

If not shown, please enter your 11-digit Census File Number from the address label on page 1

Census File Number

Item 17. CONSUMPTION OF SELECTED MATERIALS DURING 1997

INSTRUCTIONS

1. General - The materials, parts, and supplies listed below are those commonly consumed in the manufacture, processing, or assembly of the products listed in item 18B. Please review the entire list and report separately each item consumed. Leave blank if you do not consume the item. If you use materials, parts, and supplies which are not listed, describe and report them in the "Cost of all other materials . . ." line at the end of this section. If you consumed less than \$25,000 of a listed material, include the value with "Cost of all other materials . . ." Census material code 970099 8.

Report materials, parts, and supplies purchased, transferred from other plants of your company, or withdrawn from inventory.

If quantities are requested, please use the unit of measure specified.

If the information as requested cannot be taken directly from your book records, REASONABLE ESTIMATES ARE ACCEPTABLE.

2. Valuation of Materials Consumed - The value of the materials, etc., consumed should be based on the delivered cost; i.e., the amount paid or payable after discounts and including freight and other direct charges incurred in acquiring the materials.

Materials received from other plants within your company should be reported at their full economic value (the value assigned by the shipping plant, plus the cost of freight and other handling charges).

If purchases or transfers do not differ significantly from the amounts actually put into production, you may report the cost of purchases or transfers. However, if consumption differs significantly from the amounts purchased or transferred, these amounts should be adjusted for changes in the materials and supplies inventories by adding the beginning inventory to the amount purchased or transferred and subtracting ending inventory.

3. Contract Work - Include as materials consumed those you purchased for use by others making products for you under contract. Amounts paid to the companies doing the contract work should be reported in item 10, line e, and should include freight in and out. On the other hand, materials owned by others but used at this establishment in making products for others under contract or on commission should be excluded.

4. Resales - Cost for products bought and sold or transferred from other establishments of your company and sold without further manufacture, processing, or assembly should be reported in item 10, line b, not in item 17 below. The value of these products shipped by this establishment should be reported in item 18B under Census product code 99989 00 6, "Resales."

5. Produced and Consumed - Forgings, foundries, and screw machine products - Report the quantities produced and used in manufacturing other products made in this establishment in item 19. Note that the materials used to produce these items should be reported in item 17.

Line No.	Materials, parts, and supplies (A)		Census material code (B)	Consumption of purchased materials and of materials received from other establishments of your company		
				Cost, including delivery cost (freight-in) (E)		
				574 Millions	Thou- sands	Dollars
			571			
1	ELECTRIC MOTORS AND GENERATORS	Fractional horsepower (less than 1 hp; excluding timing motors)	362115 8	\$		
2		Integral horsepower (1 hp or more)	362120 8			
3	Electrical transmission, distribution, and control equipment		360101 0			
4	FLUID POWER PRODUCTS, HYDRAULIC AND PNEUMATIC	Fluid power pumps, motors, and hydrostatic transmissions (complete assemblies)	359412 4			
5		Fluid power valves and hose and tube fittings and assemblies	349275 8			
6		Other, including fluid power cylinders, actuators, and filters	190087 7			
7	Ball and roller bearings (mounted or unmounted)		356200 6			
8	Internal combustion engines (diesel, semidiesel, gasoline, and other carburetor)		351910 5			
9	FABRICATED METAL PRODUCTS, (Except fluid power products and forgings)	Pipe, valves, and pipe fittings, except fluid power	349402 8			
10		Bolts, nuts, screws, washers, rivets, and screw machine products	345001 2			
11		Fabricated structural metal products, including metal tanks, heat exchangers, steam condensers, other boiler products, steel plate, weldments, and sheet metal products	344001 3			
12		Other	340072 8			
13	FORGINGS	Iron and steel	346200 9			
14		Nonferrous	346300 7			
15	CASTINGS (Rough and semifinished)	Iron and steel	332001 7			
16		Aluminum and aluminum-base alloy	336005 4			
17		Other nonferrous	336003 9			

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Item 17. CONSUMPTION OF SELECTED MATERIALS DURING 1997 - Continued

Line No.	Materials, parts, and supplies (A)			Census material code 571 (B)	Consumption of purchased materials and of materials received from other establishments of your company		
					Cost, including delivery cost (freight-in) (E)		
					574 Millions	Thou- sands	Dollars
18	Shapes and Forms (Except castings, forgings, and fabricated metal products)	STEEL	Bars, bar shapes, and plates	331007 5	\$		
19			Sheet and strip	331022 4			
20			All other steel shapes and forms	331034 9			
21		NONFERROUS	Aluminum and aluminum-base alloy	335001 4			
22			Other	335091 5			
23	Fabricated plastics products, except gaskets			308006 6			
24	Fabricated rubber products, except gaskets			306001 9			
25	Gaskets (all types), packing, and sealing devices			305302 2			
26	Paints, varnishes, stains, lacquers, shellacs, japans, enamels, and allied products			285100 4			
27	Paperboard containers, boxes, and corrugated paperboard			265001 8			
28	Cost of all other materials and components, parts, containers, and supplies consumed <i>Describe the principal materials, etc., included in this value.</i>			970099 8			
29	TOTAL Sum of lines 1-28 should equal item 10, line a				\$		

Item 18A. INSTALLATION (OR ERECTION) OF PRODUCTS OF THIS ESTABLISHMENT

It is preferable that you report the value of shipments for individual products excluding the amounts received for installation and erection. The installation and erection receipts (if any) should be reported on line 98, item 18B. In order to evaluate the reporting for this item, please answer the following questions:

1a. Do the value of shipments figures for individual products include the cost of installation or erection of the products?

b. If "Yes," please estimate the total amount received for installation or erection

2. Do the employees of this manufacturing establishment install or erect the products of your company?
If "Yes," include these employees in item 2 and their wages in item 3A.

3. Does a distinct outside labor force (not attached to this manufacturing plant) erect or install the products for your establishment?
If "Yes," do not include this labor force in item 2 or their wages in item 3A. Payments made by this establishment for any work done by others should be reported as a cost of contract work in item 10, line e. The payroll of this outside labor force should be reported by the establishment that maintains the records for them.

Key	Mark (X) appropriate boxes		
591	5512		
592	1 <input type="checkbox"/> Yes	2 <input type="checkbox"/> No	3 <input type="checkbox"/> Don't know
593	1 <input type="checkbox"/> Under \$50,000 2 <input type="checkbox"/> \$50,000-\$499,999	3 <input type="checkbox"/> \$500,000-\$999,999 4 <input type="checkbox"/> \$1 million or more	
594	1 <input type="checkbox"/> Yes	2 <input type="checkbox"/> No	3 <input type="checkbox"/> Don't know
595	1 <input type="checkbox"/> Yes	2 <input type="checkbox"/> No	3 <input type="checkbox"/> Don't know

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Item 18B. PRODUCTS AND SERVICES OF THIS ESTABLISHMENT DURING 1997

INSTRUCTIONS

1. General – The manufactured products and services listed below are generally made in your industry. If you make products that are not listed, describe and report them in the "All other products made in this establishment" section at the end of item 18B. PLEASE DO NOT COMBINE PRODUCT LINES.

If quantities are requested, please use the unit of measure specified.

If the information as requested cannot be taken directly from your book records, REASONABLE ESTIMATES ARE ACCEPTABLE.
 2. Valuation of Products – Report the value of the products shipped and services performed at the net selling value, f.o.b. plant to the customer; i.e., after discounts and allowances, and exclusive of freight charges and excise taxes.

If you transfer products to other establishments within your company, you should assign the full economic value to the transferred products; i.e., include all direct costs of production and a reasonable proportion of all other costs and profits.
 3. Contract Work – Report PRODUCTS MADE BY OTHERS FOR YOU FROM YOUR MATERIALS on the specific lines as if they were made in this establishment. On the other hand, do not report on the specific product lines PRODUCTS THAT YOU MADE FROM MATERIALS OWNED BY OTHERS. Report only the amount that you received for "commission or contract receipts" under Census product code 93000 00 8.
 4. Resales – Do not report on the specific product lines those PRODUCTS BOUGHT AND SOLD OR TRANSFERRED FROM OTHER ESTABLISHMENTS OF YOUR COMPANY AND SOLD WITHOUT FURTHER MANUFACTURE. Report only a value under Census product code 99989 00 6, "Resales."
 5. Detailed Data Reported Elsewhere – Items denoted by an asterisk(*) require totals for groups of products covered in the more frequent Current Industrial Reports (CIR). If you report on the CIR forms, the sum of the detailed CIR products should equal the total reported on this census form. The Current Industrial Reports related to this report are as follows:
 - a. MA35A, Farm Machinery and Lawn and Garden Equipment
 - b. MA35D, Selected Construction Machinery
 - c. MA35F, Mining Machinery and Mineral Processing Equipment
 - d. MA35M, Air-conditioning and Refrigeration Equipment
 - e. MA35N, Fluid Power Products (Including Aerospace)
 - f. MA35P, Pumps (Except Hydraulic) and Compressors
 - g. MA36A, Switchgear and Industrial Controls
 - h. MA36H, Motors and Generators
 - i. MA36L, Electric Lighting Fixtures
 - j. MA38B, Selected Instruments and Related Products
- NOTE: Only CIR totals are requested; do not duplicate detail reported on the CIR.

Line No.	Products and services (A)		Census product code 581 (B-1)	Corresponds to the sum of products reported for 1997 on –		Products shipped and other receipts		
				CIR form (B-2)	Item code (B-3)	Value, f.o.b. plant (E)		
						584 Millions	Thousands	Dollars
1	PUMPS AND PUMPING EQUIPMENT (Except hydraulic fluid power pumps, vacuum pumps, measuring and dispensing (gasoline service station) pumps, concrete pumps, and automotive circulating pumps and similar pumps for motor vehicles; including the value of the driver if shipped as a complete unit)	Oil well and oil field pumps (except boiler feed); complete units	35617 00 0	MA35P	1698-1721	\$		
2		Domestic sump pumps, 1 hp or less; complete units	35614 00 7		1435-1439			
3		Domestic water systems (pumps for home and farm use), excluding irrigation pumps; complete units	35613 00 9		1367-1390			
4		Industrial pumps (centrifugal, vertical turbine, reciprocating, diaphragm, rotary, etc.; including sump pumps over 1 hp, boiler feed pumps, and irrigation pumps); complete units	35612 00 1		1098-1298			
5		Other (including hot water heating circulator pumps, oil burner and appliance pumps, fire engine pumps, laboratory pumps, and other pumps for conducting liquids, slurries, semisolids, etc., but not gases; report pumps for conducting gases in the appropriate code for compressors and vacuum pumps); complete units	35618 00 8		1800			
6		Parts and attachments, except seals, gaskets, packing, and other sealing devices	35619 00 6		1911-1995			
7	AIR AND GAS COMPRESSORS AND VACUUM PUMPS (Except refrigeration, air-conditioning, and ice-making compressors, pneumatic air motors, and laboratory vacuum pumps; including the value of the driver if shipped as a complete unit)	Air and gas compressors, complete units	35633 00 7		3298-3388			
8		Vacuum pumps, complete units	35634 00 5		3398-3477			
9		Parts and attachments	35636 00 0		3900			

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Item 18B. PRODUCTS AND SERVICES OF THIS ESTABLISHMENT DURING 1997 - Continued										
Line No.	Products and services *Item corresponds to products reported on Current Industrial Reports				Census product code 581	Corresponds to the sum of products reported for 1997 on -		Products shipped and other receipts		
						CIR form (B-2)	Item code	Value, f.o.b. plant (E)		
	(A)				(B-1)					584 Millions
10	Measuring and Dispensing Pumps for Service Station Use for Dispensing Petroleum Products; Including Grease Guns	GASOLINE DISPENSING PUMPS, COMPUTING TYPE (Complete units)	Single Units	With suction pumping unit	35860 13 9			\$		
11				Without suction pumping unit	35860 14 7					
12			Multiple Units	With suction pumping unit	35860 15 4					
13				Without suction pumping unit	35860 16 2					
14		Other products, including lubricating oil pumps, barrel pumps, grease guns, noncomputing-type gasoline pumps, etc.; complete units			35860 55 0					
15	Parts and attachments			35860 91 5						
16	INDUSTRIAL SPRAYING EQUIPMENT (Except agricultural and flame)	Power paint-spraying outfits and other liquid power sprayers			35637 31 3					
17		Hand sprayers			35637 51 1					
18		Parts and attachments			35637 99 0					
19	Fluid Power Pumps, Motors, and Hydrostatic Transmission Components	NON-AEROSPACE	Pumps	Reciprocating types*	35943 00 0	MA35N	5504-5517			
20				Rotary and other types, n.e.c.*	35944 00 8		5534-5538			
21		Motors*		35945 00 5	5545-5571					
22		Aerospace pumps and motors*			35946 00 3		5581-5589			
23		Parts for pumps and motors*			35949 00 7		5591-5597			
24		Fluid Power Cylinders and Actuators	NON-AEROSPACE	Hydraulic fluid power, linear and rotary			35934 00 9	4501-4519		
25	Pneumatic fluid power, linear and rotary			35935 00 6	4601-4619					
26	Aerospace type, hydraulic and pneumatic			35932 00 3	4851-4877					
27	Parts for fluid power cylinders and actuators, hydraulic and pneumatic, including accumulators, cushions, nonvehicular shock absorbers, and related items			35939 00 8	4841-4847 and 4893					
28	Flareless fittings and couplings (including non-metal fittings), non-aerospace, used in fluid power transfer systems				3492K 00 7		2211-2221			
29	Fluid power (hydraulic and pneumatic) valves and other fluid power hose fittings - <i>Briefly describe product</i>				34920 00 9		1201-2209, 2241-2277			
30	Automatic valves (regulating and control type) and parts (except nuclear and fluid power)				34918 00 3	MA38B	4001-4049			
31	Other industrial valves				34910 00 0					
32	GASKETS, PACKING, AND SEALING DEVICES	Axial mechanical face seals			30538 00 3					
33		Rotary oil seals			30539 00 1					
34		Other, including compression packings, nonmetallic gaskets and gasketing, molded packings and seals, and metallic gaskets and machined seals - <i>Specify kind</i>			30530 00 0					
35	Laboratory vacuum pumps, and other laboratory apparatus, complete units (see also lines 36 and 71-73)				38210 10 0	MA35P; MA38B	3394; 4520-4538, 4541-4548			
36	Laboratory furniture, and parts sold separately				38210 20 9	MA38B	4539, 4540			
37	Farm machinery and equipment, including parts				35230 00 2	MA35A	6101-8143, except "Totals"			

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Item 18B. PRODUCTS AND SERVICES OF THIS ESTABLISHMENT DURING 1997 - Continued

Line No.	Products and services (A)		Census product code (B)	Corresponds to the sum of products reported for 1997 on -		Products shipped and other receipts Value, f.o.b. plant (E)		
				CIR form (C)	Item code (D)	584		
						584	Thou-	sands
						Millions		
38	Concrete pumps, and other construction mixing and paving machinery and equipment		35312 00 8	MA35D	3222-3295	\$		
39	Other construction machinery and equipment (including similar machinery used for forestry) - <i>Specify kind of product and whether complete units, attachments, or parts</i>		35310 00 2					
40	Oil and Gas Field Machinery and Equipment	Portable drilling rigs and parts	3533A 00 8	MA36F	6005-6500			
41		DRILLING MACHINERY AND EQUIPMENT	Rotary	35337 00 5				
42			Other	35338 00 3				
43		Derricks and well surveying machinery		3533B 00 6				
44		Production machinery and equipment, except pumps		35339 00 1				
45	MINING MACHINERY AND EQUIPMENT (Except oil and gas field)	Complete units - <i>Specify kind of product</i>	35320 00 1					
46		Parts and attachments, sold separately - <i>Specify kind of product</i>	35329 00 2					
47	REFRIGERATION COMPRESSORS	Not for use in motor vehicles	3585A 00 5	MA35M	5811-5858			
48		For use in motor vehicles	3585B 00 3		5F53			
49	Other air-conditioning and warm-air heating equipment, and commercial and industrial refrigeration equipment - <i>Specify kind of equipment and whether complete units or parts</i>		35850 00 7					
50	Industrial process furnaces, ovens, and kilns, and industrial electric heating equipment (and parts)		35670 00 9					
51	Swimming pool heaters		35699 48 7					
52	Heating equipment, except electric		34330 00 1					
53	Turbine Generator Sets, Turbine Generators, and Parts (Except aircraft; report those on lines 88-95)	STEAM TURBINES	Complete units	35110 11 3				
54			Parts	35110 72 5				
55		GAS TURBINES	Complete units	35110 75 8				
56			Parts	35118 81 6				
57			Other - <i>Specify kind</i>	35110 00 6				
58	Motor vehicle (car, highway truck, and bus) parts and accessories (including pumps and gasoline engines but not diesel engines; report diesel engines on line 59) - <i>Specify kind of product and whether new or rebuilt</i>		37140 00 1					
59	Internal combustion engines, not elsewhere classified (except aircraft engines; report those on lines 88-95) - <i>Specify kind and whether complete units or parts</i>		35190 00 8					
60	Centrifugal blowers and fans (except power roof ventilators), complete units		35643 00 6					

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Item 18B. PRODUCTS AND SERVICES OF THIS ESTABLISHMENT DURING 1997 - Continued							
Line No.	Products and services (A)		Census product code	Corresponds to the sum of products reported for 1997 on -		Products shipped and other receipts	
			581	CIR form	Item code	Value, f.o.b. plant (E)	
	(B)	(C)	(D)	584	Millions	Thou- sands	Dollars
61	Axial and propeller fans, power roof ventilators, and parts attachments, and accessories; and parts and attachments for centrifugal blowers and fans		35644 00 4			\$	
62	Swimming pool filters		35892 95 9				
63	Air pollution control devices		35646 00 9				
64	Dust collection and other air purification equipment for cleaning incoming air (including HVAC filters)		35645 00 1				
65	Industrial filters and strainers (except fluid power; report those on lines 88-95), including media		35693 00 1				
66	SEWAGE TREATMENT EQUIPMENT	Distilling or rectifying equipment	35892 85 0				
67		Filtering or purifying apparatus	35892 87 6				
68		Centrifuges	35892 88 4				
69		Other sewage treatment equipment	35892 89 2				
70	High pressure (more than 1000 pounds per square inch) cleaning and blasting machinery and equipment (except foundry; report products for foundry use on lines 88-95)		35892 86 8				
71	Instruments for control (or measurement or display) of industrial process variables		38230 00 9	MA38B	4612-4897		
72	Integrating and totalizing meters for gas and liquids		38242 00 4	MA38B	5390-5425		
73	Analytical and scientific instruments (except optical - report those on lines 88-95)		38260 00 6	MA38B	8001-8196		
74	Transformers (except electronic; report those on lines 88-95)		36120 00 4				
75	Prime mover generator sets (except steam or hydraulic turbine)		36214 00 5	MA36H	7401-7475		
76	Other electric motors and generators		36210 00 3	MA36H	1015-5310 and 8513-8595, except "Totals"		
77	Relays and industrial controls		36250 00 9	MA36A	5400-6705 except "Totals"		
78	Swimming pool lighting fixtures		36489 00 3				
79	Outdoor lighting equipment		36485 00 1	MA36L	2510-2587		
80	Fabricated steel plate work (boiler shop products), including weldments, heat exchangers, tanks, vessels, and gas cylinders		34430 00 1				
81	Machinery, not elsewhere classified, for use in paper products, paper, or pulp manufacturing or converting		35540 00 4				
82	Machinery for use specifically in the manufacture of chemicals (including pharmaceuticals, cleaning preparations, paint, etc.), including parts		35591 00 7				
83	Electroplating, plating, polishing, and anodizing (performed on metals)		34710 00 4				
84	Etching, engraving, coating, and allied services (performed on metals)		34790 00 6				
85	Heat treating of metal (heat treating, pickling, annealing, brazing, shot peening, tempering, etc.)		33980 00 4				
86	Receipts for machine shop job work and job order repairs		35995 00 0				
87	Gray iron castings, other than white and ductile iron, pressure and soil pipe, and fittings and rolls for rolling mills - Specify below the number of short tons which the value in column (E) represents		33219 98 1				

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Item 18B. PRODUCTS AND SERVICES OF THIS ESTABLISHMENT DURING 1997 - Continued

Line No.	Products and services (A)	Census product code	Unit of measure for quantities (C)	Products shipped and other receipts		
		581		Quantity (D)	Value, f.o.b. plant (E)	
		(B)			584	Thou-
				Millions	sands	
	<i>Describe and report separately each product with a sales value of \$50,000 or more which cannot be assigned to one of the lines above. Specify unit of measure for quantity. For all remaining products, write "Other" and report a single total value.</i>					
88		18		\$		
89		26				
90		34				
91		42				
92		59				
93		67				
94		75				
95		83				
96	CONTRACT WORK Receipts for work done for others on their own materials <i>Describe below products worked on and kind of work.</i>	93000 00 8				
97	RESALES Sales of products bought and sold without further manufacture, processing, or assembly in this establishment. The cost of such items should be reported in item 10, line b.	99989 00 6				
98	MISCELLANEOUS RECEIPTS Miscellaneous receipts (including receipts for repair work, installation fees, sale of scrap and refuse, etc.)	99980 00 5				
99	TOTAL value of shipments and other receipts Sum of lines 1-98, column (E)	77000 00 8		\$		

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Item 19. SELECTED PRODUCTS PRODUCED IN THIS ESTABLISHMENT AND USED IN MANUFACTURING OTHER PRODUCTS MADE IN THIS ESTABLISHMENT

INSTRUCTIONS

1. Report below the quantity of each listed item produced in this establishment and used in manufacturing other products made in this establishment.
2. Purchases or receipts of the items specified below should be reported only in item 17.
3. Materials used to produce the items specified below should be reported in item 17.
4. Quantities produced for sale as such and not for incorporation in other products should be reported in item 18B.
5. Report quantities in the unit of measure specified in column (D).

Line No.	Item (A)	Census code		Was this operation performed at this establishment during 1997?		Unit of measure for quantities (D)	Quantities produced in this establishment and used in manufacturing other products made in this establishment (E)
		591 (B)	592 (C)		593		
			Yes	No			
1	Ferrous foundries	1001 7	1 <input type="checkbox"/>	2 <input type="checkbox"/>	Short tons		
2	NONFERROUS FOUNDRIES (Except die-casting)	1002 5	1 <input type="checkbox"/>	2 <input type="checkbox"/>	↑ Thousand pounds ↓		
3		1003 3	1 <input type="checkbox"/>	2 <input type="checkbox"/>			
4		1004 1	1 <input type="checkbox"/>	2 <input type="checkbox"/>			
5		1005 8	1 <input type="checkbox"/>	2 <input type="checkbox"/>			
6	Nonferrous die-casting foundries	1006 6	1 <input type="checkbox"/>	2 <input type="checkbox"/>			
7	Precision turned products (on screw machines, turning centers, and CNC equipment)	1007 4	1 <input type="checkbox"/>	2 <input type="checkbox"/>			

Items 20 and 21 - Not applicable to this report

REMARKS - Please use this space for any explanations that may be essential in understanding your reported data.

Item 22. CERTIFICATION - This report is substantially accurate and has been prepared in accordance with instructions.

Name of person to contact regarding this report (<i>Print or type</i>)				Area code	Number	Extension
667	1	Telephone		2		
Name of company				Address (<i>Number and street, city, State, ZIP Code</i>)		
Period covered	FROM: Month	Day	Year	TO: Month	Day	Year
	666	1		2		
Signature of authorized person			Title		Date	