

16 DETAILED COST OF MATERIALS, PARTS, AND SUPPLIES

General - The materials, parts, and supplies listed below are those commonly consumed in the manufacture, processing, or assembly of the products listed in **2**. 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 that are not listed, describe and report them in the "Cost of all other materials . . ." 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 009700 99 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Report materials, parts, and supplies purchased, transferred from other plants of your company, or withdrawn from inventory.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.

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 amount 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.

Contract Work - Include all 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 **15**, line A5, 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.

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 **15**, line A2, not in **16**. The value of these products shipped by this establishment should be reported in **2** under Census product code 000999 8900 6, "Resales."

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)		
			\$ Bil.	Mil.	Thou.
0634		0630	0631		
	Shapes and forms (excluding castings, forgings, and fabricated metal products)				
	Ferrous				
1	Pig iron	331200 45 1			
2	Ferrochromium	331112 05 2			
3	Ferromanganese, silicomanganese, and manganese	331112 03 7			
4	Ferrosilicon (more than 8 percent silicon)	331112 07 8			
5	All other ferrous shapes and forms	331000 13 3			
	Nonferrous				
6	Nickel and nickel-base alloy	331419 25 9			
7	Cobalt-base alloy	331419 47 3			
8	All other nonferrous shapes and forms	331419 05 1			

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If not shown, please enter your 11-digit Census File Number (CFN) from the mailing address.

16 DETAILED COST OF MATERIALS, PARTS, AND SUPPLIES - Continued

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)		
			\$ Bil.	Mil.	Thou.
0634		0630	0631		
9	Purchased scrap (excluding home scrap)				
	Iron and steel	001900 23 2			
10	All other purchased scrap	001900 82 8			
	Stone, clay, glass, and concrete products				
11	Clay refractories	327124 00 4			
12	Grinding wheels and other abrasive products (excluding industrial diamonds)	327910 01 4			
13	Nonclay refractories	327125 00 1			
14	All other stone, clay, glass, and concrete products	327000 09 7			
	Industrial and commercial machinery and computer equipment				
15	Industrial patterns	332997 00 6			
16	Industrial dies, molds, jigs, and fixtures	333500 03 1			
17	All other industrial and commercial machinery and computer equipment	001900 A5 8			
18	Sand	212320 05 5			
19	Cost of all other materials and components, parts, containers, and supplies consumed (Specify the principal materials, etc., included in this value.) ↴	009700 99 8			
20	TOTAL (Should equal total reported in 15 , line A1)	771000 00 7			

17-21 Not Applicable.

33119090

22 DETAIL OF SALES, SHIPMENTS, RECEIPTS, OR REVENUE

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 **2**. 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.

Products Shipped and Other Receipts - Report the quantity and value of each product made and physically shipped during 2002 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.

Quantities - Lines 1 through 45 - Where requested, report the weight of castings before machining. The removal of gates; risers; sprues; and tumbling, dipping, or sandblasting do not constitute machining. Report in **26** 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 appropriate columns on lines 76 through 81.

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.

Line 34 - Report heat and/or corrosion resistant steel castings containing eight percent or more of chromium or nickel, or both, with or without molybdenum or other elements.

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 code 000930 0000 8.

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 code 000999 8900 6, "Resales."

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		
					\$ Bil.	Mil.	Thou.
0734		0730	0736	0732	0731		
1	Ductile iron castings		↑ short tons ↓				
	Ductile iron pressure pipe and fittings						
	Ductile iron pressure pipe						
	Less than 14 inches (inside diameter) . .	331511 1201 9					
2	14 inches or more (inside diameter) . . .	331511 1106 0					
	Fittings						
	Less than 14 inches (inside diameter) . .	331511 1111 0					
3	14 inches or more (inside diameter) . . .	331511 1116 9					
4	Other ductile iron castings						
	Automotive uses	331511 3101 9					
5	Construction and utility uses	331511 3206 6					
6	Machinery uses	331511 3216 5					
7	Valve uses	331511 3211 6					
8	All other uses (including electric and electronic equipment uses and heat resistant parts) (including coke oven door parts) . . .	331511 3221 5					
9							

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22 DETAIL OF SALES, SHIPMENTS, RECEIPTS, OR REVENUE - 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			
					\$ Bil.	Mil.	Thou.	
0734		0730	0736	0732	0731			
	Gray iron castings (excluding ductile iron)		↑ short tons ↓					
10	Molds and stools for heavy steel ingots	331511 E200 7						
	Cast iron pressure pipe and fittings							
	Cast iron pressure pipe							
11	Less than 14 inches (inside diameter) . .	331511 5101 7						
12	14 inches or more (inside diameter) . . .	331511 5106 6						
	Fittings							
13	Less than 14 inches (inside diameter) . .	331511 5111 6						
14	14 inches or more (inside diameter) . . .	331511 5116 5						
	Cast iron soil pipe and fittings (including special fittings)							
	Cast iron soil pipe							
15	3 inches or less (inside diameter)	331511 7101 5						
16	More than 3 inches, and up to but not including 5 inches (inside diameter) . . .	331511 7106 4						
17	5 inches or more (inside diameter)	331511 7111 4						
	Fittings (including special fittings)							
18	3 inches or less (inside diameter)	331511 7116 3	↑ short tons ↓					
19	More than 3 inches, and up to but not including 5 inches (inside diameter) . . .	331511 7121 3						
20	5 inches or more (inside diameter)	331511 7126 2						
	Other gray iron castings							
21	Rolls for rolling mills	331511 9101 3						
22	Automotive uses	331511 9206 0						
23	Construction and utility uses	331511 9111 2						
24	All other uses	331511 9116 1						
25	Standard malleable iron castings	331511 A100 3						
26	Pearlitic malleable iron castings	331511 C300 7						

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22 DETAIL OF SALES, SHIPMENTS, RECEIPTS, OR REVENUE - 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			
					\$ Bil.	Mil.	Thou.	
0734		0730	0736	0732	0731			
	Steel investment castings							
27	Carbon (including low alloy)	331512 0101 0						
28	Alloy (excluding stainless)	331512 0106 9						
29	Stainless steel	331512 0311 5						
30	Hi-temp metal castings (iron, nickel, or cobalt-base alloys)	331512 0216 6	pounds					
31	Other carbon steel castings, except investment Cast steel railroad car wheels and railway specialties	331513 1101 7						
32	Other carbon steel castings (including rolls for rolling mills)	331513 1211 4						
33	High alloy steel castings (except investment) High manganese steel castings	331513 3101 5	↑ short tons ↓					
34	Other high alloy steel castings	331513 3106 4						
35	Other alloy steel castings (except investment) Railway specialties	331513 5101 3	↑ short tons ↓					
36	Rolls for rolling mills	331513 5106 2						
37	All other alloy steel castings	331513 5111 2						
38	Aluminum and aluminum-base alloy die-castings	331521 0100 3	↑					
39	Nonferrous die-castings (except aluminum) Copper and copper-base alloys (including bearings and bushings)	331522 0101 9	↑ 1000 lb ↓					
40	Zinc and zinc-base alloys	331522 0206 6						
41	Magnesium and magnesium-base alloys	331522 0311 4						
42	Lead and lead-base alloys	331522 0416 1						
43	Other nonferrous metal die-castings (<i>Specify kind of metal.</i>) ↴ 	331522 0521 8						

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22 DETAIL OF SALES, SHIPMENTS, RECEIPTS, OR REVENUE - 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			
					\$ Bil.	Mil.	Thou.	
0734		0730	0736	0732	0731			
	Aluminum and aluminum-base alloy castings (excluding die-castings) Aluminum and aluminum-base alloy castings (except cast aluminum cooking utensils)		↑ 1000 lb ↓					
44	Sand	331524 0101 5						
45	Permanent and semipermanent mold	331524 0206 2						
46	Investment	331524 0311 0						
47	Other	331524 0421 7						
48	Nonelectric cast aluminum pressure cookers, household type and nonelectric cast aluminum cooking utensils	331524 0416 7						
	Copper and copper-base alloy castings (excluding die-castings) Copper and copper-base alloy castings (except bearings and bushings) Sand castings							
49	Alloy (C84400)	331525 0101 2						
50	Leaded red and semired brasses (C83100-C84000)	331525 0206 9						
51	Tin bronzes (including leaded and high-leaded (C90100-C94500))	331525 0411 5						
52	Copper and high-copper alloys (C80100-C82900)	331525 0416 4						
53	Engineered alloys including manganese bronzes (C86100-C86900), silicon bronzes and brasses (C87100-C87900), aluminum bronzes (C95100-C95900), copper nickels (C96100-C96900)	331525 0221 8						
54	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)	331525 0426 3						
55	Permanent and semipermanent mold	331525 0531 0						
56	Centrifugal	331525 0536 9						
57	Investment	331525 0541 9						
58	Other	331525 0546 8						
59	Copper-base alloy bearings and bushings, nonmachined	331525 0651 6						

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22 DETAIL OF SALES, SHIPMENTS, RECEIPTS, OR REVENUE - 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		
					\$ Bil.	Mil.	Thou.
0734		0730	0736	0732	0731		
60	Other nonferrous castings, nec (excluding die-castings) Zinc and zinc-base alloy	331528 0201 4					
61	Magnesium and magnesium-base alloy Sand	331528 0206 3					
62	Other (including permanent and semipermanent mold and cast anodes) . . .	331528 0211 3					
63	Nickel and nickel-base alloy	331528 0116 4					
64	Other nonferrous metal castings (Specify kind of metal.) ↴ 	331528 0221 2					
65	Industrial molds and mold boxes, nsk (excluding molds for metal, metal carbides, or wax) (Specify kind.) ↴ 	333511 0YWW 4					
66	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.)	332997 0101 2					
67	Receipts for machine shop job work and job order repairs	332710 0100 1					
68	Ductile iron grooved fittings and couplings for piping systems	332919 3113 8					
69	Gas (all types) domestic heating stoves, including vented and unvented circulators, radiants, and laundry stoves (excluding parts)	333414 3101 4					
70	Multiple drive sheaves	333613 3649 9					
71	Pulleys	333613 3767 9					
72	Parts for mechanical power transmission equipment	333613 3798 4					
73	Parts for winches (except for mounting on prime movers), aerial work platforms, automobile hoists (sold separately)	333923 7495 6					
74	Compression type piston rings for motor vehicle engines (passenger car, truck, and bus), all types .	336311 3209 0					
75	Research and development on missile and space vehicle parts and components for other customers	336419 3111 9					

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22 DETAIL OF SALES, SHIPMENTS, RECEIPTS, OR REVENUE - 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			
					\$ Bil.	Mil.	Thou.	
0734		0730	0736	0732	0731			
	All other products made in this establishment - Specify and report each product with sales value of \$50,000 or more that cannot be assigned to one of the "listed products and services". For all remaining products, write "Other" and report a single total value.							
76		18						
77		26						
78		34						
79		42						
80		59						
81		67						
	Contract work - Receipts for work done for others on their materials (Specify products worked on and kind of work.) ↴							
82		000930 0000 8						
	Miscellaneous receipts							
83	Sales of scrap and refuse	000999 8013 8						
84	Receipts for repair work	000999 8061 7						
85	Other miscellaneous receipts	000999 8098 9						
	Resales - Sales of products bought and sold without further manufacture, processing, or assembly (The cost of such items should be reported in 15, line A2.)							
86		000999 8900 6						
87	TOTAL (Should equal 4, line A)	770000 0000 8						

23-25 Not Applicable.



33119157

26 SPECIAL INQUIRIES

SELECTED PRODUCTS PRODUCED AND CONSUMED

- Report below the quantity of each listed item produced in this establishment and used in manufacturing other products made in this establishment.
- Purchases or receipts of the items specified below should be reported only in 16.
- Materials used to produce the items specified below should be reported in 16.
- Quantities produced for sale as such and not for incorporation in other products should be reported in 2.
- Report quantities in the unit of measure specified.

Mark "X" if not performed at this establishment

- | | | |
|--|------|--------------------------|
| 1. Ferrous foundries | 8301 | <input type="checkbox"/> |
| 2. Nonferrous foundries, excluding die-casting | | |
| a. Aluminum | 8302 | <input type="checkbox"/> |
| b. Copper | 8303 | <input type="checkbox"/> |
| c. Zinc | 8304 | <input type="checkbox"/> |
| d. Other | 8305 | <input type="checkbox"/> |
| 3. Nonferrous die-casting foundries | 8306 | <input type="checkbox"/> |

Unit of measure for quantities	Quantities produced in this establishment and used in manufacturing other products made in this establishment
short tons	
1000 lb	
1000 lb	
1000 lb	
1000 lb	
1000 lb	

4. Did this establishment produce precision turned products (on screw machines, turning centers, and CNC equipment)?

8308 Yes

8309 No

27 Not Applicable.



33119165

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28 ESTABLISHMENT ACTIVITIES

A. Indicate activities that were performed by this establishment or were performed for this establishment by another company during 2002.
(Mark "X" ALL that apply.)

	This activity was performed -			
	By this establishment	By another establishment of this company	By another company	Not at all
1. Product design/engineering	0921 <input type="checkbox"/>	8071 <input type="checkbox"/>	0941 <input type="checkbox"/>	0961 <input type="checkbox"/>
2. Order fulfillment				
a. Bundling or kitting (combining multiple items into a prepackaged product)	0923 <input type="checkbox"/>	8072 <input type="checkbox"/>	0943 <input type="checkbox"/>	0963 <input type="checkbox"/>
b. Pick and pack (taking goods from inventory and packaging them to fill orders).	0924 <input type="checkbox"/>	8073 <input type="checkbox"/>	0944 <input type="checkbox"/>	0964 <input type="checkbox"/>
c. Warehousing of finished products	0925 <input type="checkbox"/>	8074 <input type="checkbox"/>	0945 <input type="checkbox"/>	0965 <input type="checkbox"/>
d. Breaking bulk (reducing large shipments into smaller portions for customers)	0926 <input type="checkbox"/>	8075 <input type="checkbox"/>	0946 <input type="checkbox"/>	0966 <input type="checkbox"/>
e. Local delivery (within a city, town, or other local area, including adjoining towns and suburban areas)	0927 <input type="checkbox"/>	8076 <input type="checkbox"/>	0947 <input type="checkbox"/>	0967 <input type="checkbox"/>
f. Long distance delivery (beyond local areas and commercial zones)	0928 <input type="checkbox"/>	8077 <input type="checkbox"/>	0948 <input type="checkbox"/>	0968 <input type="checkbox"/>
g. Processing of returned merchandise	0932 <input type="checkbox"/>	8078 <input type="checkbox"/>	0952 <input type="checkbox"/>	0972 <input type="checkbox"/>

B. During 2002 did this establishment:

- 1. Manage inventory owned by this establishment AND held at this location? 0936 Yes 0937 No
- 2. Manage inventory owned by this establishment BUT held at a customer's location?. 0956 Yes 0957 No
- 3. Manage inventory owned by another company BUT held at this location? 0976 Yes 0977 No
- 4. Manage inventory owned by another company AND held somewhere other than at this location?. 0994 Yes 0995 No
- 5. Contract with another firm for any of your production using materials owned by this location? 8041 Yes 8042 No
- 6. Send any partially completed products to a foreign facility for processing that were then returned to this establishment for completion? 8044 Yes 8045 No
- 7. Manufacture products for a government to their specifications? 8047 Yes 8048 No
- 8. Manufacture products for another business to their specifications? 8016 Yes 8017 No
- 9. Manufacture products for a final retail customer to their specifications? 8060 Yes 8062 No



33119173

29 OPERATIONAL STATUS

Activity that best describes this establishment's status at the end of 2002
(Mark "X" only ONE box.)

0011 <input type="checkbox"/> In operation	0013 <input type="checkbox"/> Temporarily or seasonally inactive							
0012 <input type="checkbox"/> Under construction, development, or exploration	0014 <input type="checkbox"/> Ceased operation - Give date at right →	0018 <table border="1"> <tr> <th>Month</th> <th>Day</th> <th>Year</th> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> </table>	Month	Day	Year			
Month	Day	Year						
	0015 <input type="checkbox"/> Sold or leased to another operator - Give date at right AND enter new name and mailing address below ↴	→						

0060 Name of new owner or operator	0061 Employer Identification Number		
	Enter EIN of new owner (9 digits) →		-
0062 Mailing address (number and street, P.O. Box, etc.)			
0063 City, town, village, etc.	0064 State	0065 ZIP Code	
			-

Remarks (Please use this space for any explanations that may be essential in understanding your reported data.)

30 CERTIFICATION - This report is substantially accurate and was prepared in accordance with the instructions.

Is the time period covered by this report a calendar year?								
0078 <input type="checkbox"/> Yes	0079 <input type="checkbox"/> No - Enter time period covered →	FROM 0070	Month	Year	TO 0071	Month	Year	
0072 Name of person to contact regarding this report				0073 Title				
Telephone 0074		Area code	Number		Extension	Fax 0075		
			-			-		
0076 Internet e-mail address					Date completed 0069	Month	Day	Year

Thank you for completing your 2002 Economic Census form.
PLEASE PHOTOCOPY THIS FORM FOR YOUR RECORDS AND RETURN THE ORIGINAL.

33119181