade:

Employee Earnings and Hours, June 1965—
Building Materials, Hardware, and Farm Equipment Dealers.
BLS Bulletin 1501-1 (25 cents).
General Merchandise Stores. BLS Bulletin 1501-2 (40 cents).
Food Stores. BLS Bulletin 1501-3 (30 cents).
Automotive Dealers and Gasoline Service Stations.
BLS Bulletin 1501-4 (40 cents).
Apparel and Accessory Stores. BLS Bulletin 1501-5 (45 cents).
Furniture, Home Furnishings, and Household Appliance
Stores. BLS Bulletin 1501-6 (40 cents).
Miscellaneous Stores. BLS Bulletin 1501-7 (30 cents).

Employee Earnings in Nonmetropolitan Areas of the South and North Central Regions, 1962. BLS Bulletin 1416 (40 cents).

<sup>\*</sup> Studies of the effects of the \$1 minimum wage.

