

Part XVIII--Proposed New Industry Structure for Primary Metal Manufacturing

Section A--NAICS Structure

North American Industry Classification System

(NAICS)

Agreement Number 29

This Document represents the proposed agreement on the structure of the North American Industry Classification System (NAICS) for the following industry:

Primary Metal Manufacturing

The detailed NAICS structure along with a brief description of the structure is attached (Attachments 1 and 2). Each country agrees to release a copy of the proposed NAICS structure to interested data users. Comments received will be shared among the countries and additional discussions will be held before a final decision on the structure is made. Each country may add additional detailed industries, below the 4-digit level of NAICS, as necessary to meet national needs, so long as this additional detail aggregates to a 4-digit NAICS level in order to ensure full comparability among the three countries. This NAICS structure was presented and provisionally accepted at the NAICS Committee meeting held on November 8 and November 9, 1995 in Washington, D.C.

Accepted:	Signature	Date
Canada	/S/ Jacob Ryten	11/9/95
Mexico	/S/ Enrique Ordaz	11/9/95
United States	/S/ Jack E. Triplett	11/9/95

ATTACHMENT 1--NAICS STRUCTURE

XX	Primary Metal Manufacturing
XXX	Iron and Steel Mills and Ferroalloy Manufacturing
XXXX	Iron and Steel Mills and Ferroalloy Manufacturing
XXX	Steel Products Made from Purchased Steel
XXXX	Iron and Steel Pipe and Tube Manufacturing from Purchased Steel
XXXX	Rolling and Drawing of Purchased Steel
XXX	Smelting, Refining, Rolling, Drawing, and Extruding of Aluminum
XXXX	Smelting, Refining Rolling, Drawing and Extruding of Aluminum
XXX	Smelting, Refining, Rolling, Drawing, and Extruding of Other Nonferrous Metal
XXXX	Smelting and Refining of Nonferrous Metal Except Aluminum
XXXX	Rolling, Drawing and Extruding Copper
XXXX	Rolling, Drawing and Extruding of Nonferrous Metal Except Copper or Aluminum

XXX	Metal Castings
XXXX	Ferrous Castings
XXXX	Nonferrous Castings

Attachment 2--North American Industry Classification System

Draft Classification for:

Primary Metal Manufacturing

Representatives of the statistical agencies of Canada, Mexico and the United States agree to a draft industry classification for these industries

The draft classification provides for the subsector, Primary Metal Manufacturing. This subsector is divided into five industry groups and nine industries. The subsector is part of the Manufacturing sector.

A General Outline

The Primary Metal Manufacturing industries are well defined and include the production of steel and steel products; the smelting, refining, and rolling of nonferrous metals; and the production of metal castings. The processes employed in these industries include the use of blast furnaces to produce iron, and the use of basic oxygen and other steel making furnaces to produce steel. Rolling, drawing, and extruding processes to produce such products as pipe and tube, wire, and sheet are also used in this subsector. Similar processes are used to produce the nonferrous metal and metal products also included in this subsector.

A structure along the lines of function or process (refining and smelting, or rolling, drawing, and extruding) for all metals was considered for this subsector. It was not adopted, because: (1) the processes, although they have some similarity, are clearly distinct for steel versus nonferrous metals. Within nonferrous metal manufacturing, the processes are also different. For example, the primary reduction of aluminum involves the massive use of electricity, where the primary reduction of copper is accomplished by using heat and chemicals; (2) establishments that roll, draw or extrude are highly specialized by type of nonferrous metal; (3) due to the combination of process activities in aluminum manufacture in Mexico, a separate trilateral NAICS industry could not be created that would split primary aluminum from aluminum, rolling, drawing, and extrusion. For this reason, a separate NAICS 3-digit and 4-digit industry group and industry was created for Smelting, Refining, Rolling, Drawing and Extruding Aluminum, and a 3-digit NAICS group, Smelting, Refining, Rolling, Drawing, and Extruding of Other Nonferrous Metal, that parallels the 3-digit structure for Aluminum. The "Other" nonferrous group, however, contains 4-digit levels for process industries for copper and for nonferrous metals, except aluminum and copper.

The Iron and Steel Mills and Ferroalloy Manufacturing industry group comprises establishments that produce steel products, beginning with the treatment of iron ore, using furnaces or direct reduction techniques and establishments that begin their process with the purchase of iron, pig iron, or scrap. Establishments that produce ferroalloys are also included in this subsector. Establishments classified in the NAICS industry Rolling and Drawing of Purchased Steel produce sheet and plate, pipe and tube, and wire drawn from purchased steel.

The subsector also includes establishments that produce wire rods, bars, plates, sheet, wire, from purchased primary shapes.

The Smelting, Refining, Rolling, Drawing, and Extruding of Aluminum and Other Nonferrous Metal industry groups include establishments that produce primary nonferrous metals and those that produce nonferrous metal products such as sheet, foil, shapes, etc..

Limitations and Constraints of the Classification

In the Primary Metal Manufacturing subsector, most activities that were identified in one country exist in the others. However, the combination of activities within establishments varied across the three countries resulting in higher aggregations of some NAICS industries. For example, broad NAICS classes were created for nonferrous castings, due to production overlap in Mexico. Similarly, often an activity is not economically significant to the same degree in all countries. For example, a separate NAICS industry cannot be created for the smelting and refining of copper, because the resulting industries are too small in Canada.

Each country may publish additional national industries that comprise subdivisions of NAICS industries, to present data for activities that are nationally significant. For those users requiring detailed commodity information, each country will publish information on the products of these industries. Efforts are also underway to harmonize the commodity classifications to allow for greater comparability of these statistics.

Relationship to ISIC

Each of the NAICS industries created in this subsector can be assigned without any subdivision to Division 27, Manufacture of Basic Metals, of the current International Standard Industrial Classification of all Economic Activities (ISIC Revision 3) of the United Nations. The movement of steel and nonferrous wire drawing (CSIC's 3052 & 3381), and precious metal refining (CSIC 3922), for Canada; of molding of metal castings (CMAA 381100) for Mexico; and of the production of alumina (1987 SIC 2819 pt), for the United States are all changes that enhance the NAICS/ISIC relationship. This means that one can combine the industries of this subsector and be comparable to ISIC Division 27.

Some Changes to the National Classifications

For Canada, an important improvement for both production precepts and for international comparability was the movement of ferrous and nonferrous wire drawing to this subsector from other areas. Smelting and refining of precious metals was moved for the same reasons. Other changes for Canada were internal to the existing subsector structure. These changes generally involved realignment of industries to achieve three country comparability, as well as to better meet the production process principle. Some examples are the split of the Other Primary Steel industry to match the NAICS industries for Iron and Steel Mills and Ferroalloy Manufacturing and Rolling and Drawing of Purchased Steel, and the separation of various types of castings from other ferrous or nonferrous manufacturing to match agreed upon NAICS classes.

For Mexico, the only structural modification was to move the production of ferrous and

nonferrous castings from the current CMAP classes for machinery. This change allows for three country comparability, and improves the production definition of this subsector. Other changes are internal to the existing Mexican structure, but like those made for Canada above, they were made to both achieve an international NAICS level, while at the same time, they are sound production industry moves. An example is splitting the production of rods and structural shapes, pipe and tube and wire made in a steel making facility from those made from purchased primary steel shapes.

In the United States, a significant structural change was to move the production of alumina from the Chemical Product Manufacturing subsector. This change both matches the Canadian and Mexican treatment, and groups the basic reduction of this ore with metal manufacturing rather than in a chemical processing group. Other changes entailed the realignment of internal nonferrous smelting, rolling and drawing, mostly to achieve three country compatibility.

Achievement of Objectives

The classification meets the objectives for the North American Industry Classification System. It includes industries that group establishments with similar production processes, that is, it applies the production-oriented economic concept. The hierarchical structure of the classification also follows the production concept.

The classification achieves comparability for the three participating countries. Based on existing data, all three countries expect to be able to publish data regularly at the industry (4-digit) level of the structure. All countries agree on the definitions of industries.

Other objectives of the NAICS project are not as relevant in this area of the classification as in others. These objectives are the delineation of new and emerging industries, service industries and industries engaged in the production of advanced technologies. The industrial sector in question is relatively mature, generally produces goods and employs relatively stable technology. Therefore, the emphasis is on the objectives listed above.

The industries have high specialization ratios, and they are economically significant. The classification is suitable for sampling, data-publishing, and other aspects of survey operations.

Section B-Annex: United States National Industry Detail

As explained in the *Structure* presentation of this notice, for a number of reasons 4-digit industries in the NAICS industry subsector presented in *Part XIX, Section A--Attachment 1*, contain less detail than is currently in the U.S. SIC system, and less detail than is required to meet important analytical requirements in the U.S. The three country agreement on NAICS envisions that each country may develop national detailed industries below the NAICS industry level, so long as the national detail can be aggregated to the NAICS classification, thus assuring full North American comparability.

The ECPC is proposing U.S. 5-digit industry detail for the NAICS industry subsector covered in Part XIX of this notice. For cases where no 5-digit detail is shown, the ECPC is proposing that the NAICS 4-digit industries will also represent the most detailed U.S. industries.

TABLE 1

The definitions of status codes are as follows: E-existing industry; N-new industry; R-revised industry; and * means "part of". The abbreviation NEC is used for Not Elsewhere Classified.

1997 NAICS & U.S. description	Status Code	1987 SIC Code	1987 SIC description
XX Primary Metal Manufacturing			
XXX Iron and Steel Mills and Ferroalloy Manufacturing			
XXXX Iron and Steel Mills and Ferroalloy Manufacturing			
XXXXX Iron and Steel Mills	N	3312	Steel Works, Blast Furnaces, and Rolling Mills (except stand-alone cake ovens)
		3399*	Primary Metal Products, NEC (ferrous powder, paste, flakes, etc.)
XXXXX Electrometallurgical Ferroalloy Product Manufacturing	R	3313*	Electrometallurgical Products, except Steel (ferroalloys)
XXX Steel Products Made from Purchased Steel			
XXXX Iron and Steel Pipe and Tube Manufacturing from Purchased Steel	E	3317	Steel Pipe and Tubes
XXXX Rolling and Drawing of Purchased Steel			
XXXXX Cold-Rolled Steel Shape Manufacturing	E	3316	Cold-Rolled Steel Sheet, Strip, and Bars
XXXXX Steel Wire Drawing	R	3315*	Steel Wiredrawing and Steel Nails and Spikes (steel wire drawing)
XXX Smelting, Refining, Rolling, Drawing and Extruding of Aluminum			
XXXX Smelting, Refining, Rolling, Drawing and Extruding of Aluminum			
XXXXX Primary Refining of Aluminum	E	3334	Primary Production of Aluminum
XXXXX Secondary Smelting of Aluminum	N	3341*	Secondary Smelting and Refining of Nonferrous Metals (aluminum)
		3399*	Primary Metal Products, NEC (aluminum powder, paste, flakes, etc.)

XXXXX	Alumina Manufacturing	N	2819*	Industrial Inorganic Chemicals, NEC (alumina)
XXXXX	Aluminum Sheet, Plate, and Foil Manufacturing	E	3353	Aluminum Sheet, Plate, and Foil
XXXXX	Aluminum Extruded Product Manufacturing	E	3354	Aluminum Extruded Products
XXXXX	Other Aluminum Rolling and Drawing	R	3355	Aluminum Rolling and Drawing, NEC
			3357*	Drawing and Insulating of Nonferrous Wire (aluminum wire drawing)
XXX	Smelting, Refining, Rolling, Drawing, and Extruding of Other Nonferrous Metal			
XXXX	Smelting and Refining of Nonferrous Metal Except Aluminum			
XXXXX	Primary Smelting and Refining of Copper	E	3331	Primary Smelting and Refining of Copper
XXXXX	Primary Smelting and Refining of Nonferrous Metal, Except Copper and Aluminum	E	3339	Primary Smelting and Refining of Nonferrous Metals, Except Copper and Aluminum
XXXXX	Secondary Smelting and Refining of Nonferrous Metals	R	3313*	Electrometallurgical Products, Except Steel (except ferrous alloys)
			3341*	Secondary Smelting and Refining of Nonferrous Metals (except aluminum)
			3399*	Primary Metal Products, NEC (nonferrous powders, flakes, paste, etc., except aluminum)
XXXX	Rolling, Drawing and Extruding Copper			
XXXXX	Rolling, Drawing and Extruding Copper	R	3351	Rolling, Drawing, and Extruding of Copper
XXXXX	Drawing of Copper Wire	N	3357*	Drawing and Insulating of Nonferrous Wire (copper wire drawing)
XXXX	Rolling, Drawing, and Extruding of Nonferrous Metal Except Copper or Aluminum	R	3356	Rolling, Drawing, and Extruding of Nonferrous Metals, Except Copper and Aluminum
			3357*	Drawing and Insulating of Nonferrous Wire (wire drawing except copper or aluminum)
XXX	Metal Castings			
XXXX	Ferrous Castings			
XXXXX	Gray, Malleable, and Ductile Iron Foundries	R	3321	Gray and Ductile Iron Foundries
			3322	Malleable Iron Foundries

XXXXX	Steel Investment Foundries	E	3324	Steel Investment Foundries
XXXXX	Steel Foundries	E	3325	Steel Foundries, NEC
XXXX	Nonferrous Castings			
XXXXX	Aluminum Die-Castings	E	3363	Aluminum Die-Castings
XXXXX	Nonferrous Die-Castings, Except Aluminum	E	3364	Nonferrous Die-Castings, Except Aluminum
XXXXX	Aluminum Foundries	E	3365	Aluminum Foundries
XXXXX	Copper Foundries	E	3366	Copper Foundries
XXXXX	Nonferrous Foundries, Except Aluminum and Copper	E	3369	Nonferrous Foundries, Except Aluminum and Copper

TABLE 2

The abbreviation "pt" means "part of", @ means time series break has been created that is greater than 3% of the 1992 value of shipments for the 1987 SIC industry. The abbreviation NEC is used for Not Elsewhere Classified.

1987 SIC code	1987 SIC description	1997 U.S. description
2819@	Industrial Inorganic Chemicals, NEC	
	Alumina	Alumina Manufacturing (pt)
	Activated Carbon and Charcoal	Other Miscellaneous Chemical Preparation Manufacturing (pt) (Included in Chemical Product Manufacturing subsector)
	Inorganic Dyes	Inorganic Dyes and Pigments Manufacturing (pt) (Included in Chemical Product Manufacturing subsector)
	Other	Other Miscellaneous Inorganic Chemical Manufacturing (pt) (Included in Chemical Manufacturing subsector)
3312@	Steel Works, Blast Furnaces (Including Coke Ovens), and Rolling Mills	Iron and Steel Mills
	Coke Ovens, not Integrated With Steel Mills	Other Petroleum and Coal Product Manufacturing (pt) (Included in Petroleum and Coal Product Manufacturing subsector)
3313@	Electrometallurgical Products, Except Steel	
	Ferroalloys	Electrometallurgical Ferroalloy Product Manufacturing
	Nonferrous Alloys	Secondary Smelting and Refining of Nonferrous Metal (pt)
3315@	Steel Wiredrawing and Steel Nails and Spikes	
	Steel Wire Drawing	Steel Wire Drawing

	Nails, Spikes, Paper clips, Wire, Not Made in Wire Drawing Plants	Miscellaneous Fabricated Wire Product Manufacturing (pt) (Included in Fabricated Metal Product Manufacturing subsector)
3316	Cold-Rolled Steel Sheet, Strip, and Bars	Cold-Rolled Steel Shape Manufacturing
3317	Steel Pipe and Tubes	Iron and Steel Pipe and Tube Manufacturing from Purchased Steel
3321	Gray and Ductile Iron Foundries	Gray, Malleable, and Ductile Iron Foundries (pt)
3322	Malleable Iron Foundries	Gray Malleable and Ductile Iron Foundries (pt)
3324	Steel Investment Foundries	Steel Investment Foundries
3325	Steel Foundries, NEC	Steel Foundries (pt)
3331	Primary Smelting and Refining of Copper	Primary Smelting and Refining of Copper (pt)
3334	Primary Production of Aluminum	Primary Refining of Aluminum
3339	Primary Smelting and Refining of Nonferrous Metals, Except Copper and Aluminum	Primary Smelting and Refining of Nonferrous Metals, Except Copper and Aluminum (pt)
3341@	Secondary Smelting and Refining of Nonferrous Metals	
	Aluminum	Secondary Smelting of Aluminum (pt)
	Except Aluminum	Secondary Smelting and Refining of Nonferrous Metals (pt)
3351	Rolling, Drawing, and Extruding of Copper	Rolling, Drawing, and Extruding of Copper
3353	Aluminum Sheet, Plate, and Foil	Aluminum Sheet, Plate, and Foil Manufacturing
3354	Aluminum Extruded Products	Aluminum Extruded Product Manufacturing
3355	Aluminum Rolling and Drawing, NEC	Other Aluminum Rolling and Drawing, (pt)
3356	Rolling, Drawing, and Extruding of Nonferrous Metals, Except Copper and Aluminum	Rolling, Drawing, and Extruding of Nonferrous Metals Except Copper or Aluminum (pt)
3357@	Drawing and Insulating of Nonferrous Wire	
	Aluminum Wire Drawing	Other Aluminum Rolling and Drawing (pt)
	Copper Wire Drawing	Drawing of Copper Wire
	Wire Drawing Except Copper or Aluminum	Rolling, Drawing, and Extruding of Nonferrous Metals Except Copper or Aluminum (pt)

	Communication and Energy Wire - Insulating Only	Communication and Energy Wire Manufacturing (Included in Electrical Equipment, Appliance and Component Manufacturing subsector)
3363	Aluminum Die-Castings	Aluminum Die-Castings
3364	Nonferrous Die-Castings, Except Aluminum	Nonferrous Die-Castings, Except Aluminum
3365	Aluminum Foundries	Aluminum Foundries
3366	Copper Foundries	Copper Foundries
3369	Nonferrous Foundries, Except Aluminum and Copper	Nonferrous Foundries, Except Aluminum and Copper
3398	Metal Heat Treating	Metal Heat Treating (Included in Fabricated Metal Product Manufacturing subsector)
3399@	Primary Metal Products, NEC	
	Ferrous Powder, Paste, Flakes, etc.	Steel Mills (pt)
	Aluminum Powder, Paste, Flakes, etc.	Secondary Smelting of Aluminum (pt)
	Other Nonferrous Powder, Paste, Flakes, etc.	Secondary Smelting and Refining of Nonferrous Metals (pt)
	Nonferrous Nails, Brads, Staples, etc.	Miscellaneous Fabricated Wire Product Manufacturing (pt) (Included in Fabricated Metal Product Manufacturing subsector)
	Laminated Steel	Electroplating, Plating, Polishing, Anodizing, and Coloring (pt) (Included in Fabricated Metal Product Manufacturing subsector)

Description of Changes to the U.S. System

A number of the changes listed in this section were made for reasons of international comparability. Where one or more of the three North American countries had different definitions of an industry classification, adjustments to the definitions in one or more countries were required. In constructing NAICS, the three countries agreed to move, where change was required to attain international comparability, in the direction of the country or countries whose existing classification definitions most closely corresponded to the production-oriented concept adopted for NAICS. Cases where the U.S. changed are listed below; other cases where Canada or Mexico moved toward the U.S. classification are not, of course, listed in this section.

Four new industries were added to the 1997 industry structure for this industry subsector. New industries were created for:

Iron and Steel Mills, from 1987 SIC 3312, Steel Works, Blast Furnaces, and Rolling Mills, and part of 1987 SIC 3399, Primary Metal Products, NEC, for comparability with Canada and Mexico, and because the production processes include direct reduction and other furnace processes similar to those used in manufacturing steel.

Secondary Smelting of Aluminum from part of 1987 SIC 3341, Secondary Smelting and Refining of Nonferrous Metals, and part of 1987 SIC 3399, Primary Metal Products, NEC, because of specialized production processes involved, and for international comparability.

Alumina Manufacturing from part of 1987 SIC 2819, Industrial Inorganic Chemicals, in the 1987 Major Group 28, Chemicals and Allied Products, to achieve international comparability. Canada has this in CSIC 2951, Primary Production of Aluminum.

Drawing of Copper Wire from part of 1987 SIC 3357, Drawing and Insulating of Nonferrous Wire, for international comparability, and because it is a specialized production process.

One complete industry was transferred out of 1987 Major Group 33, Primary Metals.

Metal Heat Treating was transferred into the 1997 subsector Fabricated Metal Product Manufacturing. The move improves the production process classification for this activity.

Five activities were transferred out of 1987 Major Group 33, Primary Metals, and are described more fully in their new respective NAICS subsectors.

Nails, spikes, paper clips, and wire, not made in wire drawing plants, were transferred from 1987 SIC 3315, Steel Wiredrawing and Steel Nails and Spikes, into Miscellaneous Fabricated Wire Product Manufacturing in the 1997 subsector Fabricated Metal Product Manufacturing.

Communication and energy wire - insulating only, was transferred from 1987 SIC 3357, Drawing and Insulating of Nonferrous Wire, into Communication and Energy Wire Manufacturing in 1997 subsector Electrical Equipment, Appliance and Component Manufacturing.

Nonferrous nails, brads, staples, etc. were transferred from 1987 SIC 3399, Primary Metal Products, NEC, into Miscellaneous Fabricated Wire Product Manufacturing in the 1997 subsector Fabricated Metal Product Manufacturing.

Laminated steel was transferred from 1987 SIC 3399, Primary Metal Products, NEC, into Electroplating, Polishing, Anodizing, and Coloring in 1997 subsector Fabricated Metal Product Manufacturing.

Coke ovens, not operated with a blast furnace were transferred from part of 1987 SIC 3312, Blast Furnaces and Steel Mills, into Other Petroleum and Coal Product Manufacturing in the 1997 NAICS subsector, Petroleum and Coal Product Manufacturing.

Also, several activities were transferred within the subsector for Primary Metal Manufacturing. The number of primary metal industries remained the same between 1997 and 1987 at 26. For time series linkage, 20 of the 26 1987 industries are comparable within three percent of the 1997 industries.