Implementation Guidelines: ANSI X12 Transaction Set 856

Advance Ship Notice/Manifest

DOCUMENT NUMBER ICS 004010 856 R GSR

ESSAR Steel Algoma Inc.

Information Systems and Business Process Improvement

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SECTION 1. REVISION STATUS

REVISION NUMBER	DATE	PAGES	AUTHOR
R00/A	2007 03 05	original draft	G. Masters
R00	2007 03 12	original	G. Masters
R01	2007 03 27	Added grade & values for MEA04. Removed Ready ASN & practice.	G. Masters
R02	2007 04 04	824 is now ready	G. Masters
R03	2008 06 23	Name change	G. Masters

SECTION 2. PREFACE

This document is intended to provide the details on how to construct an electronic Advance Ship Notice (ASN) 856 transaction set to satisfy Algoma's requirements.

Essar Steel Algoma Inc. is committed to supporting and using the Automotive Industry Action Group/American National Standards Institute (AIAG/ANSI) X12 national standards. However, the standards are broad in scope and flexible in methods of implementing. These are the Algoma specific requirements for the Advance Ship Notice/Manifest.

Any questions or concerns regarding the Algoma ASN or electronic data communication with Algoma may be directed to:

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SECTION 3. SUMMARY

In order for Essar Steel Algoma Inc. to efficiently service its customers, Algoma has implemented the Advance Ship Notice/Manifest ANSI X12 856 transaction set. This transaction set will be used to receive shipping, carrier, order and piece specific information from all suppliers. There are three levels of hierarchy implemented: shipment, order and item.

The shipment level will contain the carrier details, bill of lading, shipment weight, freight charge type and ship-to/ship-from information for the shipment.

The order level will contain Algoma's purchase order, release number, mill order and item.

The item level will contain the physical details for the item such as piece ID, weight, dimensions, heat number and chemistry information.

Accuracy and timeliness of the ASN is vital to the operation of Algoma and Algoma's customers. The ASN must be sent to Algoma at the time of shipment.

The Application Advice (824) will be sent in response to the ASN. If the 824 identifies discrepancies in the ASN information, the supplier of the ASN must use this information to resolve the discrepancies and retransmit the entire corrected ASN immediately. These procedures are necessary to enable Algoma to provide its customers with an ASN prior to the shipment arriving at the customer's location.

Algoma will respond to each ASN with a Functional Acknowledgement (997). It is the responsibility of the ASN sender to notify Algoma of any unacknowledged ASNs.

Essar Steel Algoma Inc. uses the GXS network for electronic data interchange.

Algoma's DUNS number is 201495124.

SECTION 4. INTERCHANGE ENVELOPE

ISA - Interchange Control Header

Segment: ISA - Interchange Control Header

Level: n/a

Max Use/Loops: 1 per interchange/none

Purpose: To start and identify an interchange of one or more functional groups and interchange related control segments.

General Information: None

Example: ISA*00* *00* *01*999999999 *01*201495124 *070301*1312*U*00401*000000001*1*P*~

Elem ID	Elem#	Name	Features	Comments
ISA01	744	Authorization Information Qual	M ID 02/02	"00" (Zeros) No authorization information present
ISA02	745	Authorization Information	M AN 10/10	Use 10 spaces
ISA03	746	Security Information Qual	M ID 02/02	"00" (Zeros) No security information present
ISA04	747	Security Information	M AN 10/10	Use 10 spaces
ISA05	704	Interchange Sender ID Qualifier	M ID 02/02	"01" for DUNS number
ISA06	705	Interchange Sender ID	M ID 15/15	Use your company's DUNS number. Left justified.
ISA07	704	Interchange Receiver ID Qualifier	M ID 02/02	"01" for DUNS number
ISA08	706	Interchange Receiver ID	M ID 15/15	Use "201495124" left justified.
ISA09	373	Interchange Date	M DT 06/06	Date of Transmission (YYMMDD)

Segment: ISA - Interchange Control Header

Elem ID	Elem#	Name	Features	Comments
ISA10	337	Interchange Time	M TM 04/04	Time of Transmission (HHMM) 24 hour clock
ISA11	726	Interchange Standard ID	M ID 01/01	"U" for USA
ISA12	703	Interchange Version ID	M ID 05/05	"00401"
ISA13	709	Interchange Control ID	M N0 09/09	Sequential Number starting with 1 and incremented by 1 for each ISA sent.
ISA14	749	Acknowledgement ID	M ID 01/01	"0" for acknowledge-ment not required.
ISA15	748	Test Indicator	M ID 01/01	"P" for production "T" for test
ISA16	701	Sub Element Separator	M AN 01/01	Must be different then the element separator.

4.1 Element separators and segment terminator

Algoma uses the following characters:

- Segment terminator EBCDIC Hex "1C"
- Element separator EBCDIC Hex "5C"
- Sub element separator EBCDIC Hex "A1"

4.2 IEA - Interchange Control Trailer

Segment: IEA – Interchange Control Trailer

Level: n/a

Max Use/Loops: 1 per interchange/none

Purpose: To define the end of an interchange of one or more functional groups and interchange related control segments.

General Information: None

Example: IEA*3*000000001

Elem ID	Elem#	Name	Features	Comments
IEA01	405	Number of Included Groups	M N0 01/05	Number of GS segments included between ISA and this IEA
IEA02	709	Interchange Control Number	M N0 09/09	Must match ISA13

SECTION 5. FUNCTIONAL GROUP ENVELOPE

GS - Functional Group Header

Segment: GS – Functional Group Header

Level: n/a

Max Usage/Loops: 1/None

Purpose: The GS segment is used to indicate the beginning of a functional group and to provide control information

General Information: None

Example: GS*SH*999999999*201495124*20070301*1312*1*X*004010

Elem ID	Elem#	Name	Features	Comments
GS01	479	Functional ID	M ID 02/02	"SH"
GS02	142	Application Sender Code	M AN 02/15	Use your company's DUNS number
GS03	124	Application Receiver Code	M AN 02/15	"201495124"
GS04	29	Data Interchange Date	M DT 08/08	Date created (CCYYMMDD)
GS05	30	Data Interchange Time	M TM 04/04	Time created (HHMM)
GS06	28	Data Interchange Control Number	M N0 01/09	Start with 1 and increment by 1 for each subsequent GS between interchanges
GS07	455	Responsibility Agency	M ID 01/02	Use "X" for ANSI X12 code formats
GS08	480	Version	M ID 01/12	"004010"

GE - Functional Group Trailer

Segment: GE - Functional Group Trailer

Level: n/a

Max Usage/Loops: 1 per functional group/none

Purpose: To define (specify) the end of a functional group of related transaction sets.

General Information: None

Example: GE*3*1

Elem ID	Elem#	Name	Features	Comments
GE01	97	Number of Included Transaction Sets	M N0 01/06	Total count of transaction sets in functional group
GE02	28	Data Interchange Control Number	M N0 01/09	Same as GS06 in the associated group Header

SECTION 6. 856 TRANSACTION SET

Data Segment Sequence

ST	Transaction Set Header
BSN	Beginning Segment for Advance Ship Notice
DTM	Date/Time Reference
HL	Hierarchical Level - Shipment
TD1	Carrier Details (Quantity & Weight)
TD5	Carrier Details (Routing Seq/Transit Time)
TD3	Carrier Details (Equipment)
REF	Reference Numbers
FOB	F.O.B. Related Instructions
N1	Name
HL	Hierarchical Level - Order
LIN	Item Identification
PRF	Purchase Order Reference
PID	Product/Item Description
CLD	Load Detail
HL	Hierarchical Level - Item
SN1	Item Detail
MEA	Measurements
REF	Reference Numbers
CTT	Transaction Totals
SE	Transaction Set Trailer

6.1 ST - Transaction Set Header

Segment: ST - Transaction Set Header

Level: Heading

Max Usage/Loops: 1/None

Purpose: To indicate the start of a transaction set and to assign a control number.

General Information: This segment is required. The transaction set control number (ST02) in this header must match the transaction set control number (SE02) in the transaction set trailer (SE).

Example: ST*856*0001

Elem ID	Elem#	Name	Features	Comments
ST01	143	Transaction Set ID Code	M ID 03/03	Use "856"
ST02	329	Transaction Set Control Number	M AN 04/09	A unique number assigned to each transaction set within a functional group.

6.2 BSN - Beginning Segment for Advance Ship Notice

Segment: BSN - Beginning Segment for Advance Ship Notice

Level: Heading

Max Usage/Loops: 1/None

Purpose: To transmit identifying numbers, dates and other basic data relating to the transaction set.

General Information: The date and time are the date and local time of the creation of the transaction.

Example: BSN*00*123456*20070301*1421

Elem ID	Elem#	Name	Features	Comments
BSN01	353	Transaction Set Purpose Code	M ID 02/02	"00" - original
BSN02	396	Shipment Identification	M AN 02/30	Unique supplier assigned number that is not repeated within a one year period (usually bill of lading number).
BSN03	373	Date	M DT 08/08	Creation date (CCYYMMDD)
BSN04	337	Time	M TM 04/08	Creation time (HHMM) 24 hour clock.
BSN05	1005	Hierarch Structure Code	O ID 04/04	Not used.
BSN06	640	Transaction Type Code	O ID 02/02	Not used.
BSN07	641	Status Reason Code	O ID 03/03	Not used.

6.3 DTM - Date/Time Reference

Segment: DTM - Date/Time Reference

Level: Heading

Max Usage/Loops: 10/None

Purpose: To specify pertinent dates and times.

General Information: One occurrence of the DTM segment is required.
Use "011" in DTM01 for all shipments.

Example: DTM*011*20070301*1421

Elem ID	Elem#	Name	Features	Comments
DTM01	374	Date/Time Qualifier	M AN 03/03	"011" Date and time shipment leaves the supplier's premises.
DTM02	373	Date	M DT 08/08	Date (CCYYMMDD)
DTM03	337	Time	M TM 04/08	Time (HHMM) 24 hour clock.
DTM04	623	Time Code Format Qualifier	O ID 02/02	Not used.
DTM05	1250	Date Time Period Format Qualifier	C ID 02/03	Not Used.
DTM06	1251	Date Time Period	C AN 01/35	Not Used.

6.4 HL - Hierarchical Level - Shipment

Segment: HL - Hierarchical Level - Shipment

Level: Shipment hierarchical level

Max Usage/Loops: 200,000 per advance shipment notice/begins the detail loop.

Purpose: To identify dependencies among the content of hierarchically related groups of data segments.

General Information: At least one occurrence of the HL segment at the shipment level is mandatory for all ASNs.

Example: HL*1**S

Elem ID	Elem#	Name	Features	Comments
HL01	628	Hierarchical ID Number	M AN 01/12	"1" for the initial HL segment and incremented by 1 in each subsequent HL segment within the transaction.
HL02	734	Hierarchical Parent Number	O AN 01/12	Required except for the first occurrence of the HL segment.
HL03	735	Hierarchical Level Code	M ID 01/02	"S" for shipment level.
HL04	736	Hierarchical Child Code	O ID 01/01	Not used.

6.5 TD1 - Carrier Details (Quantity & Weight)

Segment: TD1 - Carrier Details (Quantity & Weight)

Level: Shipment hierarchical level

Max Usage/Loops: 20 per HL loop.

Purpose: To specify the transportation details relative to commodity, weight and quantity.

General Information: Required at the shipment level.

Example: TD1*COL52*2****N*43200*LB

Elem ID	Elem#	Name	Features	Comments
TD101	103	Packing Code	M AN 03/05	"COL52" for coil "BDL52" for bundle "PLF52" for plate or slab "MXD52" On TD1 only - mixed load.
TD102	80	Lading Quantity	M N0 01/07	Number of units of the type specified in TD101
TD103	23	Commodity Code Qualifier	O ID 01/01	Not used.
TD104	22	Commodity Code	O AN 01/30	Not used.
TD105	79	Lading Description	O AN 01/50	Not used.
TD106	187	Weight Qualifier	M ID 01/02	"N" for net.
TD107	81	Weight	M N0 01/10	Shipment weight.
TD108	355	Unit of Measurement Code	M ID 02/02	"LB" for pounds.
TD109	183	Volume Code	C R 01/08	Not used.
TD110	355	Unit of Measurement Code	C ID 02/02	Not used.

6.6 TD5 - Carrier Details (Routing Seq/Transit Time)

Segment: TD5 - Carrier Details (Routing Sequence/Transit Time)

Level: Shipment hierarchical level

Max Usage/Loops: 12 per HL loop.

Purpose: To specify the carrier, sequence of routing and to provide transit time information.

General Information: Required at the shipment level.

Example: TD5*B*2*ALGM*M*ALGOMA TRUCKING

Elem ID	Elem#	Name	Features	Comments
TD501	133	Routing Sequence Code	M ID 01/02	"B" for origin.
TD502	66	ID Code Qualifier	M ID 01/02	"2" for SCAC ID.
TD503	67	ID Code	M AN 02/80	SCAC Code - for truck. CN or CP for rail etc.
TD504	91	Transportation	M ID 01/02	"B" - barge. "M" - common carrier: truck. "R" - rail. "VL" - vessel lake.
TD505	387	Routing	M AN 01/35	Carrier name
TD506	368	Shipment/Order Status Code	O ID 02/02	Not used.
TD507	309	Location Qualifier	O ID 01/02	Not used.
TD508	310	Location Identifier	O AN 01/30	Not used.
TD509	731	Transit Direction Code	O ID 02/02	Not used.
TD510	732	Transit Time Direction Qualifier	O ID 02/02	Not used.
.				
.				
TD514	284	Service Level Code	O ID 02/02	Not used.
TD515	26	Country Code	O ID 02/03	Not used.

6.7 TD3 - Carrier Details (Equipment)

Segment: TD3 - Carrier Details (Equipment)

Level: Shipment hierarchical level

Max Usage/Loops: 12 per HL loop.

Purpose: To specify transportation details relating to the equipment used by the carrier.

General Information: Required at the shipment level. When entering numbers with alpha prefixes, place the alpha portion in TD302 and the numeric portion in TD303. For a rail shipment, place the railcar number in TD303 and the owner's prefix in TD302.

Example: TD3*TL*AB*512

Elem ID	Elem#	Name	Features	Comments
TD301	40	Equipment Description Code	M ID 02/02	"TL" for trailer. "RR" for rail car. "BR" for barge. "VL" for vessel.
TD302	206	Equipment Initial	O AN 01/04	Alphabetic portion of the equipment identification.
TD303	207	Equipment Number	M AN 01/10	Trailer number, Railcar number, Vessel number, Barge ID.
TD304	187	Weight Qualifier	O ID 01/02	Not used.
TD305	81	Weight	O R 01/10	Not used.
TD306	355	Unit of Measurement Code	O ID 02/02	Not used.
TD307	102	Ownership Code	O ID 01/01	Not used.
TD308	407	Seal Status Code	O ID 02/02	Not used.
TD309	225	Seal Number	O AN 02/15	Not used.
TD310	24	Equipment Type	O ID 04/04	Not used.

6.8 REF - Reference Numbers

Segment: REF - Reference Numbers

Level: Shipment hierarchical level

Max Usage/Loops: 200 per HL loop.

Purpose: To transmit identifying numbers.

General Information: Used to specify bill of lading number.

Example: REF*BM*32418

Elem ID	Elem#	Name	Features	Comments
REF01	128	Reference Number Qualifier	M AN 02/03	"BM" for bill of lading.
REF02	127	Reference Number	M AN 01/30	Bill of lading.
REF03	352	Description	O AN 01/80	Not used.

6.9 FOB - F.O.B. Related Instructions

Segment: FOB - F.O.B. Related Instructions

Level: Shipment hierarchical level

Max Usage/Loops: 1 per HL loop.

Purpose: To specify transportation instructions relating to a shipment.

General Information: Used at shipment level to specify arrangements for paying freight.

Example: FOB*CC

Elem ID	Elem#	Name	Features	Comments
FOB01	146	Shipment Method of Payment	M ID 02/02	"CC" for collect "PP" for prepaid
FOB02	309	Location Qualifier	O ID 01/02	Not used.
FOB03	352	Description	O AN 01/80	Not used.
FOB04	334	Transportation Terms Qualifier Code	O ID 02/02	Not used.
FOB05	335	Transportation Terms Code	O ID 03/03	Not used.
FOB06	309	Location Qualifier	O ID 01/02	Not used.
FOB07	352	Description	O AN 01/80	Not used.
FOB08	54	Risk of Loss Qualifier	O ID 02/02	Not used.
FOB09	352	Description	O AN 01/80	Not used.

6.10 N1 - Name

Segment: N1 - Name

Level: Shipment hierarchical level

Max Usage/Loops: 1 per N1 loop whose max usage is 200 per HL loop.

Purpose: To identify a party by type of organization, name and code.

General Information: Ship-to and ship-from segments are mandatory. The assigned supplier code is required on the Ship-from.

Example: N1*SF*ANY COMPANY*ZZ*ANY COMPAN00
N1*ST*ESSAR Steel Algoma Inc.

Elem ID	Elem#	Name	Features	Comments
N101	98	Entity Identifier Code	M ID 02/03	"ST" for ship-to. "SF" for ship-from.
N102	93	Name	M AN 01/60	Organization's name.
N103	66	ID Code Qualifier	O ID 01/02	"ZZ" for mutually defined.
N104	67	ID Code	C AN 02/80	Algoma’s assigned supplier Code on SF.
N105	706	Entity Relationship Code	C ID 02/02	Not used.
N106	98	Entity Identifier Code	C AN 02/03	Not used.

6.11 HL - Hierarchical Level - Order

Segment: HL - Hierarchical Level - Order

Level: Order hierarchical level

Max Usage/Loops: 200,000 per advance shipment notice/begins the detail loop.

Purpose: To identify dependencies among the content of hierarchically related groups of data segments.

General Information: At least one occurrence of the HL segment at the order level is mandatory for all ASNs.

Example: HL*2*1*O

Elem ID	Elem#	Name	Features	Comments
HL01	628	Hierarchical ID Number	M AN 01/12	"1" for the initial HL segment and incremented by 1 in each subsequent HL segment within the transaction.
HL02	734	Hierarchical Parent Number	O AN 01/12	The ID of the parent HL segment.
HL03	735	Hierarchical Level Code	M ID 01/02	"O" for order level.
HL04	736	Hierarchical Child Code	O ID 01/01	Not used.

6.12 LIN - Item Identification

Segment: LIN - Item Identification

Level: Order hierarchical level

Max Usage/Loops: 1 per HL loop.

Purpose: To specify basic item identification.

General Information: Used to specify Algoma's PO line item number, customer order number & grade. Order number will be supplied on the PO for coils only. Grade is required for slabs only.

Example: LIN*002*ON*74522001*GC*93333
LIN*003*GC*93333

Elem ID	Elem#	Name	Features	Comments
LIN01	350	Assigned Identification	O AN 01/20	Algoma's PO line item number (3 characters).
LIN02	235	Product/Service ID Qualifier	M ID 02/02	"ON" Customer's order number.
LIN03	234	Product/Service ID	M ID 01/48	Algoma's stocking order number (8 characters)
LIN04	235	Product/Service ID Qualifier	O ID 02/02	"GC" Grade code.
LIN05	234	Product/Service ID	O ID 01/48	Grade.
LIN06 . . .	235	Product/Service ID Qualifier	O ID 02/02	Not used.
LIN31	234	Product/Service ID	O ID 01/48	Not used.

6.13 PRF – Purchase Order Reference

Segment: PRF - Purchase Order Reference

Level: Order hierarchical level

Max Usage/Loops: 1 per HL loop.

Purpose: To provide reference to a specific purchase order.

General Information: Used to specify Algoma's purchase order and release number. Release number is required if supplied on the PO.

Example: PRF~123456~1234

Elem ID	Elem#	Name	Features	Comments
PRF01	324	Purchase Order Number	M AN 01/22	Algoma’s PO number (6 characters).
PRF02	328	Release Number ID Qualifier	C AN 01/30	Algoma’s Release number if supplied on PO. (4 characters).
PRF03	327	Change Order Sequence Number	O AN 01/08	Not used.
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.				
.				
PRF07	92	Purchase Order Type Code	O ID 02/02	Not used.

6.14 PID - Product/Item Description

Segment: PID - Product/Item Description

Level: Order hierarchical level

Max Usage/Loops: 200 per HL.

Purpose: To describe a product or process in coded or free-form format.

General Information: The PID is only required to identify slabs, mill edge, pickled and oiled product. For element PID02, qualifiers 09, 18 and 22 are required as follows:
1) When slabs include PID02 = 09
2) When mill edge include PID02 = 22
3) When pickled or oiled include PID02 = 18

Example: PID*S*09*ST*066
PID*S*18*ST*36 -pickled (see element dictionary for values)
PID*S*22*ST*34

Elem ID	Elem#	Name	Features	Comments
PID01	349	Item Description Type	M ID 01/01	"S" Structured format.
PID02	750	Product/Process Characteristic Code	O ID 02/03	"09" Sub Product. "18" Surface treatment chemical. "22" Edge Treatment.
PID03	559	Agency Qualifier Code	C ID 02/02	"ST" Steel (AISI).
PID04	751	Product Description Code	C AN 01/12	For PID02 = "09" use 066. For PID02 = "22" use 34. - see element dictionary
PID05	352	Description	M AN 01/80	Not used.
PID06	752	Surface/Layer/ Position Code	O ID 02/02	Not used.
PID07	822	Source Subqualifier	O AN 01/15	Not used.
PID08	1073	Yes/No Condition Or Response Code	O ID 01/01	Not used.
PID09	819	Language Code	O ID 02/03	Not used.

6.15 CLD – Load Detail

Segment: CLD - Load Detail

Level: Order hierarchical level

Max Usage/Loops: 200 per HL.

Purpose: To specify the number of material loads shipped.

General Information: To specify the number of material loads shipped.

Example: CLD*3*3*COL52

Elem ID	Elem#	Name	Features	Comments
CLD01	622	Number of Loads	M N0 01/05	Number of loads for the LIN.
CLD02	382	Number of Units Shipped	M R 01/10	Number of units for the LIN.
CLD03	103	Packaging Code	O ID 03/05	"COL52" for coil "BDL52" for bundle "PLF52" for plate or slab
CLD04	357	Size	C AN 01/12	Not used.
CLD05	355	Unit or basis for Measurement	O AN 01/80	Not used.

6.16 HL - Hierarchical Level - Item

Segment: HL - Hierarchical Level - Item

Level: Item hierarchical level

Max Usage/Loops: 200,000 per advance shipment notice/begins the detail loop.

Purpose: To identify dependencies among the content of hierarchically related groups of data segments.

General Information: At least one occurrence of the HL segment at the item level is mandatory for all ASNs. One HL loop is required for each item of an order.

Example: HL*3*2*I

Elem ID	Elem#	Name	Features	Comments
HL01	628	Hierarchical ID Number	M AN 01/12	"1" for the initial HL segment and incremented by 1 in each subsequent HL segment within the transaction.
HL02	734	Hierarchical Parent Number	O AN 01/12	The ID of the parent HL segment.
HL03	735	Hierarchical Level Code	M ID 01/02	"I" for item level.
HL04	736	Hierarchical Child Code	O ID 01/01	Not used.

6.17 SN1 - Item Detail

Segment: SN1 - Item Detail

Level: Item hierarchical level

Max Usage/Loops: 1 per HL loop.

Purpose: To specify line item detail relative to shipment.

General Information: Used to specify the following item piece counts.

Example: SN1**1*PC

Elem ID	Elem#	Name	Features	Comments
SN101	350	Assigned Identification	O AN 01/20	Not used.
SN102	382	Number of units Shipped	M R 01/10	Number of pieces shipped for the piece ID on the following REF segments.
SN103	355	Unit of Measurement Code	M ID 02/02	"PC" for piece.
SN104	646	Quantity Shipped to Date	O R 01/15	Not used.
SN105	330	Quantity Ordered	O R 01/15	Not used.
SN106	355	Unit of Measurement	C ID 02/02	Not used.
SN107	728	Returnable Container Load Make-up Code	O ID 01/02	Not used.
SN108	668	Line Item Status Code	O ID 02/02	Not used.

6.18 MEA - Measurements

Segment: MEA – Measurements

Level: Item hierarchical level

Max Usage/Loops: 40 per HL loop.

Purpose: To specify physical measurements including dimensions, tolerances, weights and counts.

General Information: Used to specify the following:
1. Actual weight in pounds.
2. Gauge & Width in inches.
3. Length in inches (for cut to length product only).
4. Chemistries see the Data Element Dictionary for acceptable values.
5. MEA07 can be used to signify "less than" for chemistry values.

Example: MEA*PD*WT*23115*LB

Elem ID	Elem#	Name	Features	Comments
MEA01	737	Measurement Reference ID Code	M ID 02/02	"PD" for physical dimension. "CH" for chemistry.
MEA02	738	Measurement Qualifier	M ID 01/03	"WT" for weight "TH" for gauge "WD" for width "LN" for length "ZC" for carbon
MEA03	739	Measurement Value	M R 01/18	Required.
MEA04	355	Unit of Measurement Code	M ID 02/02	"IN" - inch "LB" - pound "P1" - percent
MEA05	740	Range Minimum	O R 01/18	Not used.
MEA06	741	Range Maximum	O R 01/18	Not used.
MEA07	935	Measurement Significance Code	O ID 02/02	"07" for less than. Used with chemistries only.
.				
.				
MEA10	1373	Measurement Method Or Device	O ID 02/04	Not used.

6.19 REF - Reference Numbers

Segment: REF – Reference Numbers

Level: Item hierarchical level

Max Usage/Loops: 200 per HL loop.

Purpose: To transmit identifying numbers.

General Information: Used to specify heat number, piece ID and tag number. Heat and piece ID are required. Tag number is only required if it is different from the piece ID.

Example: REF*LS*9211425

Elem ID	Elem#	Name	Features	Comments
REF01	128	Reference Number Qualifier	M AN 02/03	"HC" for heat number. "LS" for supplier's piece ID. "JH" for supplier's tag ID.
REF02	127	Reference Number	M AN 01/30	heat number or Piece ID or tag number.
REF03	352	Description	O AN 01/80	Not used.

6.20 CTT - Transaction Totals

Segment: CTT - Transaction Totals

Level: Summary

Max Usage/Loops: 1/none.

Purpose: To transmit hash totals for a specific element in the transaction set.

General Information: CTT01 is required.

Example: CTT*21

Elem ID	Elem#	Name	Features	Comments
CTT01	354	Number of Line Items	M N0 01/06	Total number of HL segments.
CTT02	347	Hash Total	O R 01/10	Not used.
CTT03	81	Weight	O R 01/10	Not used.
CTT04	355	Unit of Measurement Code	O ID 02/02	Not used.
CTT05	183	Volume	O R 01/08	Not used.
CTT06	355	Unit of Measurement Code	O ID 02/02	Not used.
CTT07	352	Description	O AN 01/80	Not used.

6.21 SE - Transaction Set Trailer

Segment: SE - Transaction Set Trailer

Level: Summary

Max Usage/Loops: 1/none.

Purpose: To indicate the end of the transaction set and provide the count of the transmitted segments (including the beginning (ST) and ending (SE) segment).

General Information:

Example: SE*23*0001

Elem ID	Elem#	Name	Features	Comments
SE01	96	Number of Included Segments	M N0 01/06	
SE02	329	Transaction Set Control Number	M AN 04/09	Same as ST02

SECTION 7. DATA ELEMENT DICTIONARY

40 Equipment Description Code
BR Barge
RR Rail car
TL Trailer
VL Vessel

66 ID Code Qualifier
1 DUNS number
2 SCAC ID
ZZ Mutually defined

91 Transportation Method/Type Code
B Barge
M Common Carrier, truck
R Rail
VL Vessel lake

98 Entity Identifier Code
SF Ship-from
ST Ship-to

103 Packing Code
BDL52 Bundle
COL52 Coil
PLF52 Plate
MXD52 Mixed load - only allowed in TD101

128 Reference Number Qualifier
BM Bill of lading
HC heat number
LS piece id
JH tag number

133 Routing Sequence Code
B Origin

143 Authorization Information Qualifier
856 X12 Ship notice/manifest

146 Shipment Method of Payment
CC Collect
PP Prepaid

187 Weight Qualifier
N Net

235 Product/Service ID Qualifier
ON Customer's Order number
GC Grade code

349 Item Description Type
S Structured format

353 Transaction Set Purpose Code
00 original

355 Unit of Measurement Code
- EM Inches, decimal, minimum
- FT Foot
- IN Inch
- LB Pound
- LF Linear foot
- PC Piece
- P1 Percent
- ZZ Mutually defined (use only when MEA02 = PM).
- 01 Actual pounds

374 Date/Time Qualifier
- 011 Date/time shipment leaves the supplier's premises

455 Responsibility Agency
- X ANSI X12 code formats

479 Functional ID
- SH Ship notice/manifest

480 Version
- 004010

559 Agency Qualifier Code
- ST Steel (AISI)

703 Interchange Version ID
- 00401

704 Interchange Sender ID Qualifier
- 01 DUNS number

726 Interchange Standard ID
- U USA

735 Hierarchical Level Code
- I Item level
- O Order level
- S Shipment level

737 Measurement Reference ID Code
- CH Chemistry
- PD Physical Dimensions

738 Measurement Qualifier
- LN Length
- TH Gauge
- WD Width
- WT Weight
- ZAL Aluminum
- ZSA Soluble Aluminum (non-standard code)
- ZAS Arsenic
- ZB Boron
- ZC Carbon
- ZCZ Carbon equivalent (non-standard code)
- ZCA Calcium
- ZCR Chromium

ZCB Columbium
ZCU Copper
ZH Total Hydrogen
ZRH Residual Hydrogen (non-standard code)
ZMN Manganese
ZMO Molybdenum
ZNB Niobium
ZNI Nickel
ZN Nitrogen
ZO Total Oxygen
ZP Phosphorus
ZPB Lead
ZSI Silicon
ZS Sulfur
ZSB Antimony
ZSN Tin
ZTE Tellurium
ZTI Titanium
ZTR Total Residuals (non-standard code)
ZV Vanadium
ZZR Zirconium

744 Authorization Information Qualifier
00 No authorization information present

746 Security Information Qualifier
00 No security information present

748 Test Indicator
P Production transaction
T Test transaction

749 Acknowledgement ID
0 Acknowledgement not required

750 Product/Process Characteristic Code
09 Sub product
18 Surface treatment chemical
22 Edge treatment

751 Product Description Code as related to element 750
066 Slabs (for Sub product)
36 Pickled (for Surface treatment chemical)
25 Oiled (for Surface treatment chemical)
94 Oiled heavily (for Surface treatment chemical)
95 Oiled lightly (for Surface treatment chemical)
34 Mill edge (for Edge treatment)

935 Measurement Significance Code
07 Less than

SECTION 8. 856 SAMPLE TRANSACTION

ASN example:

```
ISA*00*          *00*          *01*207663412      *01*
201495124      *070301*1312*U*00401*000000001*1*P*~
GS*SH*207663412*201495124*20070301*1312*1*X*004010
ST*856*0001
BSN*00*3423456*20070301*1311
DTM*011*20070301*1311
HL*1**S
TD1*MXD52*4****N*93660*LB
TD5*B*2*ALGM*M*ALGOMA TRUCKING
TD3*TL*LM*512
REF*BM*32418
FOB*CC
N1*SF*ANY COMPANY*ZZ*ANY COMPAN00
N1*ST*ESSAR Steel Algoma Inc.
HL*2*1*O
LIN*002*ON*74522001*GC*83333
PRF*554456*1234
PID*S*22*ST*34
CLD*2*2*COL52
HL*3*2*I
SN1**1*PC
MEA*PD*WT*23115*LB
MEA*PD*TH*0.113*IN
MEA*PD*WD*42.75*IN
MEA*CH*ZAL*.045*P1
MEA*CH*ZB*.1121*P1
MEA*CH*ZC*.04*P1
MEA*CH*ZCZ*12*P1
MEA*CH*ZCR*.01*P1
MEA*CH*ZCB*.001*P1***07
MEA*CH*ZCU*.01*P1
MEA*CH*ZMN*.27*P1
MEA*CH*ZMO*2.12*P1
MEA*CH*ZNI*.01*P1
MEA*CH*ZN*.000*P1
MEA*CH*ZP*.010*P1
MEA*CH*ZSI*.01*P1
MEA*CH*ZS*.006*P1
MEA*CH*ZTI*.112*P1
MEA*CH*ZV*.001*P1***07
REF*LS*9211425
REF*HC*3314J04
HL*4*2*I
SN1**1*PC
MEA*PD*WT*22000*LB
MEA*PD*TH*0.113*IN
MEA*PD*WD*42.75*IN
MEA*CH*ZAL*.045*P1
MEA*CH*ZB*.1121*P1
MEA*CH*ZC*.04*P1
MEA*CH*ZCZ*14*P1
MEA*CH*ZCR*.01*P1
MEA*CH*ZCB*.001*P1***07
MEA*CH*ZCU*.01*P1
MEA*CH*ZMN*.27*P1
MEA*CH*ZMO*2.12*P1
MEA*CH*ZNI*.01*P1
```

```
MEA*CH*ZN*.000*P1
MEA*CH*ZP*.010*P1
MEA*CH*ZSI*.01*P1
MEA*CH*ZS*.006*P1
MEA*CH*ZTI*.112*P1
MEA*CH*ZV*.001*P1***07
REF*LS*9211431
REF*HC*3314J53
HL*5*1*O
LIN*001*ON*33333001*GC*92315
PRF*923456*4234
PID*S*22*ST*34
CLD*1*1*PLF52
HL*6*5*I
SN1**1*PC
MEA*PD*WT*27500*LB
MEA*PD*TH*0.335*IN
MEA*PD*WD*30.75*IN
MEA*PD*LN*88.5*IN
MEA*CH*ZAL*.045*P1
MEA*CH*ZB*.1121*P1
MEA*CH*ZC*.04*P1
MEA*CH*ZCZ*12*P1
MEA*CH*ZCR*.01*P1
MEA*CH*ZCB*.001*P1***07
MEA*CH*ZCU*.01*P1
MEA*CH*ZMN*.27*P1
MEA*CH*ZMO*2.12*P1
MEA*CH*ZNI*.01*P1
MEA*CH*ZN*.000*P1
MEA*CH*ZP*.010*P1
MEA*CH*ZSI*.01*P1
MEA*CH*ZS*.006*P1
MEA*CH*ZTI*.112*P1
MEA*CH*ZV*.001*P1***07
REF*LS*22115227
REF*HC*3354K01
HL*7*1*O
LIN*001*ON*66333001*GC*93334
PRF*333456*4200
PID*S*09*ST*066
PID*S*22*ST*34
CLD*1*1*PLF52
HL*8*7*I
SN1**2*PC
MEA*PD*WT*21005*LB
MEA*PD*TH*5.105*IN
MEA*PD*WD*20.25*IN
MEA*PD*LN*50.25*IN
MEA*CH*ZAL*.045*P1
MEA*CH*ZB*.1121*P1
MEA*CH*ZC*.04*P1
MEA*CH*ZCZ*16*P1
MEA*CH*ZCR*.01*P1
MEA*CH*ZCB*.001*P1
MEA*CH*ZCU*.01*P1
MEA*CH*ZMN*.27*P1
MEA*CH*ZMO*2.12*P1
MEA*CH*ZNI*.01*P1
```

```
MEA*CH*ZN*.000*P1
MEA*CH*ZP*.010*P1
MEA*CH*ZSI*.01*P1
MEA*CH*ZS*.006*P1
MEA*CH*ZTI*.112*P1
MEA*CH*ZV*.001*P1
REF*LS*11133892
REF*HC*3314A03
CTT*8
SE*115*0001
GE*1*1
IEA*1*000000001
```