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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Report materials, parts, and supplies purchased, transferred from other plants of your company, or withdrawn from inventory.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 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. Lines 9 and 10 – Scrap generated in other establishments of your company and transferred to this establishment should be reported as scrap purchased from outside sources. Exclude home scrap.

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Line No.	Materials, parts, and supplies		Census material code	Consumption of purchased materials and of materials received from other establishments of your company		
				Cost, including delivery cost (freight-in)		
				(E)		
	(A)	(B)	574	Thou-	Dollars	
			Millions	sands		
1	Shapes and Forms (Except castings, forgings, and fabricated metal products)	FERROUS	Pig iron	331051 3	\$	
2			Ferrochromium	331320 2		
3			Ferromanganese, silicomanganese, and manganese	331313 7		
4			Ferrosilicon (more than 8 percent)	331331 9		
5			All other ferrous shapes and forms	330011 8		
6		NON-FERROUS	Nickel and nickel-base alloy	333963 7		
7			Cobalt-base alloy	333982 7		
8			All other nonferrous shapes and forms	333911 6		
9	PURCHASED SCRAP (Excluding home scrap)	Iron and steel	190023 2			
10		All other purchased scrap	190082 8			
11	STONE, CLAY, GLASS, AND CONCRETE PRODUCTS	Clay refractories	325501 5			
12		Grinding wheels and other abrasive products (except industrial diamonds)	329101 0			
13		Nonclay refractories	329701 7			
14		All other stone, clay, glass, and concrete products	320025 0			
15	INDUSTRIAL AND COMMERCIAL MACHINERY AND COMPUTER EQUIPMENT	Industrial patterns	354301 4			
16		Industrial dies, molds, jigs, and fixtures	354402 0			
17		All other industrial and commercial machinery and computer equipment	350066 7			
18	Sand		144603 8			

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
19	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	\$		
20	TOTAL Sum of lines 1-19 should equal item 10, line a		\$		

Item 18A - Not applicable to this report

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

INSTRUCTIONS

- 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.
- 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.
- Contract Work
 - Products made by others for you from your materials - Report such products on the specific lines of this section as if they were made in this establishment.
 - Products that you made from materials owned by others - Report the amount that you received for "commission or contract receipts" on line 81, Census product code 93000 00 8. Do not report on the specific product lines for these products.
- Toll operations - Tolling must be performed for customers outside your own company. If the work is done for other establishments within your company; the value of the materials consumed in the tolling operation should be reported in your cost of materials data and the processed value of the product should be reported as a product shipment and a corresponding interplant transfer.
Line 35 - Report heat and/or corrosion resistant steel castings containing 8 percent or more of chromium or nickel, or both, with or without molybdenum or other elements.
- 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."
- Quantities - Lines 1-70 - Report the weight of castings before machining. The removal of gates; risers; sprues; and tumbling, dipping, or sandblasting do not constitute machining. Report in item 19 the weight of rough castings you produced and machined or assembled into other products in this establishment. The quantity and value of the machined castings or the finished product in which the castings are incorporated should be entered in columns (D) and (E) on lines 72-80.
- Products Shipped and Other Receipts - Report the quantity and value of each product made and physically shipped during 1997 from this establishment; include products shipped to other plants, sales branches, retail stores, or warehouses of your company and on consignment. Deduct returned goods. Also report the value of services performed at this establishment.

Line No.	Products and services (A)				Census product code 581 (B)	Unit of measure for quantities (C)	Products shipped and other receipts, including interplant transfers					
							Quantity 583 (D)	Value, f.o.b. plant (E)				
								584 Millions	Thou- sands	Dollars		
1	Ductile Iron Castings	DUCTILE IRON PRESSURE PIPE AND FITTINGS (33211)	Ductile Iron Pressure Pipe	Less than 14 inches (inside diameter)	33211 21 0	Short tons						
2				14 inches or more (inside diameter)	33211 23 6							
3			Fittings	Less than 14 inches (inside diameter)	33211 25 1							
4				14 inches or more (inside diameter)	33211 26 9							
5	(Continue on next page)	OTHER DUCTILE IRON CASTINGS (33212)	Automotive uses		33212 22 6							
6			Construction and utility uses		33212 24 2							
7			Machinery uses		33212 33 3							

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

Line No.	Products and services (A)			Census product code 581 (B)	Unit of measure for quantities (C)	Products shipped and other receipts, including interplant transfers					
						Quantity 583 (D)	Value, f.o.b. plant (E)				
							584 Millions	Thou-sands	Dollars		
8	Ductile Iron Castings – Continued	OTHER DUCTILE IRON CASTINGS (33212) – Continued	Valve uses	33212 31 7	↑ Short tons		\$				
9			All other uses (including electric and electronic equipment uses and heat resistant parts (including coke oven door parts))	33212 40 8							
10	Gray Iron Castings (Excluding ductile iron)	Molds and stools for heavy steel ingots (33216)		33216 00 3	↓						
11		CAST IRON PRESSURE PIPE AND FITTINGS (33217)	Cast Iron Pressure Pipe	Less than 14 inches (inside diameter)		33217 31 6	↑ Short tons				
12				14 inches or more (inside diameter)		33217 33 2					
13		Fittings		Less than 14 inches (inside diameter)	33217 35 7						
14				14 inches or more (inside diameter)	33217 36 5						
15		CAST IRON SOIL PIPE AND FITTINGS (Including special fittings) (33218)	Cast Iron Soil Pipe	3 inches or less (inside diameter)	33218 22 3						
16				More than 3 inches up to but not including 5 inches (inside diameter)	33218 24 9						
17				5 inches or more (inside diameter)	33218 27 2						
18			Fittings (Including special fittings)		3 inches or less (inside diameter)	33218 30 6					
19					More than 3 inches up to but not including 5 inches (inside diameter)	33218 33 0					
20					5 inches or more (inside diameter)	33218 36 3					
21		OTHER GRAY IRON CASTINGS (33219)	Rolls for rolling mills		33219 31 2						
22			Automotive uses		33219 39 5						
23			Construction and utility uses		33219 49 4						
24			All other uses		33219 98 1						
25		Standard malleable iron castings (33221)			33221 00 3						
26		Pearlitic malleable iron castings (33222)			33222 00 1						
27		STEEL INVESTMENT CASTINGS (33240)	Carbon (including low alloy)		33240 63 1						
28	Alloy (excluding stainless)		33240 64 9								
29	Stainless steel		33240 66 4								
30	Hi-temp metal castings (iron, nickel, or cobalt-base alloys)		33240 67 2	Pounds							

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Item 18B. PRODUCTS AND SERVICES OF THIS ESTABLISHMENT DURING 1997 – Continued								
Line No.	Products and services			Census product code	Unit of measure for quantities	Products shipped and other receipts, including interplant transfers		
						Quantity	Value, f.o.b. plant (E)	
	(A)	(B)	(C)	(D)	584 Millions		Thousands	Dollars
31	OTHER CARBON STEEL CASTINGS, EXCEPT INVESTMENT (33252)	Cast steel railroad car wheels and railway specialties		33252 11 5			\$	
32		Rolls for rolling mills		33252 15 6				
33		Other carbon steel castings		33252 19 8				
34	HIGH ALLOY STEEL CASTINGS, EXCEPT INVESTMENT (33254)	High manganese steel castings		33254 21 0	Short tons			
35		Other high alloy steel castings		33254 31 9				
36	OTHER ALLOY STEEL CASTINGS, EXCEPT INVESTMENT (33255)	Railway specialties		33255 51 4	Short tons			
37		Rolls for rolling mills		33255 55 5				
38		All other alloy steel castings		33255 59 7				
39	Aluminum and aluminum-base alloy die-castings			33630 00 5	Thousand pounds			
40	NONFERROUS DIE-CASTINGS (Except aluminum) (33640)	Copper and copper-base alloys (including bearings and bushings)		33640 11 1				
41		Zinc and zinc-base alloys		33640 21 0				
42		Magnesium and magnesium-base alloys		33640 31 9				
43		Lead and lead-base alloys		33640 41 8				
44		Other nonferrous metal die-castings – Specify metal				33640 51 7		
45	Aluminum and Aluminum-Base Alloy Castings (Excluding die-castings) (33650)	ALUMINUM AND ALUMINUM-BASE ALLOY CASTINGS (Except cast aluminum cooking utensils)	Sand	33650 11 0				
46			Permanent and semipermanent mold	33650 31 8				
47			Investment	33650 51 6				
48			Other	33650 61 5				
49	Nonelectric cast aluminum pressure cookers, household type and nonelectric cast aluminum cooking utensils			33650 73 0				
50	Copper and Copper-Base Alloy Castings (Excluding die-castings) (33660)	COPPER AND COPPER-BASE ALLOY CASTINGS (Except bearings and bushings)	Sand castings	Alloy (C84400)	33660 20 0			
51				Leaded red and semired brasses (C83100-C84000, except C84400)	33660 21 8			
52				Tin bronzes (including leaded and high-leaded (C90100-C94500))	33660 22 6			
53				Coppers and high-copper alloys (C80100-C82900)	33660 24 2			
54				Engineered alloys including – Manganese bronzes (C86100-C86900) Silicon bronzes and brasses (C87100-C87900) Aluminum bronzes (C95100-C95900) Copper nickels (C96100-C96900)		33660 25 9		
	(Continue on next page)	(Continue on next page)	(Continue on next page)					

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

Line No.	Products and services				Census product code	Unit of measure for quantities	Products shipped and other receipts, including interplant transfers			
							Quantity	Value, f.o.b. plant (E)		
	(A)				581 (B)	(C)		583 (D)	584 Millions	Thousands
55	Copper and Copper-Base Alloy Castings (Excluding die-castings) (33660) - Continued	COPPER AND COPPER-BASE ALLOY CASTINGS (Except bearings and bushings) - Continued	Sand castings - Continued	Other alloys, including- Yellow and leaded yellow brasses (C85100-C85900) Nickel tin bronzes (C94600-C94900) Nickel silvers (C97100-C97900) Lead bronzes (C98100-C98900) Special alloys (C99100-C99900)	33660 26 7			\$		
56				Permanent and semipermanent mold	33660 31 7					
57				Centrifugal	33660 41 6					
58				Investment	33660 51 5					
59				Other	33660 61 4					
60				Copper-base alloy bearings and bushings, nonmachined			33660 72 1			
61	Other Non-ferrous Castings, N.E.C. (Excluding die-castings) (33690)	Zinc and zinc-base alloy			33690 11 6					
62		MAGNESIUM AND MAGNESIUM-BASE ALLOY	Sand		33690 15 7					
63			Other (including permanent and semipermanent mold and cast anodes)		33690 23 1					
64		Nickel and nickel-base alloy			33690 85 0					
65		Other nonferrous metal castings - Specify kind of metal			33690 99 1					
66	Industrial Molds Billed to Customers Separately (35442) Include only those molds whose cost was borne directly by the company for whom the mold was made, whether delivered to that company or kept in your own plant. (Do not report elsewhere in item 18B the value of molds reported here)	MOLDS FOR METAL OR METAL CARBIDES (Except ingot molds)	Die-casting dies	For low pressure casting		35442 03 7				
67				For high pressure casting		35442 05 2				
68		Permanent molds (for gravity casting)			35442 07 8					
69		Other types - Specify			35442 09 4					
70		Molds for wax			35442 14 4					

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Item 18B. PRODUCTS AND SERVICES OF THIS ESTABLISHMENT DURING 1997 - Continued							
Line No.	Products and services (A)		Census product code 581 (B)	Unit of measure for quantities (C)	Products shipped and other receipts, including interplant transfers		
					Quantity 583 (D)	Value, f.o.b. plant (E)	
						584 Millions	Thou-sands
71	Foundry patterns (billed to customers separately) (Include only those patterns whose cost was borne directly by the company for whom the pattern was made, whether delivered to that company or kept in your own plant.)		35430 11 5				\$
72	ALL OTHER PRODUCTS MADE IN THIS ESTABLISHMENT <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>		18				
73			26				
74			34				
75			42				
76			59				
77			67				
78			75				
79			83				
80			91				
81	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				
82	MISCELLANEOUS RECEIPTS	Sales of scrap and refuse	99980 13 8				
83		Receipts for repair work	99980 61 7				
84		Other miscellaneous receipts	99980 98 9				
85	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				
86	TOTAL value of shipments and other receipts Sum of lines 1-85, 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 (B)	Was this operation performed at this establishment during 1997? (C)		Unit of measure for quantities (D)	Quantities produced in this establishment and used in manufacturing other products made in this establishment
						(E)
			591	592		593
		Yes	No			
1	Ferrous foundries	1001 7	1 <input type="checkbox"/>	2 <input type="checkbox"/>	Short tons	
2	NONFERROUS FOUNDRIES (Except die-casting)	Aluminum	1002 5	1 <input type="checkbox"/>	2 <input type="checkbox"/>	Thousand pounds
3		Copper	1003 3	1 <input type="checkbox"/>	2 <input type="checkbox"/>	
4		Zinc	1004 1	1 <input type="checkbox"/>	2 <input type="checkbox"/>	
5		Other	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>)		Telephone	Area code	Number	Extension	
667	1	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	