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American Iron & Steel Institute

isXML: Customer Purchase Order
An Industry Document Guideline for Metal Transactions

American Iron & Steel Institute

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DRAFT – Release 0.1
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Background

This document is intended to describe the ‘payload’ section of an XML-formatted ‘Customer Purchase Order’ message. Message routing structures are not currently a part of these guidelines.

The structure of the AISI XML message is as follows:

isXML DTD
1. Interchange level (described in ‘Draft V0001 – Control.doc)
2. Transaction level
   2.1. Control (described in ‘Draft V0001 – Control.doc)
   2.2. Data Area
      2.2.1. Header
      2.2.2. Detail

As part of the methodology used to develop these guidelines, the work group mapped transaction data requirements, grouped like elements together as ‘classes’ or common components, and structured the document.

The section labeled ‘Class Relationships’ diagrams the document structure in terms of the identified classes or components. The section labeled ‘Document Structure’ further outlines the hierarchical structure of the message.

The ‘isXML DTD’ portion of the guideline contains the message DTD. The common class definitions have been ‘included’ in the DTD and are described in ‘Draft V0001 – Overview.doc’.

A number of sections in the guideline have been reserved for ‘examples’. The ‘source document’ is a representation of a paper document used to derive the example. The ‘machine version’ example is a fully extended version of the XML that would be used where sophisticated systems are communicating and have access to industry and society codes and table structures. Finally, the ‘text version’ example is used for a lower-tech implementation where codes and tables need not be referenced.

A tag dictionary is included in ‘Draft V0001 – Overview.doc’. 
Transaction Description and Usage

This draft guideline contains the format and establishes the data content of the purchase order transaction set as communicated between a customer and a steel supplier.
Class Relationships

Figure 1
Document Structure

Figure 2
isXML DTD

<?xml version="1.0" encoding="UTF-8"?>
<!ENTITY % classcommon.dtd SYSTEM "classcommon.dtd">
%classcommon.dtd;
<!ELEMENT SalesOrder (Interchange, TransactionLevel)>
<!-- Document Definition has envelope information and transaction information -->
<!ELEMENT TransactionLevel (Control, DataArea)>
<!ELEMENT DataArea (Header, Detail+)>
<!ELEMENT Detail (CustomerOrderLoop)>
<!ELEMENT CustomerOrderLoop (CustomerOrder, Allowance?, Terms?, Pricing?, TaxInfo?, 
ProdDescLoop?, ShipInfo?, CarrierRouting?, StatusInfo?, TestRequest?, MatlInfo?, 
CustomerOrderLineLoop*, Note*)>
<!ELEMENT ProdDescLoop (ProdDesc?, OrderedDimensions?, CoatingInfo?, Note*)>
<!ELEMENT OrderedDimensions (%Dimension;)>
Examples

The following are examples of the actual customer purchase order transaction in use. You will see a sample source document followed by both a machine-based and a text-based isXML example that matches the source document.
Example: Source Document

NEW STEEL CORPORATION.

123 East Main Street
Anytown, USA 12345-0001

A subsidiary of
PLATINUM STEEL CORP

Purchase Order

26 Order date: 04/09/2001 Order No.039-002301

To:
Steel Supplier Corp
1111 Big Steel Road
Steel Town, USA 10001

(Hereinafter "Seller")

Delivery date: ASAP
(If date cannot be met, advise at once) Terms: NET PROX 25

Please furnish NEW STEEL CORP (Hereafter "Purchaser") in accordance with all conditions specified in this purchase order including the next page hereto and all attachments hereto, the following:

Invoice in units ordered and as described below

<table>
<thead>
<tr>
<th>Item Description</th>
<th>Quantity</th>
<th>Price</th>
<th>Ext Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>.025X55.54X66.258 GALV P/P</td>
<td>40,000 LB</td>
<td>$1.90/100 LB</td>
<td>$760.00</td>
</tr>
</tbody>
</table>

.025 X 55.542 X 66.258 PREPAINT GALV., STRIPPABLE FILM, CQ, POLYFILM 3944 3 MTL 1 OZ/IN. W/TACK WM3563-KB8 G60, WM3561-B2, WM3563-A1, 2,000# MAX SKID WT. LINER BODY, TOP, BTM ** QUANTITIES TO BE RELEASED **

IF THE GOODS TO BE SUPPLIED TO THE BUYER PURSUANT TO THIS PURCHASE ORDER CONTAIN OR WERE MANUFACTURED WITH ANY CHEMICAL DEFINED AS A "CONTROLLED SUBSTANCE" IN 40 40 CFR PART 82, VENDOR SHALL LABEL SUCH GOODS IN FULL COMPLIANCE WITH THE REQUIREMENTS OF 40 CFR 82."

Total $760.00

Examples...
Example: Machine-Based Version

<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE SalesOrder SYSTEM "SalesOrder.dtd">
<SalesOrder>
  <Interchange/>
  <TransactionLevel>
    <Control/>
    <DataArea>
      <Header>
        <ActionCode>
          <AgencyQualCode>AX</AgencyQualCode>
          <TableNum>306</TableNum>
          <CodeValue>5</CodeValue>
          <Desc>Send</Desc>
        </ActionCode>
        <ReportTransmissionCode>
          <AgencyQualCode>AX</AgencyQualCode>
          <TableNum>756</TableNum>
          <CodeValue>9</CodeValue>
          <Desc>Electronic Mail</Desc>
        </ReportTransmissionCode>
      </Header>
      <Detail>
        <CustomerOrderLoop>
          <CustomerOrder>
            <PurchaseOrderNum>039-002301</PurchaseOrderNum>
            <TimeStamp TimeStampType="PurchaseOrder">
              <Date>2001.04.09</Date>
            </TimeStamp>
            <Partner PartnerType="SoldTo">
              <Name>NEW STEEL CORPORATION</Name>
              <Addr1>A subsidiary of PLATINUM STEEL CORP</Addr1>
              <Addr2>123 EAST MAIN STREET</Addr2>
              <CityName>ANYTOWN</CityName>
              <StateOrProvinceCode/>
              <PostalCode>12345</PostalCode>
              <CountryCode>
                <CodeValue>USA</CodeValue>
              </CountryCode>
            </Partner>
            <Partner PartnerType="Supplier">
              <EntityIdCode/>
              <Name>STEEL SUPPLIER CORP</Name>
              <Addr1>1111 BIG STEEL ROAD</Addr1>
              <CityName>STEEL TOWN</CityName>
              <PostalCode>10001</PostalCode>
            </Partner>
          </CustomerOrder>
        </CustomerOrderLoop>
      </Detail>
    </DataArea>
  </TransactionLevel>
</SalesOrder>
Example: Machine-based Version (con’t)

```xml
<CountryCode>
  <CodeValue>USA</CodeValue>
</CountryCode>
</Partner>
<Partner PartnerType="BillTo">
  <EntityIdCode/>
  <Name>NEW STEEL CORPORATION</Name>
  <Addr1>COMPTROLLER - ROOM 0001</Addr1>
  <Addr2>123 EAST MAIN STREET</Addr2>
  <CityName>STEEL TOWN</CityName>
  <PostalCode>12345</PostalCode>
  <CountryCode>
    <CodeValue>USA</CodeValue>
  </CountryCode>
</Partner>
<Note>
  <NoteRefCode>
    <AgencyQualCode>AX</AgencyQualCode>
    <TableNum>363</TableNum>
    <CodeValue>ADD</CodeValue>
    <Desc>ADDITIONAL INFORMATION</Desc>
  </NoteRefCode>
  <Desc>PLEASE FURNISH NEW STEEL CORP (HEREAFTER "PURCHASER") IN ACCORDANCE WITH ALL CONDITIONS Specified IN THIS PURCHASE ORDER INCLUDING THE NEXT PAGE HERETO AND ALL ATTACHMENTS HERETO THE FOLLOWING:</Desc>
</Note>
</CustomerOrder>
<CustomerOrderLineLoop>
  <CustomerOrderLine>
    <PurchaseOrderItem>001</PurchaseOrderItem>
    <Pricing>
      <PriceUnit>
        <AgencyQualCode>ST</AgencyQualCode>
        <TableNum>62</TableNum>
        <CodeValue>51</CodeValue>
        <Desc>POUNDS (100)</Desc>
      </PriceUnit>
      <PriceUnitOfMeas>
        <AgencyQualCode>ST</AgencyQualCode>
        <TableNum>24</TableNum>
        <CodeValue>32</CodeValue>
        <Desc>POUNDS</Desc>
      </PriceUnitOfMeas>
      <UnitPrice>1.90</UnitPrice>
    </Pricing>
  </CustomerOrderLine>
</CustomerOrderLineLoop>
```

Examples…
Example: Machine-based Version (con’t)

```
<OrderedDimensions>
  <Len>
    <MeasValue>66.258</MeasValue>
    <UnitOrBasisForMeasCode>
      <AgencyQualCode>AX</AgencyQualCode>
      <TableNum>355</TableNum>
      <CodeValue>IN</CodeValue>
      <Desc>INCH</Desc>
    </UnitOrBasisForMeasCode>
  </Len>
  <Thk>
    <MeasValue>.025</MeasValue>
    <UnitOrBasisForMeasCode>
      <AgencyQualCode>AX</AgencyQualCode>
      <TableNum>355</TableNum>
      <CodeValue>IN</CodeValue>
      <Desc>INCH</Desc>
    </UnitOrBasisForMeasCode>
  </Thk>
  <Width>
    <MeasValue>55.54</MeasValue>
    <UnitOrBasisForMeasCode>
      <AgencyQualCode>AX</AgencyQualCode>
      <TableNum>355</TableNum>
      <CodeValue>IN</CodeValue>
      <Desc>INCH</Desc>
    </UnitOrBasisForMeasCode>
  </Width>
  <Weight>
    <MeasValue>40000</MeasValue>
    <UnitOrBasisForMeasCode>
      <AgencyQualCode>ST</AgencyQualCode>
      <TableNum>355</TableNum>
      <CodeValue>LB</CodeValue>
      <Desc>POUNDS</Desc>
    </UnitOrBasisForMeasCode>
  </Weight>
</OrderedDimensions>

<Note>
  <NoteRefCode>
    <AgencyQualCode>AX</AgencyQualCode>
    <TableNum>363</TableNum>
    <CodeValue>ADD</CodeValue>
    <Desc>ADDITIONAL INFORMATION</Desc>
  </NoteRefCode>
  <Desc>
    .025 X 55.54X66.258 PREPAINT GALV., STRIPPABLE FILM, CQ,
    POLYFILM 3944 3 MTL 1 OZ/IN. W/TACK WM3563-KB8 G60, WM2561-B2, WM3563-A1, 2,000# MAX
    SKID WT. LINER BODY, TOP, BTM ** QUANTITIES TO BE RELEASE **
  </Desc>
</Note>
</ProdDescLoop>
```
Example: Machine-based Version (con’t)

<Note>
  <NoteRefCode>
    <AgencyQualCode>AX</AgencyQualCode>
    <TableNum>363</TableNum>
    <CodeValue>ADD</CodeValue>
    <Desc>ADDITIONAL INFORMATION</Desc>
  </NoteRefCode>
  <Desc>IF THE GOODS TO BE SUPPLIED TO THE BUYER PURSUANT TO
  THIS PURCHASE ORDER CONTAIN OR WERE MANUFACTURED WITH ANY CHEMICAL DEFINED
  AS A "CONTROLLED SUBSTANCE" IN 40 CFR PART 82, VENDOR SHALL LABEL SUCH GOODS
  IN FULL COMPLIANCE WITH THE REQUIREMENTS OF 40 CFR 82.</Desc>
</Note>
</CustomerOrderLineLoop>
</CustomerOrderLoop>
</Detail>
</DataArea>
</TransactionLevel>
</SalesOrder>
Example: Text-Based Version

```xml
<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE SalesOrder SYSTEM "SalesOrder.dtd">
<SalesOrder>
  <Interchange/>
  <TransactionLevel>
    <Control/>
    <DataArea>
      <Header>
        <ActionCode>
          <Desc>Send</Desc>
        </ActionCode>
        <ReportTransmissionCode>
          <Desc>Electronic Mail</Desc>
        </ReportTransmissionCode>
      </Header>
      <Detail>
        <CustomerOrderLoop>
          <CustomerOrder>
            <PurchaseOrderNum>039-002301</PurchaseOrderNum>
            <TimeStamp TimeStampType="PurchaseOrder">
              <Date>2001.04.09</Date>
            </TimeStamp>
            <Partner PartnerType="SoldTo">
              <Name>NEW STEEL CORPORATION</Name>
              <Addr1>A subsidiary of PLATINUM STEEL CORP</Addr1>
              <Addr2>123 EAST MAIN STREET</Addr2>
              <CityName>ANYTOWN</CityName>
              <CountryCode>
                <CodeValue>USA</CodeValue>
              </CountryCode>
            </Partner>
            <Partner PartnerType="Supplier">
              <EntityIdCode/>
              <Name>STEEL SUPPLIER CORP</Name>
              <Addr1>1111 BIG STEEL ROAD</Addr1>
              <CityName>STEEL TOWN</CityName>
              <PostalCode>10001</PostalCode>
              <CountryCode>
                <CodeValue>USA</CodeValue>
              </CountryCode>
            </Partner>
            <Partner PartnerType="BillTo">
              <EntityIdCode/>
              <Name>NEW STEEL CORPORATION</Name>
              <Addr1>COMPTROLLER - ROOM 0001</Addr1>
              <Addr2>123 EAST MAIN STREET</Addr2>
              <CityName>STEEL TOWN</CityName>
          </CustomerOrder>
        </CustomerOrderLoop>
      </Detail>
    </DataArea>
  </TransactionLevel>
</SalesOrder>
```
Example: Text-Based Version (con’t)

```xml
<PostalCode>12345</PostalCode>
</CountryCode>
  <CodeValue>USA</CodeValue>
</CountryCode>
</Partner>
</Note>
  <NoteRefCode>
    <Desc>ADDITIONAL INFORMATION</Desc>
  </NoteRefCode>
  <Desc>PLEASE FURNISH NEW STEEL CORP (HEREAFTER "PURCHASER") IN ACCORDANCE WITH ALL CONDITIONS SPECIFIED IN THIS PURCHASE ORDER INCLUDING THE NEXT PAGE HERETO AND ALL ATTACHMENTS HERETO THE FOLLOWING:</Desc>
</Note>
</CustomerOrder>
<CustomerOrderLineLoop>
  <CustomerOrderLine>
    <PurchaseOrderItem>001</PurchaseOrderItem>
  </CustomerOrderLine>
  <Pricing>
    <PriceUnit>
      <Desc>POUNDS (100)</Desc>
    </PriceUnit>
    <PriceUnitOfMeas>
      <Desc>POUNDS</Desc>
    </PriceUnitOfMeas>
    <UnitPrice>1.90</UnitPrice>
  </Pricing>
  <ProdDescLoop>
    <ProdDesc/>
    <OrderedDimensions>
      <Len>
        <MeasValue>66.258</MeasValue>
        <UnitOrBasisForMeasCode>
          <Desc>INCH</Desc>
        </UnitOrBasisForMeasCode>
      </Len>
      <Thk>
        <MeasValue>.025</MeasValue>
        <UnitOrBasisForMeasCode>
          <Desc>INCH</Desc>
        </UnitOrBasisForMeasCode>
      </Thk>
      <Width>
        <MeasValue>55.54</MeasValue>
        <UnitOrBasisForMeasCode>
          <Desc>INCH</Desc>
        </UnitOrBasisForMeasCode>
      </Width>
```
Example: Text-Based Version (con’t)

```
<Weight>
  <MeasValue>40000</MeasValue>
  <UnitOrBasisForMeasCode>
    <Desc>POUNDS</Desc>
  </UnitOrBasisForMeasCode>
</Weight>
</OrderedDimensions>
<Note>
  <NoteRefCode>
    <Desc>ADDITIONAL INFORMATION</Desc>
  </NoteRefCode>
  <Desc>0.25 X 55.54X66.258 PREPAINT GALV., STRIPPABLE FILM, CQ, POLYPREM 3944 3 MTL 1 OZ/IN. W/TACK WM3563-KB8 G60, WM2561-B2, WM3563-A1, 2,000# MAX SKID WT. LINER BODY, TOP, BTM ** QUANTITIES TO BE RELEASE **</Desc>
</Note>
</ProdDescLoop>
<Note>
  <NoteRefCode>
    <Desc>ADDITIONAL INFORMATION</Desc>
  </NoteRefCode>
  <Desc>IF THE GOODS TO BE SUPPLIED TO THE BUYER PURSUANT TO THIS PURCHASE ORDER CONTAIN OR WERE MANUFACTURED WITH ANY CHEMICAL DEFINED AS A “CONTROLLED SUBSTANCE” IN 40 CFR PART 82, VENDOR SHALL LABEL SUCH GOODS IN FULL COMPLIANCE WITH THE REQUIREMENTS OF 40 CFR 82.</Desc>
</Note>
</CustomerOrderLineLoop>
</CustomerOrderLoop>
</Detail>
</DataArea>
</TransactionLevel>
</SalesOrder>
```
Appendices