

Catalogue no. 41-019-X

# Steel, Tubular Products and Steel Wire



August 2007



Statistics Canada Statistique Canada



# How to obtain more information

For information about this product or the wide range of services and data available from Statistics Canada, visit our website at www.statcan.ca or contact us by e-mail at infostats@statcan.ca or by phone from 8:30am to 4:30pm Monday to Friday at:

#### Toll-free telephone (Canada and the United States):

Inquiries line 1-800-263-1136

National telecommunications device for the hearing impaired 1-800-363-7629

Fax line 1-877-287-4369

Depository Services Program inquiries line 1-800-635-7943

Depository Services Program fax line 1-800-565-7757

Statistics Canada national contact centre: 1-613-951-8116

Fax line 1-613-951-0581

# Information to access the product

This product, catalogue no. 41-019-X, is available for free in electronic format. To obtain a single issue, visit our website at www.statcan.ca and select Publications.

# Standards of service to the public

Statistics Canada is committed to serving its clients in a prompt, reliable and courteous manner. To this end, the Agency has developed *standards of service* which its employees observe in serving its clients.

To obtain a copy of these service standards, please contact Statistics Canada toll free at 1-800-263-1136. The service standards are also published on *www.statcan.ca* under About us > Providing services to Canadians.



# Statistics Canada

Manufacturing, Construction and Energy Division

# Steel, Tubular Products and Steel Wire

August 2007

Published by authority of the Minister responsible for Statistics Canada

© Minister of Industry, 2007

All rights reserved. The content of this electronic publication may be reproduced, in whole or in part, and by any means, without further permission from Statistics Canada, subject to the following conditions: that it be done solely for the purposes of private study, research, criticism, review or newspaper summary, and/or for non-commercial purposes; and that Statistics Canada be fully acknowledged as follows: Source (or "Adapted from", if appropriate): Statistics Canada, year of publication, name of product, catalogue number, volume and issue numbers, reference period and page(s). Otherwise, no part of this publication may be reproduced, stored in a retrieval system or transmitted in any form, by any means—electronic, mechanical or photocopy—or for any purposes without prior written permission of Licensing Services, Client Services Division, Statistics Canada, Ottawa, Ontario, Canada K1A 0T6.

October 2007

Catalogue no. 41-019-X, vol. 3, no. 8

ISSN 1712-980X

Frequency: Monthly

Ottawa

La version française de cette publication est disponible sur demande (nº 41-019-X au catalogue).

#### Note of appreciation

Canada owes the success of its statistical system to a long standing partnership between Statistics Canada, the citizens of Canada, its businesses, governments and other institutions. Accurate and timely statistical information could not be produced without their continued cooperation and goodwill.

# **User information**

# **Symbols**

The following standard symbols are used in Statistics Canada publications:

- . not available for any reference period
- .. not available for a specific reference period
- ... not applicable
- 0 true zero or a value rounded to zero
- 0s value rounded to 0 (zero) where there is a meaningful distinction between true zero and the value that was rounded
- p preliminary
- r revised
- x suppressed to meet the confidentiality requirements of the Statistics Act
- E use with caution
- F too unreliable to be published

# **Table of contents**

Highligl	nts	4
Related	products	5
Statistic	cal tables	
1 Ste	el primary forms and pig iron	7
1-1	Disposition of net shipments of rolled steel products, by product, monthly 2007	7
1-2	Disposition of net shipments of rolled steel products, by product, year-to-date 2007	9
1-3	Production of pig iron	10
1-4	Pig iron and scrap charged to steel furnaces	11
1-5	Production and shipments of steel, primary forms, monthly	11
1-6	Production and shipments of steel, primary forms, year-to-date	11
2 Ste	el pipe and tubing	12
2-1	Production and shipments, monthly 2007	12
2-2	Production and shipments, year-to-date 2007	13
3 Ste	el and specified wire products	14
3-1	Factory shipments, monthly	14
3-2	Factory shipments, year-to-date	14
Data qu	ality, concepts and methodology	
Concept	s, methodology and data quality	15
Definitio	ns	17

# **Highlights**

# August 2007

- Monthly production of primary steel and pig iron fell 8.4% in August 2007 to 1,094,879 metric tonnes.
- In the same month, the total disposition of shipments of rolled steel products rose 10.7% to 1,172,222 metric tonnes.
- Between July 2007 and August 2007, production of steel pipe and tubing increased 13.3% to 175,440 metric tonnes.
- Total shipments of steel wire and specified wire products grew 19.0% to 47,212 metric tonnes in August 2007.

# **Related products**

# **Selected CANSIM tables from Statistics Canada**

303-0046	Production and shipments of steel pipe and tubing
303-0047	Production and shipments of steel wire and specified wire products
303-0048	Production and shipments of pig iron
303-0049	Pig iron and scrap products charged to furnace, by the primary metal industry
303-0050	Production and shipments of steel casting and primary forms steel products
303-0051	Destination of net shipments of rolled steel products to consuming industries

# **Selected surveys from Statistics Canada**

2105	Steel Pipe and Tubing
2106	Steel Wire and Specified Wire Products
2116	Steel Primary Forms, Steel Castings and Pig Iron
2184	Disposition of Shipments of Ingots and Rolled Steel Products

# **Statistical tables**

Table 1-1 Steel primary forms and pig iron — Disposition of net shipments <sup>1</sup> of rolled steel products, by product, monthly 2007

SDC No.	Steel primary forms	Rails and heavy structural sections	Intermediate structural sections	Light structural sections	Concrete reinforcing bars	Other hot rolled bars	Wire rods	Railway track material
				metric to	nnes			
August								
Domestic shipments								
11 Steel service centres and other wholesalers and warehouses 21 Motor vehicles and parts 22 Railway operating 23 Railroad cars and locomotives 24 Shipbuilding 31 Steel fabrication 32 Metal building systems 33 Contractors'products 34 Miscellaneous stamping and coating 41 Natural resources and extractive industries 51 Agricultural equipment 52 Non electrical machinery	689 165 0 0 0	3,287  606  923  39  0	6,709	6,382  4,169  264 0	2,329  41,675 0 422 1,387	21,005 12,356 0 15,255 0 123 1,381 11,059 98 146	469 36 0  0  258 	
53 Electrical machinery 54 Industrial packaging material 61 Pipes and tubes 62 Wire and wire products 63 Containers and closures 64 Appliances and utensils industries 70 Miscellaneous industries	775				0	2,727 	21,353	
Total domestic shipments	1,629	4,880	8,183	10,815	45,813	65,305	22,116	0
Total domestic alloy shipments	0					21,704	0	
Exports <sup>2</sup> (for final sale)								
81 Exports to the United States 82 Exports to other countries (excluding United States)	69,681 21,699	2,360 0	9,714 193	7,053	0	31,672 10,910	31,511 1,008	0
Total disposition	93,009	7,240	18,090	17,868	45,813	107,887	54,635	0
Total alloy shipments	0					34,047	0	
Producers interchange, for sale	x		0			265	0	
Exports for conversion and return <sup>2</sup>						0		
Imports by producers (including conversion)	3,180					٠	0	

See footnotes at the end of the table.

Table 1-1 – continued

Steel primary forms and pig iron — Disposition of net shipments <sup>1</sup> of rolled steel products, by product, monthly 2007

SDC No.	Cold finished bars	Plates <sup>3</sup>	Hot rolled sheets and coils	Cold reduced sheets and strip and other cold rolled and coated	Tin plate and tin free steel (T.F.S.)	Galvanized sheets including galvalume	Total, rolled steel products
			n	netric tonnes			
August							
Domestic shipments							
11 Steel service centres and other wholesalers and warehouses 21 Motor vehicles and parts 22 Railway operating 23 Railroad cars and locomotives 24 Shipbuilding	2,247 2,059	29,191 0 0 909	126,514 66,230 0	29,570 13,675	2,605	36,166 52,691	267,163 147,212 0 1,515
31 Steel fabrication 32 Metal building systems 33 Contractors'products 34 Miscellaneous stamping and coating 41 Natural resources and extractive industries	71 185 225 23	3,498 20 0	6,838 0 3,702 2,228 0	2,218 6,527 0		726 4,326 37,024 19,540 0	74,040 4,326 43,991 30,793 12,469
51 Agricultural equipment 52 Non electrical machinery 53 Electrical machinery 54 Industrial packaging material 61 Pipes and tubes 62 Wire and wire products 63 Containers and closures 64 Appliances and utensils industries 70 Miscellaneous industries	88 25	668 242 0	341 223	51 0 3,511 8,419 2,793 107 192 5,768	30 12,319	1,410 239 0 3,407 33 2,744	1,246 2,046 3,750 8,462 162,540 26,588 12,633 8,512 1,305
Total domestic shipments	5,499	34,528	363,718	72,845	14,954	158,306	808,591
Total domestic alloy shipments	246	0		0			21,950
Exports <sup>2</sup> (for final sale)							
81 Exports to the United States 82 Exports to other countries (excluding United States)	6,403	22,784 3,101	57,631 10,701	12,284 3,877	13,538 1,349	34,519 11,643	299,150 64,481
Total disposition	11,902	60,413	432,050	89,006	29,841	204,468	1,172,222
Total alloy shipments	0	0		0			34,047
Producers interchange, for sale	0		2,061	х			58,556
Exports for conversion and return <sup>2</sup>			0	0		0	0
Imports by producers (including conversion)	•	3,317	8,883	0		0	15,380

<sup>1.</sup> Compiled by principal consuming industries, according to distribution of shipments reported by iron and steel mills.

<sup>2.</sup> These data include exports reported by steel producers only and are not the same as published in the Exports by commodities, catalogue number 65-004-XPB.

Effective January 2000, producers have changed the way they report hot rolled products. The result is a change in definitions. Plates including plates for
pipes and tubes becomes plates. Hot rolled sheet and strip becomes hot rolled sheets and coils and now includes all hot rolled flat products in coils,
regardless of thickness.

Table 1-2 Steel primary forms and pig iron — Disposition of net shipments <sup>1</sup> of rolled steel products, by product, year-to-date 2007

SDC No.	Steel primary forms	Rails and heavy structural sections	Intermediate structural sections	Light structural sections	Concrete reinforcing bars	Other hot rolled bars	Wire rods	Railway track material
				metric to	nnes			
Domestic shipments								
11 Steel service centres and other wholesalers and warehouses 21 Motor vehicles and parts 22 Railway operating 23 Railroad cars and locomotives	2,189 1,481 	27,543 3,884	67,962	54,510	28,731	153,918 125,704 0	9,842 1,004 	
24 Shipbuilding 31 Steel fabrication 32 Metal building systems	0 63	8,260	13,475	31,337	276,136 0	123,094 0	0	
33 Contractors'products 34 Miscellaneous stamping and coating 41 Natural resources and extractive industries	0	39 188	4,348 81 15	3,171 36 87	1,211 8,464	2,125 13,394 79,258 2.047	1,020 0	
51 Agricultural equipment 52 Non electrical machinery 53 Electrical machinery 54 Industrial packaging material	· · ·	64	0	0	20	2,956 0 0	0	
61 Pipes and tubes 62 Wire and wire products 63 Containers and closures 64 Appliances and utensils industries 70 Miscellaneous industries	2,019		· · ·		0	0 19,943 2,122	191,148	
Total domestic shipments	5,752	39,990	85,881	89,141	314,562	524,561	203,014	0
Total domestic alloy shipments	63					161,475	0	
Exports <sup>2</sup> (for final sale)								
81 Exports to the United States 82 Exports to other countries (excluding United States)	x x	20,162 78	95,867 1,310	67,133	13,092 0	296,969 142,840	293,201 7,605	. 0
Total disposition	x	60,230	183,058	156,274	327,654	964,370	503,820	0
Total alloy shipments	63					273,906	0	
Producers interchange, for sale	x		0			10,503	215	
Exports for conversion and return <sup>2</sup>						0		
Imports by producers (including conversion)	24,773						0	

See footnotes at the end of the table.

Table 1-2 – continued

Steel primary forms and pig iron — Disposition of net shipments <sup>1</sup> of rolled steel products, by product, year-to-date 2007

SDC No.	Cold finished bars	Plates <sup>3</sup>	Hot rolled sheets and coils	Cold reduced sheets and strip and other cold rolled and coated	Tin plate and tin free steel (T.F.S.)	Galvanized sheets including galvalume	Total, rolled steel products
				metric tonnes			
Domestic shipments							
11 Steel service centres and other wholesalers and warehouses 21 Motor vehicles and parts 22 Railway operating 23 Railroad cars and locomotives	21,931 16,937	256,129 0 0 7,775	1,233,813 559,541	304,196 113,776	17,648	335,171 436,242	2,513,583 1,254,685 0 11,640
24 Shipbuilding 31 Steel fabrication 32 Metal building systems 33 Contractors'products 34 Miscellaneous stamping and coating 41 Natural resources and extractive industries 51 Agricultural equipment 52 Non electrical machinery 53 Electrical machinery 54 Industrial packaging material 61 Pipes and tubes 62 Wire and wire products 63 Containers and closures 64 Appliances and utensils industries 70 Miscellaneous industries	710 775 2,017 392 827 265 429 3,408 293 2,028	43,791 461 2,677 12 2,769 1,837	39,413 0 36,838 52,549 28 4,220 2,550 12,754 1,257,904 7,121 5,837	353 18,003 39,981 0 638 0 27,696 79,551 21,715 829 1,753 47,769	262  77,167	6,497 24,032 263,760 149,367 1 1,410 11,338 0 18,056 191	543,129 24,032 324,232 267,692 88,272 10,635 9,082 39,034 92,567 1,298,104 224,659 85,050 70,020 4,150
Total domestic shipments	50,012	315,451	3,212,549	656,260	95,077	1,268,316	6,860,566
Total domestic alloy shipments	1,728	0		0			163,266
Exports <sup>2</sup> (for final sale)							
81 Exports to the United States 82 Exports to other countries (excluding United States)	57,302	165,682 14,918	701,840 53,724	x x	90,124 9,964	X X	2,537,414 444,853
Total disposition	107,314	496,051	3,968,113	x	195,165	1,633,538	9,842,833
Total alloy shipments	1,246	0		0			275,215
Producers interchange, for sale	83		37,568	х			623,671
Exports for conversion and return <sup>2</sup>			0	0		0	0
Imports by producers (including conversion)	-	32,420	71,065	29,796		0	158,054

<sup>1.</sup> Compiled by principal consuming industries, according to distribution of shipments reported by iron and steel mills.

Table 1-3
Steel primary forms and pig iron — Production of pig iron

	August		Year-to-date	Year-to-date	
	2006	2007	2006	2007	
		metric tonne	s		
Production of pig iron	594,332	601,790	5,732,344	5,478,396	

<sup>2.</sup> These data include exports reported by steel producers only and are not the same as published in the Exports by commodities, catalogue number 65-004-XPB.

Effective January 2000, producers have changed the way they report hot rolled products. The result is a change in definitions. Plates including plates for
pipes and tubes becomes plates. Hot rolled sheet and strip becomes hot rolled sheets and coils and now includes all hot rolled flat products in coils,
regardless of thickness.

Table 1-4 Steel primary forms and pig iron — Pig iron and scrap charged to steel furnaces

	August		Year-to-date			
	2006	2007	2006	2007		
	metric tonnes					
Pig iron including pre-reduced iron	756,651	581,824	6,095,281	5,821,352		
Scrap Own make Purchased	180,078 452,628	117,241 491,700	1,398,238 4,123,957	1,243,447 4,359,647		
Total, pig iron and scrap products	1,389,357	1,190,765	11,617,476	11,424,446		

Table 1-5 Steel primary forms and pig iron — Production and shipments of steel, primary forms, monthly

	Production		Shipments	
	2006	2007	2006	2007
		metric tonnes		
August				
Steel, primary forms (carbon and alloy including continuous cast steel)				
Electric furnace Basic oxygen furnace	490,784 762,689	516,730 578,149	62,403 29,931	X X
Steel, primary forms - Total	1,253,473	1,094,879	92,334	158,572
Included in "Steel primary forms total" above Continuous cast steel	1,245,059	1,085,312	89,571	150,375

Table 1-6 Steel primary forms and pig iron — Production and shipments of steel, primary forms, year-to-date

	Production		Shipments	
	2006	2007	2006	2007
		metric tonnes		
Steel, primary forms (carbon and alloy including continuous cast steel) Electric furnace Basic oxygen furnace	4,313,913 6,293,354	4,384,897 6,007,816	X X	x x
Steel, primary forms - Total	10,607,267	10,392,713	x	1,073,668
Included in "Steel primary forms total" above Continuous cast steel	10,479,520	10,273,361	x	1,034,410

Table 2-1 Steel pipe and tubing — Production and shipments, monthly 2007

	Production	Ship	ments for sale	
		Domestic <sup>1</sup> shipments	Exports <sup>2</sup>	Total shipments
		metric tonn	es	
August				
Total, pipe and tubing	175,440	106,353	108,844	215,197
Pipe welded and seamless				
Line pipe up to and including 4 1/2" (11.43 cm) outside diameter over 4 1/2" (11.43 cm) up to and including 16" (40.64 cm) outside diameter over 16" (40.64 cm) outside diameter	2,660 35 27,094	4,316 3,494 251	21 0 36,808	4,337 3,494 37,059
Hollow structural sections up to and including 16" (40.64 cm) periphery over 16" (40.64 cm) periphery	18,541 46,105	9,250 14,992	9,409 31,973	18,659 46,965
Standard pipe up to and including 4 1/2" (11.43 cm) outside diameter over 4 1/2" (11.43 cm) up to and including 16" (40.64 cm) outside diameter	3,798 771	1,512 891	2,873 618	4,385 1,509
Other pipe up to and including 4 1/2" (11.43 cm) outside diameter over 4 1/2" (11.43 cm) up to and including 16" (40.64 cm) outside diameter over 16" (40.64 cm) outside diameter	1,070 1,297 1,555	870 873 342	167 2 400	1,037 875 742
Mechanical tubing Mechanical tubing, welded, produced from hot rolled Mechanical tubing, welded, produced from cold rolled	30,320 19,106	20,644 4,295	9,372 2,971	30,016 7,266
Oil country tubular goods Oil country tubular goods, welded and seamless, casing (including coupling) Oil country tubular goods, welded and seamless, oilwell tubing (including coupling)	19,130 3,566	36,334 x	10,801 x	47,135 8,152
Other tubular products	392	x	x	3,566

Including for own use by the steel pipe and tubing industries.
 As reported by respondents to this survey. For total exports see Exports by commodity, catalogue number 65-004-XPB.

Table 2-2 Steel pipe and tubing — Production and shipments, year-to-date 2007

	Production	Shipments for sale		
		Domestic <sup>1</sup> shipments	Exports <sup>2</sup>	Total shipments
_	metric tonnes			
Year-to-date				
Total, pipe and tubing	1,733,524	968,839	918,459	1,887,298
Pipe welded and seamless				
Line pipe up to and including 4 1/2" (11.43 cm) outside diameter over 4 1/2" (11.43 cm) up to and including 16" (40.64 cm) outside diameter over 16" (40.64 cm) outside diameter	x 26,804 364,535	23,794 34,171 93,714	165 6,937 331,935	23,959 41,108 425,649
Hollow structural sections up to and including 16" (40.64 cm) periphery over 16" (40.64 cm) periphery	167,680 394,862	88,146 126,192	82,449 263,184	170,595 389,376
Standard pipe up to and including 4 1/2" (11.43 cm) outside diameter over 4 1/2" (11.43 cm) up to and including 16" (40.64 cm) outside diameter	32,728 11,494	17,322 15,044	22,180 7,048	39,502 22,092
Other pipe up to and including 4 1/2" (11.43 cm) outside diameter over 4 1/2" (11.43 cm) up to and including 16" (40.64 cm) outside diameter over 16" (40.64 cm) outside diameter	17,990 18,628 18,096	5,708 11,178 8,566	1,909 200 2,150	7,617 11,378 10,716
Mechanical tubing Mechanical tubing, welded, produced from hot rolled Mechanical tubing, welded, produced from cold rolled	226,455 122,473	149,057 45,811	66,869 25,750	215,926 71,561
Oil country tubular goods Oil country tubular goods, welded and seamless, casing (including coupling) Oil country tubular goods, welded and seamless, oilwell tubing (including coupling)	265,132 42,346	x x	x x	x x
Other tubular products	x	х	x	х

Including for own use by the steel pipe and tubing industries.
 As reported by respondents to this survey. For total exports see Exports by commodity, catalogue number 65-004-XPB.

Table 3-1
Steel and specified wire products — Factory shipments 1, monthly

	Shipments			Production	
	2006 200		2007	2007	
		Total shipments	Domestic shipments	Exports <sup>2</sup>	
<u> </u>	metric tonnes				
August					
Barbed wire	187	99	х	x	
Uncoated steel wire	18,413	18,539	10,611	7,928	
Galvanized steel wire	14,212	13,254	5,365	7,889	
Other coated steel wire	Х	Х	X	Х	
Farm fencing and wire chain link fabric	887	900	X	Х	1,008
Wire mesh, bright or uncoated and galvanized	6,037	4,732	X	Х	5,753
Wire rope	3,498	2,674	X	Х	2,669
Nails and staples	Х	X	X	2,841	Х
Wire roofing nails of a length of 25 mm or more, iron or steel	4,402	5,013	2,172	2,841	5,159
Staples of iron or steel	Х	Х	X	0	Х
All other wire products	х	х	х	6	х
Grand total	50,161	47,212	26,670	20,542	

<sup>1.</sup> Totals may not add due to rounding.

Table 3-2
Steel and specified wire products — Factory shipments <sup>1</sup>, year-to-date

	Shipments			Production	
_	2006	2007			
		Total shipments	Domestic shipments	Exports <sup>2</sup>	
_	metric tonnes				
Barbed wire	x	x	x	x	
Uncoated steel wire	151,394	139,379	79,016	60,363	
Galvanized steel wire	109,698	104,358	43,456	60,902	
Other coated steel wire	X	Х	X	Х	
Farm fencing and wire chain link fabric	8,209	Х	X	Х	X
Wire mesh, bright or uncoated and galvanized	34,534	36,479	X	Х	38,087
Wire rope	X	23,885	X	Х	23,280
Nails and staples	X	Х	X	Х	X
Wire roofing nails of a length of 25 mm or more, iron or steel	38,355	36,530	X	Х	X
Staples of iron or steel	X	Х	X	Х	X
All other wire products	X	Х	Х	X	X
Grand total	394,459	370,094	213,203	156,891	

<sup>1.</sup> Totals may not add due to rounding.

<sup>2.</sup> As reported by respondents to this survey. For total exports see Exports by commodity, catalogue number 65-004-XPB.

<sup>2.</sup> As reported by respondents to this survey. For total exports see Exports by commodity, catalogue number 65-004-XPB.

# Concepts, methodology and data quality

This publication presents the results of four monthly surveys: Steel Primary Forms, Steel Castings and Pig Iron; Ingots and Rolled Steel Products; Steel Pipe and Tubing; and Steel Wire and Specified Wire Products. These surveys measure, on a monthly basis, the quantities of selected steel products that are produced and shipped by Canadian manufacturers. The target population for these surveys includes manufacturers in Canada of primary steel, steel products, pig iron, steel pipe and tubing as well as, steel wire as defined in the Standard Classification of Goods (SCG) that report these products to the Annual Survey of Manufactures and Logging or ASML (Survey ID 2103). This means that estimates from the monthly surveys do not cover the entire universe of steel producers in Canada because the ASML does not survey all businesses. Instead, the ASML uses administrative data to cover the small and medium-sized establishments. These manufacturers are not part of the four monthly surveys.

# General methodology

Data are collected each month, directly from survey respondents using a mail-out / mail-back process. Data capture and preliminary editing are performed simultaneously to ensure validity of the data. Businesses from whom no response has been received or whose data may contain errors are followed-up by telephone or fax.

Missing data for the current month are imputed automatically by applying to the previous month's value, the month-to-month change observed for the same period in the previous year, for the unit in question. However, an option exists for analysts to manually override this imputation with a better estimate based on pertinent knowledge about the industry or the business.

Various confidentiality rules are applied to all data before they are released to prevent the publication or disclosure of any information deemed confidential. If necessary, data are suppressed to prevent the direct or residual disclosure of identifiable data.

Direct disclosure could occur when the value in a tabulation cell is composed of a few respondents or when the cell is dominated by a few companies. Residual disclosure could occur when confidential information can be derived indirectly by piecing together information from different sources or data series.

Under normal circumstances, data are collected, captured, edited, tabulated and published within 6-8 weeks after the reference month.

#### **Revisions**

Data may be revised to include amended information or reports from respondents that are received after the end of a collection cycle. Revisions are disseminated in subsequent periods and reflected in the CANSIM series and in the tables of this publication.

# **Data accuracy**

The methodology of these surveys has been designed to promote data accuracy. Since data are collected from all Canadian producers of primary steel, steel products, pig iron, steel pipe and tubing and steel wire within the target population, the resulting estimates are not subject to sampling error. However, the results are still subject to the non-sampling errors associated with coverage, non-response, inaccurate reporting, and processing. Errors relating to coverage and non-response can be measured and are summarized in text table 1. All attempts are made to control inaccurate reporting and processing errors.

Moreover, survey results are analyzed to ensure comparability with patterns observed in historical data series and the economic condition of the industry. Information available from other sources such as the Steel Primary Forms Weekly Survey (Survey ID 2131) and the Monthly Survey of Manufacturing or MSM (Survey ID 2101) are also used in the validation process.

# Coverage error

There is a degree of under coverage (referred to as coverage error) in the survey results as there is generally a lag between the time a new business comes into existence and when it is included in the universe of these sub-annual surveys. This occurs because the list of businesses surveyed is derived from the latest available survey results for the ASML which are not available until 15 months after the reference period.

This error is kept at a minimum by also using advance information from the ASML frame, feedback from the MSM and other sources such as the Canadian Steel Producer's Association, trade journals and newspaper articles, to identify new survey units.

# Non-response error

Some respondents may be unable to provide data for numerous reasons (i.e. fire, theft, strike, economic hardship, etc.), while others may be late in responding. To minimize non-response, delinquent respondents are followed up rigorously by phone or fax. Data for non-responding units are imputed using industry trend and other related information. Data are revised at a later date, if completed questionnaires are received after the end of a collection cycle.

# Inaccurate response

Inaccuracy may result from poor questionnaire design or an inability on the part of respondents to provide the requested information or from misinterpretation of the survey questions. To reduce such errors the format and wording in the questionnaire are reviewed from time to time and modified based on feedback from survey respondents and data users. Respondents are also reminded of the importance of their contribution and of the need for accurate data reporting.

# **Processing errors**

These errors may occur at various stages in the processing of survey data such as data entry, verification, editing and tabulation. Data are examined for such errors using automated edits along with an analytical review by subject matter experts. Several checks are performed on the collected data to verify internal consistency and comparability over time.

Text table 1
Coverage and non-response errors

	Coverage error based on ASML 2004	Non-response error- annual average 2005
	percent	
Steel primary forms steel castings and pig iron Ingots and rolled steel products Steel pipe and tubing Steel wire	0 3 0 0	6 0 0 0

# **Definitions**

### **Shipments:**

Shipments refer to the quantity of manufactured goods that are shipped, during the reference period from the plant to customers in domestic or export markets.

# **Production:**

Production refers to the quantity of goods manufactured in Canada during a reference period including intermediate products. The final goods may be shipped or retained in inventory.

#### **Exports:**

Shipments of goods destined for customers outside of Canada.

# **Disposition of shipments:**

Disposition of shipments refers to the distribution of shipped quantities of manufactured goods by end use (market).

# **Coverage ratio:**

The share of total ASM shipment values for products included in a given sub-annual survey from businesses surveyed by the same sub-annual survey.

#### Non-response rate:

Number of non-responses in the year, divided by the number of total expected responses in the year.

More detailed information is available from the Annual Survey of Manufactures and Logging, CANSIM Table 301-0003. Specific enquiries should be directed to: The Marketing and Dissemination Section, Manufacturing, Construction and Energy Division, Statistics Canada, Ottawa, Ontario, K1A OT6 (Telephone: 1-866-873-8789 or (613) 951-9497; Fax: (613) 951-9499; Internet: manufact@statcan.ca).