## Steel, Tubular Products and Steel Wire

December 2010



Statistics Canada Statistique Canada



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#### December 2010

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#### **Symbols**

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- . 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

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## **Highlights**

#### December 2010

- Monthly production of primary steel and pig iron increased 12.8% in December 2010 to 1,124,515 metric tonnes.
- In the same month, the total disposition of shipments of rolled steel products increased 4.3% to 1,038,453 metric tonnes.
- Between November 2010 and December 2010, production of steel pipe and tubing decreased 13.7% to 197,521 metric tonnes.
- Total shipments of steel wire and specified wire products decreased 19.5% to 43,363 metric tonnes in December 2010.

## **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 2010

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			
December								
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 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	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	1,056 0 1955 146 0 0 0 167 0 0	4,432 143  407 0 0 164 0 0 333	5,421 19	3,311 0 51,040 91 289 1,254 0	x 3,135 0  x 0 224 1,299 8,120 245 6,823 0 0 0 479 	0 0 0 37 0 	
Total domestic shipments	0	1,564	5,479	7,832	55,985	27,259	x	0
Total domestic alloy shipments	0			·		4,128	0	
81 Exports to the United States 82 Exports to other countries (excluding United States)	X X	394 0	4,065 64	3,242 0	0	23,414 16,510	x x	
Total disposition	101,510	1,958	9,608	11,074	55,985	67,183	x	0
Total alloy shipments	0					7,161	0	
Producers interchange, for sale	х	-	0			585	149	-
Exports for conversion and return		-				0		-
Imports by producers (including conversion)	0						0	

See notes 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 2010

SDC No.	Cold finished bars	Plates <sup>2</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			
December							
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 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	x 415  x  0 57 52 35 0  0 x	14,186 0 0 494 4,555 5 0 63 287 26	249,327 16,863 0 0 3,081 0 0 3,382 3,309 0 543 68 0 95,170 126 0 0	12,628 4,884 0 1,417 3,028 0 0 0 1,088 4,218 941 141 258 1,230	1,853 0 	15,135 27,206 0 2,179 1,305 28,471 14,439 2 0 0 1,223 0 718 15	315,134 52,665 0 689 0 1,396 33,825 22,296 9,658 612 7,725 2,379 4,218 97,026 x 608 2,463 1,84
Total domestic shipments	x	19,813	371,869	29,833	2,203	91,926	629,142
Total domestic alloy shipments	143	0		0			4,271
81 Exports to the United States 82 Exports to other countries (excluding United States)	1,016 0	11,011 622	x x	15,082 1,167	22,662 459	25,223 5,311	269,305 140,006
Total disposition	x	31,446	517,447	46,082	25,324	122,460	1,038,453
Total alloy shipments	143	0		0			7,304
Producers interchange, for sale	0		92	0		0	х
Exports for conversion and return			0	0		630	630
Imports by producers (including conversion)	-	0	2,074	4,653		0	6,727

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

<sup>2.</sup> 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 2010

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 24 Shipbuilding	14 1,253 0	18,293 0 2,179	69,756 1,642	60,117 193	41,379 0	52,902 342	47 0 0	
31 Steel fabrication 32 Metal building systems 33 Contractors'products 34 Miscellaneous stamping and coating 41 Natural resources and extractive industries	0	5,692 0 0 0 1,706	11,256 0 0 2,065 100	26,901 14 1,006 0	469,687 613 7,602	152 x 6,723 130,027	0 x	
51 Agricultural equipment 52 Non electrical machinery 53 Electrical machinery 54 Industrial packaging material 61 Pipes and tubes		0 0	0 16,939	76 0	0	1,861 86,972 0 0	0	0
62 Wire and wire products 63 Containers and closures 64 Appliances and utensils industries 70 Miscellaneous industries	0 0	0		· · ·	0	7,881 0	x	
Total domestic shipments	1,267	27,870	101,758	88,307	531,282	379,143	x	0
Total domestic alloy shipments	0				•	50,967	x	
81 Exports to the United States 82 Exports to other countries (excluding United States)	X X	7,045 0	37,791 395	48,184 60	0	251,058 201,096	x x	
Total disposition	х	34,915	139,944	136,551	531,282	831,297	x	0
Total alloy shipments	0					82,699	0	
Producers interchange, for sale	x		0			8,855	1,303	
Exports for conversion and return						0		
Imports by producers (including conversion)	х						0	

See notes at the end of the table.

Table 1-2 – continued

#### Steel primary forms and pig iron — Disposition of net shipments 1 of rolled steel products, by product, year-to-date 2010

SDC No.	Cold finished bars	Plates <sup>2</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 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	X 11,418	211,789 0 0 1,930 40,637 155 0 368 3,593 424 1,353	2,274,459 315,561 0 0 40,613 0 40,810 41,213 1,121 0 7,501 583 560 1,289,980 1,848 382 21 0	214,665 77,214  0  x x 0 0 0 18,950 50,481 10,232 1,184 9,109 31,724	17,367 0        	325,112 397,385 0 24,287 23,306 265,099 202,735 671  0 19,424 0 16,843 973 25,278	3,339,129 857,568 342 4,109 0 x 24,085 345,303 146,494 6,282 111,836 38,957 51,041 1,318,413 x 24,595 57,023 1,957
Total domestic shipments	x	260,249	4,014,652	482,584	32,471	1,301,113	7,476,070
Total domestic alloy shipments	3,528	0		0			x
Exports <sup>2</sup> (for final sale)							
81 Exports to the United States 82 Exports to other countries (excluding United States)	13,795 0	128,650 30,561	x x	185,181 14,123	199,565 11,764	402,542 x	4,108,100 838,986
Total disposition	x	419,460	5,234,090	681,888	243,800	х	12,423,156
Total alloy shipments	3,677	0		0			86,376
Producers interchange, for sale	0		2,319	0		0	х
Exports for conversion and return <sup>2</sup>			0	0		1,878	1,878
Imports by producers (including conversion)		4,030	х	28,314		0	х

<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

	December		Year-to-date			
	2009 2010		2009	2010		
	metric tonnes					
Production of pig iron	564,488	680,925	х	7,665,978		

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

	December		Year-to-date	•	
	2009	2010	2009	2010	
	metric tonnes				
Pig iron including pre-reduced iron	546,626	702,019	x	7,622,262	
<b>Scrap</b> Own make Purchased	99,740 398,592	123,841 425,624	1,223,140 x	1,435,803 5,552,519	
Total, pig iron and scrap products	1,044,958	1,251,484	10,403,571	14,610,584	

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

	Production		Shipments		
	2009	2010	2009	2010	
	metric tonnes				
December					
Steel, primary forms (carbon and alloy including continuous cast steel)					
Electric furnace	431,918	410,921	X	X	
Basic oxygen furnace	511,092	713,594	x	Х	
Steel, primary forms - Total	943,010	1,124,515	256,135	204,815	
Included in "Steel primary forms total" above Continuous cast steel	930,239	1,110,799	243,805	195,823	

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

	Production		Shipments		
	2009	2010	2009	2010	
	metric tonnes				
Steel, primary forms (carbon and alloy including continuous cast steel) Electric furnace	x	5,347,948	x	x	
Basic oxygen furnace	Х	7,654,864	Х	Х	
Steel, primary forms - Total	9,245,310	13,002,812	x	3,177,434	
Included in "Steel primary forms total" above Continuous cast steel	8,995,899	12,872,925	х	3,068,493	

Table 2-1
Steel pipe and tubing — Production and shipments, monthly 2010

	Production	Ship	ments for sale	
		Domestic shipments <sup>1</sup>	Exports	Total shipments
_		metric tonne	es	
December				
Total, pipe and tubing	197,521	157,235	61,634	218,869
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	4,164 18,752 31,705	2,020 x x	80 x 3,685	2,100 18,525 x
Hollow structural sections up to and including 16" (40.64 cm) periphery over 16" (40.64 cm) periphery	X X	x x	X X	12,217 x
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	2,345 172	1,585 157	1,130 63	2,715 220
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	x 1,870 1,281	1,319 x 861	26 x 0	1,345 2,870 861
Mechanical tubing Mechanical tubing, welded, produced from hot rolled Mechanical tubing, welded, produced from cold rolled	11,269 6,332	10,129 3,433	x 1,226	x 4,659
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)	50,149 14,365	43,491 9,005	12,928 5,877	56,419 14,882
Other tubular products	х	750	847	1,597

<sup>1.</sup> Including for own use by the steel pipe and tubing industries.

Table 2-2 Steel pipe and tubing — Production and shipments, year-to-date 2010

	Production	Ship	ments for sale	
		Domestic shipments <sup>1</sup>	Exports	Total shipments
_		metric tonn	es	
Year-to-date				
Total, pipe and tubing	2,301,563	1,523,633	899,011	2,422,643
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 x 315,137	20,742 x x	84 x x	20,826 132,156 x
Hollow structural sections up to and including 16" (40.64 cm) periphery over 16" (40.64 cm) periphery	X X	x x	X X	x x
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	28,197 x	20,053 9,076	11,197 1,627	31,250 10,703
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	x 20,303 x	8,560 x x	996 x x	9,556 25,816 8,532
Mechanical tubing Mechanical tubing, welded, produced from hot rolled Mechanical tubing, welded, produced from cold rolled	x 117,476	x 56,375	x 17,875	x 74,250
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)	629,823 201,774	444,314 99,324	219,744 94,277	664,058 193,600
Other tubular products	x	х	x	27,295

<sup>1.</sup> Including for own use by the steel pipe and tubing industries.

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

	Shipments			Production	
	2009 2010				
		Total shipments	Domestic shipments	Exports	
			metric tonnes		
December					
Barbed wire	х	134	x	х	
Uncoated steel wire	11,377	13,657	5,660	7,997	
Galvanized steel wire	4,731	11,995	6,173	5,822	
Other coated steel wire	Х	Х	Х	Х	
Farm fencing and wire chain link fabric	Х	Х	Х	X	X
Wire mesh, bright or uncoated and galvanized	2,163	3,213	Х	X	3,185
Wire rope	Х	Х	Х	X	Х
Nails and staples	Х	Х	1,542	X	X
Wire roofing nails of a length of 25 mm or more, iron or steel	658	1,898	Х	X	1,193
Staples of iron or steel	Х	X	Х	X	Х
All other wire products	Х	X	Х	1	570
Grand total	23,192	43,363	24,063	19,300	

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

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

	Shipments				Production
<del>-</del>	2009	2009 2010			
		Total shipments	Domestic shipments	Exports	
<u> </u>			metric tonnes		
Barbed wire Uncoated steel wire Galvanized steel wire	x 163,070 92,437	x 218,493 133,211	x 107,413 66,883	x 111,080 66,328	
Other coated steel wire Farm fencing and wire chain link fabric	X X	X	X X	x x	X
Wire mesh, bright or uncoated and galvanized Wire rope	40,295 x	41,540 x	X X	X X	44,502 x
Nails and staples Wire roofing nails of a length of 25 mm or more, iron or steel	X X	30,802	X X	X X	X X
Staples of iron or steel All other wire products	X X	X X	X X	x 38	X X
Grand total	418,688	555,096	316,891	238,205	

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

## 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.

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 301-0006. Specific enquiries should be directed to: The Dissemination and Frame Services section, Manufacturing and Energy Division, Statistics Canada, Ottawa, Ontario, K1A OT6 (Telephone: 1-866-873-8789 or 613-951-9497; Fax line: 613-951-3877; Internet: manufact@statcan.gc.ca).