Naming Convention for Structural Steel Products for Use in Electronic Data Interchange (EDI)

June 25, 2001

AMERICAN INSTITUTE OF STEEL CONSTRUCTION, INC.
One East Wacker Drive, Suite 3100, Chicago, Illinois 60601-2001

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EDI NAMING CONVENTION FOR STANDARD STRUCTURAL SHAPES AND OTHER PRODUCTS

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Section 1. General Provisions

1.1. Scope

This naming convention facilitates the electronic interchange of information in structural steel design and construction by standardizing the electronic descriptions used to identify standard structural steel shapes and other steel products. The sole purpose of these electronic labels is to enable a communication standard for software applications. The electronic labels herein are not intended for use in connection with any other materials including, but not limited to, specifications or design drawings.

1.2. Referenced Specifications, Codes and Standards

The following documents are referenced:

American Institute of Steel Construction, Inc. (AISC)
- LRFD Manual of Steel Construction, 2nd Edition
- LRFD Manual of Steel Construction, Metric Conversion of the 2nd Edition
- Hollow Structural Sections Connections Manual

American Society of Testing and Materials (ASTM)
- ASTM A6/A6M–98
- ASTM A53/A53M–99b

Steel Tube Institute of North America (STI)
- Recommendations for Soft Conversion of HSS Sizes from U.S. Customary Units to Metric (SI) Units

1.3. Case Sensitivity in Electronic Descriptions

Electronic descriptions, in whole and in part, shall be case sensitive. All descriptions shall be entirely upper case only. For example, **L3X3X1/4** and **L3x3x1/4** shall not be considered equivalent labels.

1.4. Use of Spaces in Electronic Descriptions

Electronic descriptions shall be space sensitive. No blank spaces shall be included in the description. For example, **L 3x 3x 1/4** and **L3x3x1/4** shall not be considered equivalent labels.

1.5. Use of Fractions in Electronic Descriptions in U.S. Customary Units

When required in Sections 2 through 9, electronic descriptions in U.S. customary units that involve fractions shall be expressed as follows:

(a) If larger than 1 in and non-integer:

<whole inches> – <fractional numerator> / <fractional denominator>

For example, **2-1/2**, **3-3/4** and **1-1/8**.

(b) If equal to or larger than 1 in. and an integer:

<whole inches>

For example, **2**, **3** and **1**.

(c) If less than 1 in.:

<fractional numerator> / <fractional denominator>

For example, **1/2**, **3/4** and **1/8**.

Section 2. I-Shaped Members

2.1. Wide-Flange Shapes (W-Shapes)

2.1.1. For U.S. Customary units, the naming convention shall be:

W<nominal depth, in.>X<nominal weight, lbs/ft>

The combinations of nominal depth and nominal weight shall be as listed in ASTM A6/A6M. For example, **W44X335** and **W14X38**.

2.1.2. For metric units, the naming convention shall be:

W<nominal depth, mm>X<nominal mass, kg/m>

The combinations of nominal depth and nominal mass shall be as listed in ASTM A6/A6M. For example, **W360X32.9** and **W200X100**.

2.2. Miscellaneous Beams (M-Shapes)

2.2.1. For U.S. customary units, the naming convention shall be:

M<nominal depth, in.>X<nominal weight, lbs/ft>

The combinations of nominal depth and nominal weight shall be as listed in ASTM A6/A6M. For example, **M12X11.8** and **M10X8**.

2.2.2. For metric units, the naming convention shall be:

M<nominal depth, mm>X<nominal mass, kg/m>

The combinations of nominal depth and nominal mass shall be as listed in ASTM A6/A6M. For example, **M150X6.6** and **M200X9.2**.

2.3. American Standard Beams (S-Shapes)

2.3.1. For U.S. customary units, the naming convention shall be:

S<nominal depth, in.>X<nominal weight, lbs/ft>

The combinations of nominal depth and nominal weight shall be as listed in ASTM A6/A6M. For example, **S6X17.25** and **S3X7.5.**

2.3.2. For metric units, the naming convention shall be:

S<nominal depth, mm>X<nominal mass, kg/m>

The combinations of nominal depth and nominal mass shall be as listed in ASTM A6/A6M. For example, **S510X98.2** and **S310X74**.

2.4. Bearing Piles (HP-Shapes)

2.4.1. For U.S. customary units, the naming convention shall be:

HP<nominal depth, in.>X<nominal weight, lbs/ft>

The combinations of nominal depth and nominal weight shall be as listed in ASTM A6/A6M. For example, **HP14X73** and **HP8X36.**

2.4.2. For metric units, the naming convention shall be:

HP<nominal depth, mm>X<nominal mass, kg/m>

The combinations of nominal depth and nominal mass shall be as listed in ASTM A6/A6M. For example, **HP310X79** and **HP200X53.**

Section 3. Channels

3.1. American Standard Channels (C-Shapes)

3.1.1. For U.S. customary units, the naming convention shall be:

C<nominal depth, in.>X<nominal weight, lbs/ft>

The combinations of nominal depth and nominal weight shall be as listed in ASTM A6/A6M. For example, **C15X33.9** and **C6X13**.

3.1.2. For metric units, the naming convention shall be:

C<nominal depth, mm>X<nominal mass, kg/m>

The combinations of nominal depth and nominal mass shall be as listed in ASTM A6/A6M. For example, **C230X19.9** and **C180X22**.

3.2. Miscellaneous Channels (MC-Shapes)

3.2.1. For U.S. customary units, the naming convention shall be:

MC<nominal depth, in.>X<nominal weight, lbs/ft>

The combinations of nominal depth and nominal weight shall be as listed in ASTM A6/A6M. For example, **MC12X10.6** and **MC8X20**.

3.2.2. For metric units, the naming convention shall be:

MC<nominal depth, mm>X<nominal mass, kg/m>

The combinations of nominal depth and nominal mass shall be as listed in ASTM A6/A6M. For example, **MC200X29.8** and **MC150X17.9**.

Section 4. Structural Tees

4.1. WT-Shapes

4.1.1. For U.S. customary units, the naming convention shall be:

WT<nominal depth, in.>X<nominal weight, lbs/ft>

The combinations of nominal depth and nominal weight shall be as listed in ASTM A6/A6M. For example, **WT16.5X84.5** and **WT12X31**.

4.1.2. For metric units, the naming convention shall be:

WT<nominal depth, mm>X<nominal mass, kg/m>

The combinations of nominal depth and nominal mass shall be as listed in ASTM A6/A6M. For example, **WT125X29** and **WT180X16.45**.

4.2. MT-Shapes

4.2.1. For U.S. customary units, the naming convention shall be:

MT<nominal depth, in.>X<nominal weight, lbs/ft>

The combinations of nominal depth and nominal weight shall be as listed in ASTM A6/A6M. For example, **MT2.5X9.45** and **MT5X4**.

4.2.2. For metric units, the naming convention shall be:

MT<nominal depth, mm>X<nominal mass, kg/m>

The combinations of nominal depth and nominal mass shall be as listed in ASTM A6/A6M. For example, **MT65X14.1** and **MT125X6**.

4.3. ST-Shapes

4.3.1. For U.S. customary units, the naming convention shall be:

ST<nominal depth, in.>X<nominal weight, lbs/ft>

The combinations of nominal depth and nominal weight shall be as listed in ASTM A6/A6M. For example, **ST1.5X3.75** and **ST3X8.625**.

4.3.2. For metric units, the naming convention shall be:

ST<nominal depth, mm>X<nominal mass, kg/m>

The combinations of nominal depth and nominal mass shall be as listed in ASTM A6/A6M. For example, **ST230X40.7** and **ST100X17**.

Section 5. Angles

5.1. Single Angles (L-shapes)

5.1.1. For U.S. customary units, the naming convention shall be:

L<larger leg size, in.>X<smaller leg size, in.>X<thickness, in.>

The combinations of leg sizes and thickness shall be as given in ASTM A6/A6M. The leg sizes and thickness shall be expressed in accordance with the requirements in Section 1.5. For example, **L4X3X1/2**, **L2-1/2X2-1/2X1-1/4** and **L3/4X3/4X1/8**.

5.1.2. For metric units, the naming convention shall be:

L<larger leg size, mm>X<smaller leg size, mm>X<thickness, mm>

The combinations of leg sizes and thickness shall be as given in ASTM A6/A6M. For example, **L178X102X19.0** and **L64X64X6.4**.

5.2. Double Angles (2L-Shapes)

5.2.1. For U.S. customary units, the naming convention shall be:

2L<larger leg size, in.>X<smaller leg size, in.>X<thickness, in.>X<back-to-back spacing, in.><orientation>

The combinations of leg sizes and thickness shall be as given in ASTM A6/A6M. The leg sizes, thickness and back-to-back spacing shall be expressed in accordance with the requirements in Section 1.5. The back-to-back spacing shall be omitted if the angles are in contact. The orientation shall be expressed as "**LLBB**" if the long legs are back to back, "**SLBB**" if the short legs are back to back and omitted if the angles have equal leg sizes. For example, **2L6X3-1/2X3/8X1/2LLBB**, **2L2-1/2X1-1/2X1/4X1/4SLBB**, **2L2-1/2X2-1/2X1/2X1/4**, and **2L2-1/2X1-1/2X1/4SLBB**.

5.2.2. For metric units, the naming convention shall be:

2L<larger leg size, mm>X<smaller leg size, mm>X<thickness, mm>X<back-to-back spacing, in.><orientation>

The combinations of leg sizes and thickness shall be as given in ASTM A6/A6M. The back-to-back spacing shall be expressed in whole mm, or omitted if the angles are in contact. The orientation shall be expressed as "**LLBB**" if the long legs are back to back, "**SLBB**" if the short legs are back to back and omitted if the angles have equal leg sizes. For example, **2L152X102X19X13LLBB**, **2L89X76X9.5X7SLBB**, **2L89X89X9.5X13**, and **2L89X76X9.5SLBB**.

Section 6. Hollow Structural Sections (HSS)

6.1. Rectangular and Square HSS

6.1.1. For U.S. customary units, the naming convention shall be:

HSS<larger side dimension, in.>X<smaller side dimension, in.>X<nominal wall thickness, in.>

The combinations of side dimensions and nominal wall thickness shall be as given in the *Hollow Structural Sections Connections Manual*. The side dimensions shall be expressed in accordance with the requirements in Section 1.5. The thickness shall be expressed in decimal form to three decimal places and with the leading zero omitted. For example, **HSS10X3-1/2X.188** and **HSS10X3X.250**.

6.1.2. For metric units, the naming convention shall be:

HSS<larger side dimension, mm>X<smaller side dimension, mm>X<nominal wall thickness, mm>

The combinations of side dimensions and nominal wall thickness shall be as given in the *LRFD Manual of Steel Construction, Metric Conversion of the 2nd Edition*. For example, **HSS139.7X139.7X9.5** and **HSS304.8X152.4X12.7**.

6.2. Round HSS

6.2.1. For U.S. customary units, the naming convention shall be:

HSS<outside diameter, in.>X<nominal wall thickness, in.>

The combinations of outside diameter and nominal wall thickness shall be as given in the *Hollow Structural Sections Connections Manual*. The outside diameter and nominal wall thickness shall be expressed in decimal form to three decimal places. Exception:

when the outside diameter is an integer, the decimal point and three decimal places of zero shall be omitted. If the number is less than 1, the leading zero shall be omitted. For example, **HSS8.625X.188** and **HSS10X.500**.

6.2.2. For metric units, the naming convention shall be:

HSS<outside diameter, mm>X<nominal wall thickness, mm>

The combinations of outside diameter and nominal wall thickness shall be converted from those given in the *Hollow Structural Sections Connections Manual* using *Recommendations for Soft Conversion of HSS Sizes from U.S. Customary Units to Metric (SI) Units*. For example, **HSS219.1X4.8** and **HSS254X12.7**.

Section 7. Steel Pipe

For sections that have a schedule number in ASTM A53/A53M, the electronic description shall be in accordance with Section 7.1. For sections that do not have a schedule number, but do have a weight class in ASTM A53/A53M, the electronic description shall be in accordance with Section 7.2. Otherwise, the electronic description shall be in accordance with Section 7.3.

7.1. Steel Pipe With Schedule Numbers Per ASTM A53/A53M

For U.S. customary and metric units, the naming convention shall be:

Pipe<NPS designator>SCH<schedule number>

The NPS designator and schedule number shall be expressed as given in ASTM A53/A53M. For example, **PIPE8SCH60** and **PIPE12SCH30**.

7.2. Steel Pipe With Weight Class Per ASTM A53/A53M

For U.S. customary and metric units, the naming convention shall be:

Pipe<NPS designator><weight class>

The NPS designator shall be expressed as given in ASTM A53/A53M. The weight class shall be "**STD**", "**XS**" or "**XXS**" as given in ASTM A53/A53M. For example, **PIPE5STD** and **PIPE10XS**.

7.3. Steel Pipe Not Covered in Sections 7.1 and 7.2

For U.S. customary and metric units, the naming convention shall be:

Pipe<NPS designator>X<wall thickness, in.>

The NPS designator shall be expressed as given in ASTM A53/A53M. The wall thickness shall be expressed in decimal form to three decimal places with the leading zero omitted. For example, **PIPE8X.344** and **PIPE12X.438**.

Section 8. Bar Products

8.1. Flat Bars

For U.S. customary and metric units, the naming convention shall be:

FB<thickness, in.>X<width, in.>

The thickness and width shall be expressed in accordance with the requirements in Section 1.5. For example, **FB1/4X3-1/2** and **FB1-1/4X6-1/2**.

8.2. Round Bars

For U.S. customary and metric units, the naming convention shall be:

RB<nominal diameter, in.>

The nominal diameter shall be expressed in accordance with the requirements in Section 1.5. For example, **RB1/4** and **RB2-1/2**.

8.3. Hex Bars

For U.S. customary and metric units, the naming convention shall be:

HB<dimension between two parallel faces, in.>

The dimension between two parallel faces shall be expressed in accordance with the requirements in Section 1.5. For example, **HB1/2** and **HB2-1/2**.

Section 9. Plate Products

9.1. Structural Plate

For U.S. customary and metric units, the naming convention shall be:

PL<thickness, in.>X<width, in.>

The thickness and width shall be expressed in accordance with the requirements in Section 1.5. For example, **PL1/4X3-1/2** and **PL1-1/4X36**.

9.2. Floor Plate

For U.S. customary and metric units, the naming convention shall be:

FPL<thickness, in.>X<width, in.>

The thickness and width shall be expressed in accordance with the requirements in Section 1.5. For example, **FPL1/4X23-1/2** and **FPL1-1/4X36**.

9.3. Sheet

For U.S. customary and metric units, the naming convention shall be:

SHT<gage number>GA<width, in.>

The width shall be expressed in accordance with the requirements in Section 1.5. For example, **SHT16GA24** and **SHT18GA36-1/2**.