

WAGE RATES IN INDUSTRIES ... Engineers and Engineering Technicians in Manufacturing (10th of a Series)

This issue of the LABSTAT Updates is the 10th in the series of statistical releases on the results of the 2004 Occupational Wages Survey (OWS) conducted last year in coordination with the DOLE Regional Offices. The OWS is a nationwide survey covering 6,827 non-agricultural establishments employing 50 or more workers. It aims to provide statistics for wage and salary administration and for wage determination in collective bargaining negotiations.

There are 168 occupations in 43 industries covered by the OWS on wage rates. Of these, 78 occupations are found in 20 selected sub-industries of manufacturing.

This issue focuses on the wage rates of selected engineers and engineering technicians in selected manufacturing industries. Wage rates of these engineers ranged from ₱ 10,024 to ₱ 27,899 while those of engineering technicians varied from ₱ 8,195 to ₱ 13,106.



Engineers paid higher than the all-occupations average wage rate

Five types of engineers (electrical; electronics and telecommunications; mechanical; marine; and chemical) were chosen for collection of data on wage rates. The query was addressed to specific manufacturing sub-industries which were deemed to employ most of these engineers.

Chemical engineers in manufacture of chemicals and chemical products had the highest wage rate in June 2004 at ₱ 27,899. This is almost thrice the all-occupations (national) average of ₱ 10,161. In contrast, chemical engineers in manufacture of plastic products had the lowest wage rate at ₱ 10,024.

Mechanical engineers in manufacture of motor vehicles, trailers and semi-trailers were paid the second highest at ₱ 21,374. This wage rate topped those of similar engineers in the five other sub-industries of manufacturing monitored on occupational wage rates. (Table 1)

The rest of the engineers posted wage rates at ₱ 17,633 (electronics and telecommunications engineers in manufacture of radio, television and communication equipment and apparatus), ₱ 13,437 (electrical engineers in manufacture of electrical machinery and apparatus, n.e.c.) and ₱ 11,562 (marine engineers in building and repairing of ships and boats).

The counterpart engineering technicians of the four engineer occupations (excluding marine engineers) in selected manufacturing sub-industries recorded wage rates ranging from ₱ 8,195 to ₱ 13,106. Electrical engineering technicians in

manufacture of electrical machinery and apparatus, n.e.c. were the least paid while chemical engineering technicians in manufacture of food products and beverages were paid the highest among these technicians.

Hiring rates, minimum requirements on education and experience ...

For the first time in the 2004 round of the OWS, the survey inquired into the hiring rates, minimum educational requirement and minimum years of related experience needed for the various occupations covered by the survey. Some of the findings particularly on minimum hiring rates may be contentious as some rates are below the existing minimum wage rates.

This indicates that the inquiry on these variables of interest have to be improved to better capture the realities. Nevertheless, the survey results can, to some extent, shed light on some aspects of recruitment of employees, in particular, the range or the differentials between the maximum and minimum wage rates offered for various occupations.

Although the minimum hiring wage rates for the engineering group seem to be low, the maximum hiring rates were relatively high. The lowest hiring rate was recorded at ₱ 3,391 for marine engineers in building and repairing of ships and boats. On the other hand, a maximum hiring wage

rate at ₱ 35,000 was registered for mechanical engineers in publishing and printing. (*Table 2*)

Expectedly, a college degree is required for selected engineers and engineering technician except for the trade school completion requirement for electronics and telecommunications engineering technicians (manufacture of radio, television and communication equipment and apparatus) and chemical engineering technicians in manufacture of rubber products.

One to two years of related experience is a pre-requisite for employment in most of the establishments for the selected engineer and technician occupations in the selected manufacturing sub-industries.

However, there is no experience requirement for chemical engineers and chemical engineering technicians in manufacture of rubber products and for mechanical engineering technicians in manufacture of motor vehicles, trailers and semi-trailers.

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TABLE 1 - Average Monthly Wage Rates of Selected Engineers and Engineering Technicians on Full-Time Basis in Selected Manufacturing, Philippines: June 2004

(Non-agricultural establishments employing 50 and over. Wage rates are defined as including basic pay and regular/guaranteed cash allowances.)

1992 PSOC	1994 PSIC	Occupation and Industry	Average Monthly Wage Rates (P)
AVERAGE OF SELECTED OCCUPATIONS			10,161^a
2152		Electrical Engineers	
	D31	Manufacture of Electrical Machinery and Apparatus, n.e.c.	13,437
2153		Electronics and Telecommunications Engineers	
	D32	Manufacture of Radio, Television and Communication Equipment and Apparatus	17,633
2154		Mechanical Engineers	
	D21	Manufacture of Paper and Paper Products	14,372
	D22 excl. D224	Publishing and Printing	14,175
	D251	Manufacture of Rubber Products	12,483
	D252	Manufacture of Plastic Products	12,117
	D26	Manufacture of Other Non-Metallic Mineral Products	17,521
	D34	Manufacture of Motor Vehicles, Trailers and Semi-Trailers	21,374
2154		Marine Engineers	
	D351	Building and Repairing of Ships and Boats	11,562
2155		Chemical Engineers	
	D24	Manufacture of Chemicals and Chemical Products	27,899
	D251	Manufacture of Rubber Products	15,015
	D252	Manufacture of Plastic Products	10,024
3113		Electrical Engineering Technicians	
	D31	Manufacture of Electrical Machinery and Apparatus, n.e.c.	8,195
3114		Electronics and Telecommunications Engineering Technicians	
	D32	Manufacture of Radio, Television and Communication Equipment and Apparatus	11,628
3115		Mechanical Engineering Technicians	
	D21	Manufacture of Paper and Paper Products	11,097
	D34	Manufacture of Motor Vehicles, Trailers and Semi-Trailers	12,419

^a The data refers to the average monthly wage rate across 168 occupations in 43 non-agricultural industries covered by the survey.

TABLE 1 - Average Monthly Wage Rates of Selected Engineers and Engineering Technicians on Full-Time Basis in Selected Manufacturing, Philippines: June 2004 (Cont'd.)

(Non-agricultural establishments employing 50 and over. Wage rates are defined as including basic pay and regular/guaranteed cash allowances.)

1992 PSOC	1994 PSIC	Occupation and Industry	Average Monthly Wage Rates (P)
3116		Chemical Engineering Technicians	
	D15	Manufacture of Food Products and Beverages	13,106
	D24	Manufacture of Chemicals and Chemical Products	11,859
	D251	Manufacture of Rubber Products	8,814
	D252	Manufacture of Plastic Products	9,755

Notes: 1. *Basic pay refers to pay for normal/regular working time before deductions for employees social security contributions and withholding taxes. It excludes overtime, night shift differential and other premium pay; commissions, tips and share of employees in service charge; and payments in kind.*

2. *Allowances refer to regular/guaranteed cash payments. These include living allowance but exclude reimbursements for travel, entertainment, meals and other expenses, etc. incurred in conducting the business of the employer; cost of uniform/working clothes; bonuses and gratuities; family allowances.*

Source of data: Bureau of Labor and Employment Statistics, Occupational Wages Survey.

TABLE 2 - Hiring/Entry Wage Rates, Minimum Educational Requirement and Minimum Years of Related Experience of Selected Engineers and Engineering Technicians on Full-Time Basis in Selected Manufacturing, Philippines: June 2004

(Non-agricultural establishments employing 50 and over.)

Occupation/Industry	Hiring/Entry Wage Rate ¹ (P)		Minimum Educational Requirement		Minimum Years of Related Experience	
	Minimum	Maximum	Level	Percent of Establishments ²	Years	Percent of Establishments ³
Electrical Engineers						
Manufacture of Electrical Machinery and Apparatus, n.e.c.	6,521	14,600	College graduate	100.0	2 years	45.1
Electronics and Telecommunications Engineers						
Manufacture of Radio, Television and Communication Equipment and Apparatus	5,217	23,090	College graduate	98.5	1 year	36.9
Mechanical Engineers						
Manufacture of Paper and Paper Products	5,738	20,000	College graduate	100.0	2 years	32.4
Publishing and Printing	5,869	35,000	College graduate	92.3	1 year	42.0
Manufacture of Rubber Products	3,912	12,000	College graduate	79.6	2 years	42.9
Manufacture of Plastic Products	5,217	28,189	College graduate	93.3	2 years	28.5
Manufacture of Other Non-Metallic Mineral Products	4,695	22,050	College graduate	91.9	1 year	36.5
Manufacture of Motor Vehicles, Trailers and Semi-Trailers	5,738	20,700	College graduate	91.6	1 year	38.7
Marine Engineers						
Building and Repairing of Ships and Boats	3,391	11,000	College graduate	100.0	1 year	83.3
Food Technologists						
Manufacture of Food Products and Beverages	4,695	30,000	College graduate	94.5	1 year	38.8
Chemical Engineers						
Manufacture of Chemicals and Chemical Products	5,000	30,000	College graduate	98.6	1 year	39.7
Manufacture of Rubber Products	7,000	25,000	College graduate	85.8	None	28.5
Manufacture of Plastic Products	5,000	13,000	College graduate	93.9	1 year	31.7
Electrical Engineering Technicians						
Manufacture of Electrical Machinery and Apparatus, n.e.c.	4,500	11,600	College graduate	61.2	1 year	37.8

1 Defined as including basic pay and regular/guaranteed cash allowances.

2 Refers to educational level which has the highest proportion or share of estimated number of establishments reporting the requirement relative to the estimated number of establishments reporting the occupation. The choices for the minimum educational requirement are "elementary graduate, high school graduate, trade school graduate, college graduate, others".

3 Refers to years of related experience which has the highest proportion or share of estimated number of establishments reporting the requirement relative to the estimated number of establishments reporting the occupation. The choices for the minimum years of related experience are "none, 1 year, 2 years, 3 years, 4 or more".

**TABLE 2 - Hiring/Entry Wage Rates, Minimum Educational Requirement and Minimum Years of Related Experience
of Selected Engineers and Engineering Technicians on Full-Time Basis in Selected Manufacturing, Philippines: June 2004 (Cont'd.)**
(Non-agricultural establishments employing 50 and over.)

Occupation/Industry	Hiring/Entry Wage Rate ¹ (P)		Minimum Educational Requirement		Minimum Years of Related Experience	
	Minimum	Maximum	Level	Percent of Establishments ²	Years	Percent of Establishments ³
Electronics and Telecommunications Engineering Technicians						
Manufacture of Radio, Television and Communication Equipment and Apparatus	5,200	12,500	Trade school graduate	51.4	1 year	48.1
Mechanical Engineering Technicians						
Manufacture of Paper and Paper Products	3,912	11,085	College graduate	51.2	2 years	46.2
Manufacture of Motor Vehicles, Trailers and Semi-Trailers	6,083	12,000	College graduate	67.0	None	39.0
Chemical Engineering Technicians						
Manufacture of Food Products and Beverages	4,173	32,400	College graduate	84.0	1 year	33.6
Manufacture of Chemicals and Chemical Products	4,669	20,000	College graduate	76.4	1 year	46.0
Manufacture of Rubber Products	3,912	9,000	Trade school graduate	46.7	None	38.4
Manufacture of Plastic Products	3,912	13,300	College graduate	53.9	1 year	35.8

1 Defined as including basic pay and regular/guaranteed cash allowances.

2 Refers to educational level which has the highest proportion or share of estimated number of establishments reporting the requirement relative to the estimated number of establishments reporting the occupation. The choices for the minimum educational requirement are "elementary graduate, high school graduate, trade school graduate, college graduate, others".

3 Refers to years of related experience which has the highest proportion or share of estimated number of establishments reporting the requirement relative to the estimated number of establishments reporting the occupation. The choices for the minimum years of related experience are "none, 1 year, 2 years, 3 years, 4 or more".

Source of data: Bureau of Labor and Employment Statistics, Occupational Wages Survey.