Corrugator & Converting Management

Integration Specifications

ASCII File Transaction Method

Corrugated Technologies Inc.

Confidential

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Version	Date	Description of Revisions
Draft	27 February 1998	
98.0	14 March 1998	
98.1	31 March 1998	Modify SpecTran fields: JOINING, NUM_OUT
98.2	30 June 1998	Added production and static transaction formats
98.3	24 Aug 1998	Revised required fields to be consistent with Rdb method. Eliminated need for fields (such as the following) to be required: Plant ID Corr ID Part ID
98.4	4 Jan 1999	Standardize nomenclature and field definitions
98.4.1	5 Feb 1999	Clarified use of Delo and Cano (Delete & Cancel order) transactions.
98.4.2	11 Feb 1999	Adjusted page formatting

98.5	16 March 1999	Corrugator Schedule Transaction Rec: • Component Paper Grades • Component Paper Widths • Number across for each order. • NumberAcross • Sheet Width • Sheet Length Corrugator Production Transaction Rec: • Shift ID • Team ID • Component Paper Grades • Component Paper Widths • Number across for each order. • NumberAcross • Sheet Width • Sheet Length • Good Qty from auxiliary source • Bad Qty from auxiliary source Converting Schedule • Operation (Job) Sequence Number • Operation Split ID Converting Production Transaction Rec. • Set-Up Total Qty • Run Total Qty • Oper Split ID • OrderOperationProduction Segment (removed) Converting Waste Trans Rec. • Oper Split ID • OrderOperationProduction Segment (removed)
98.5.1	16 March 1999	Operation Process Spec Tran Record Revised descriptions for Process_Code 1 and Proc_Coverage_1 for Corr-Trim 98 compatibility. Added new transaction to accept corrugator load count from an auxiliary source after discharge from the corrugator stacker. (RCLQ)

98.5.2	1 April 1999	Revise field lengths for following— Corrugator Schedule Transaction Rec: ▪ Component Paper Grades Corrugator Production Transaction Rec: ▪ Component Paper Grades
98.5.3	23 April 1999	Correct inconsistent units descriptions- Converting Operation Spec Tran ▪ Input Width ▪ Input Length Corrugator Waste Transaction ▪ Board Width Roll Stock Inventory ▪ Width
98.5.4	5 May 1999	Corrections – add/remove fields Corrugator Production Transaction Rec: ▪ Add field – LK_NUM_ACROSS Corrugator Waste Transaction ▪ Remove fields – MEDIUM_4 and MEDIUM_4_WIDTH
98.5.5	4 June 1999	SpecTran Record: ▪ Require NUMBER_OUT and NUMBER_IN - edit descriptions ▪ Correct names for Printing die fields ConvOperSpecTran record: ▪ Remove units for width/length Converting Operation Set-Up Codes: ▪ Delete “built-in” codes OperScoreSpecTran Record: ▪ Increase number of scores Appendix: ▪ Include sample data files
98.5.6	29 June 1999	OrderTran record: ▪ Add new field – HoldReasonCode Change transaction names for change order status & report order status – to match implementations

98.5.7	30 July 1999	OperScoreSpecTran record: ▪ Change ScoreType to numeric
98.5.8	31 August 1999	• Remove constraints of 'NOT NULL' from PART_ID & PLANT_ID as these are not required fields. • Modify BoardGradeDefTran so that TEST, ADHESIVE, COLOR are not flagged as required.
98.8.0	01 March 2000	Extracted transaction overview to distinct document. Added following to LoadFormSpec. • ItemsPerBundle • BundlesPerTier • TiersPerUnit • WrappingCode • BundleStrapCode • TagFormat • TagsPerUnit • ConveyorInfo Added following to CorrOpInfo table: • StackHeight • StacksPerPallet ConveyorInfo
98.8.1	30 May 2000	Add OPERATION_LINK to ConvertingProductionTran record Unique identifier for this operation. Can be used to associate Production, Waste and Downtime for the operation. Also, can be used to identify revision to previously reported production for the operation.
98.8.2	20 July 2000	Add complete indicator to ConvertingProductionTran record. Informs business/ERP system of the completeness of the operation (and order).
98.8.3	25 July 2000	On ConvertingWaste Tran record, moved Work_Center_ID from 6th to 4th field to make consistent to the actual implementation and to the Converting Production/Downtime records.
98.8.4	09 Aug 2000	Add NumberIN and NumberOut to ConvertingProductionTran record.
98.8.5	09 Aug 2000	Add CAD_DRAWING_ID to SpecTran record.
98.8.5.1	07 Jan 2001	Clarify explanations for following record types, SCORE

02.0.0	01 Aug 2002	Replace Power Scheduling with Corrugator / Converting Management
2004.0.0	11 June 2004	Add header record/transaction to Converting Production to allow business/ERP system to identify/replace previously sent converting production/waste/downtime
2004.0.1	14 June 2004	Added Max_Overrun to OrderTran record. Added explanation of “D” value of Partial_Complete indicator of ConvertingProductionTran record.
2005.0.0	08 Aug 2005	Report Order Status – added status code 10
2007.0.0	02 Jul 2007	Added reference to generating Setupcodes from item Style

Table of Contents

File Names and Locations

Transactions must be grouped and placed in separate files as defined below:

Transaction Category	File Name
Order Add,Change,Del, Set/Clear Status	ORDERS.DAT
Order Report Status	ORDSTAT.DAT
Specification Add/Change/Del	SPECS.DAT
Work Center Calendars	CALENDAR.DAT
Board Grade Definitions	GRADES.DAT
Roll Stock Inventory	ROLLSTCK.DAT
Corrugator Schedule	CORRSCHD.DAT
Corrugator Production	CORRPROD.DAT
Corrugator Load Quantity (see RCLQ Transaction)	CORLDQTY.DAT
Converting Schedule	CONVSCHD.DAT
Converting Production	CONVPROD.DAT
Converting Status	CONVSTAT.DAT

The directories (pathnames) that hold the files will be configured as part of the delivery project.

Guidelines for Reading/Writing the Transaction Files

Corrugated Technologies recommends the following procedures be employed to prevent the problems that may arise when applications simultaneously access the same ASCII file.

The application reading the transactions is responsible for deleting the file containing the transactions after they have been processed. The reading application should:

1. Rename the file to a temporary name
2. Process the transactions
3. Delete the file

If the transaction file exists in the directory, the writing application should

1. Rename the file to a temporary name
2. Append the new transactions to the file
3. Rename the file back to the official name after appending all of the new transactions

If there is no existing transaction file in the directory, the writing application should

1. Write the new transactions to a temporary file
2. Rename the file to the official name after writing all of the new transactions

Sequence of Transaction Data

When a transaction involves multiple types of transaction data records, they should be specified in the sequence defined in the Associated Transaction Data Records column of the Planning and Production Transactions table of the previous section. For example, an Add Specification transaction can contain six (6) associated records, SpecTran, LoadFormSpecTran, CorrOperSpecTran, ConvOperSpec, OperProcessSpecTran and OperScoreSpecTran records. The records should be sequenced as follows:

1. Specification Transaction record must be first in the group of specification transaction data records.
2. Load Forming Specification record (if it exists)
3. Corrugator Operation Specification record(s), if it exists.
4. Converting Operation Specification record(s). If they exist, these records can be in any sequence.
5. Operation Process Specification record(s). If they exist, these records can be in any sequence.
6. Operation Scoring Specification record(s). If they exist, these records can be in any sequence.

Add Order with Specification Transaction

This transaction is used when the Business System sends the item specification data with the order each time an order for the item is provided to CTI's Corrugator & Converting Managment Solution. When using the Add Order with Spec transaction, the specifications and orders are placed in the same file. The specification records must precede the associated Order Transaction record as indicated in the Associated Transaction Data Records column of the Production Transactions table.

Overview of Transaction Record Formats

Comma Delimited Fields

The tables in the following sections describe the formats of the transaction records. The fields of each record are comma (,) delimited, (i.e. each field is separated by a comma).

Required Fields

Required fields in the records are marked with a pound symbol (#) prior to the field sequence number. Multiple code fields are marked with an asterisk (*) following the sequence number.

Alphanumeric Fields

Alphanumeric fields must be enclosed in quotation marks " " since there could be commas within the field. Lower case alphanumeric data is converted to upper case. The maximum number of characters for the Alphanumeric fields are indicated in the tables.

Date and Time Fields

Dates are 8 character Alphanumeric fields. The date format is "yyyymmdd".

Time fields are 6 character Alphanumeric fields. The time format is "hhmmss" unless otherwise noted (e.g. total minutes).

Numeric Fields

Numeric fields must not be enclosed in quotes. The valid range of each numeric field is indicated in the table.

Units of Weight & Other Measures

Metric units are preferred when exchanging/sharing weights and measures data with other systems, however CTI can also use imperial units to exchange data.

The units of exchange are distinct from the units that display on CTI application screens. The applications can display measurements in feet, inches and 16ths even though CTI exchanges metric data with the business system.

If metric units are used to exchange measurements, such as Width/Length/and Depth, the measurements are specified in meters and decimal fractions. For example, 2200 millimeters is specified as 2.200. Long lineal measurements are in meters. Measurements of area are specified in square meters and decimal fractions. Weights are in kilograms and decimal fractions.

If imperial units are used to exchange measurements, such as Width/Length/Depth, the measurements are specified in inches and decimal fractions (e.g. 50 1/16th inches is specified as 50.0625). Large lineal measurements are in feet. Area is specified in square feet and decimal fractions. Weights are specified in pounds and decimal fractions.

Order Transaction Records

Order Transaction Record (OrderTran)

This record contains generic details relating to the order such as Order ID, Part ID, Customer Name, Customer ID, as well as information relevant to both converting machines and corrugator operations such as Blank Length and Width, Items Ordered, etc.

Seq	Field Name	Type	Max Size	Format / Max value	Description
#1	TRANS_CODE	AlphaNum	4	"AORD", "CORD", "AORS", or "CORS"	Code that identifies the transaction containing this record.
#2	RECORD_ID	AlphaNum	5	"**ORTRN**"	Record type Identifier
#3	ORDER_ID	AlphaNum	15	Not null	Order identifier
4	PART_ID	AlphaNum	3		Part Number associated with Order
5	PLANT_ID	AlphaNum	10		Associates a Plant with an Order, when there are multiple plants.
#6	INT_SPEC_ID	AlphaNum	15	Not null	Internal Spec Identifier: Manufacturing specification for the order. Mfg. Spec. includes other information, e.g. mfg. Steps (operations), print colors, expected setup times, running rates for each manufacturing step.
#7	CUST_NAME	AlphaNum	25		Customer Name
8	CUST_ID	AlphaNum	25		Unique Customer identifier
9	CUST_PO	AlphaNum	25		Customer Purchase Order number
10	CUST_ITEM_ID	AlphaNum	25		Identifier used by Customer for this Item
11	CUST_PRTY	Integer	2	>=0	Priority of Customer
12	ORDER_PRTY	Integer	2	>=0	Priority of the Order
13	SALES_CODE	AlphaNum	3		Salesperson ID
14	SHIPMENT_ID	AlphaNum	15		Shipment Identifier
15	SHIP_TO_NAME	AlphaNum	25		"Ship-to" Customer Name
16	SHIP_ZONE	AlphaNum	10		Shipping Zone
17	WAREHSE_FLAG	Integer	1	="0" or "1"	Flag to send directly to Warehouse: 0=no, 1=yes
18	TRACKING_STAT	Integer	5		Tracking Status of order (used by business system to set status of production order: Partially Planned, Planned, Partially Corrugated, Corrugated, etc.)
#19	DUE_DATE	Date	8	yyyymmdd	Date order is due at customer's location
20	DUE_TIME	Time	6	hhmmss	Time order is due at customer's location
21	DATE_ORDERED	Date	8	yyyymmdd	Date order was taken
22	TIME_ORDERED	Time	6	hhmmss	Time order was taken
23	CORRUG_DATE	Date	8	yyyymmdd	Date order is due to be corrugated
24	CORRUG_TIME	Time	6	hhmmss	Time order is due to be corrugated
25	EARLY_CONV_	Date	8	yyyymmdd	Earliest date order can begin conversion

	START_DATE				(i.e. Hold order until this date)
26	EARLY_CONV_ START_TIME	Time	6	hhmmss	Earliest time order can begin conversion (i.e. Hold order until this time).
#27	LATE_COMPLETE_ DATE	Date	8	yyyymmdd	Date when manufacture of order must be available to load for shipping. (With above)
28	LATE_COMPLETE_ TIME	Time	6	hhmmss	Time when manufacture of order must be available to load for shipping. (With above)
#29	ITEMS_ORDERED	Integer	8	<=99999999	Quantity of finished items ordered
30	ITEMS_TO_MFR	Integer	8	<=99999999	Target quantity to be manufactured to complete order
31	MIN_MFG_QTY	Integer	8	<=99999999	Minimum quantity that must be manufactured to complete order
32	ITEMS_TO_ INVENTORY	Integer	8	<=99999999	Quantity of finished items to be stored in inventory
33	ITEMS_TO_SHIP	Integer	8	<=99999999	Quantity of finished items to ship
#34	BLANKS_REQD	Integer	8	<=99999999	Total quantity of corrugated blanks required for this order
35	BLANKS_TO_CORR	Integer	8	<=99999999	Quantity of sheets to corrugate for this order
36	BLANKS_FROM_ INVENTORY	Integer	8	<=99999999	Quantity of corrugated sheets required from inventory to complete order.
37	BLANKS_TO_FINISH	Integer	8	<=99999999	Quantity of sheets to Convert
38	BLANKS_TO_ INVENTORY	Integer	8	<=99999999	Unconverted sheets to Inventory
39	PROMISED_ROUTING	Integer	6	<= 999999	Number that indicates which routing was used to promise the delivery date.
40	SPECIAL_INSTR	AlphaNum	250		Free-form supplemental information that can be displayed or printed for this item spec ??
41	DUE_DATE_CODE	AlphaNum	4		Coded information regarding the “firmness” of the delivery date (e.g. can be delivered early, must be delivered on--, hold for pickup, etc.)
42	HOLD_REASON_COD E	AlphaNum	15		When this field is non-blank, Corr-Trim will put order on HOLD.
43	MAX_OVERRUN	Integer	8		Maximum Order Quantity that can be shipped to the customer.
	EOR		2		Carriage return, line feed, i.e. 0D and 0A (hex) or 13 and 10 (decimal)

Change Order Status Transaction Record (OrderStatusSetTran)

This record contains identifying and status information associated with transactions that change the status of orders, such as Delete, Cancel, Hold, Clear Hold, transactions.

Seq	Field Name	Type	Max Size	Format / Max value	Description
#1	TRANS_CODE	AlphaNum	4	"DELO", "CANO", "HLDO", "RELO"	Code that identifies the transaction.
#2	RECORD_ID	AlphaNum	5	"**ORSST**"	Record type Identifier
#3	ORDER_ID	AlphaNum	15	Not null	Order identifier
4	PART_ID	AlphaNum	3		Part Number associated with Order
5	PLANT_ID	AlphaNum	10		Associates a Plant with an Order, when there are multiple plants.
6	HOLD_REASON	AlphaNum	6		If non-blank, order is on HOLD. Value identifies the related HOLD reason code.
7	HOLD_UNTIL_DATE	Date	8	yyyymmdd	Specifies the expected release date (if the transaction is to Hold the order)
8	HOLD_UNTIL_TIME	Time	6	hhmmss	Specifies the expected release time (if the transaction is to Hold the order)
9	SheetBoardPO	AlphaNum	35		ID of purchase order for purchased sheets.
10	SupplierOrderID	AlphaNum	35		Supplier's Production Order ID
11	SheetsReceived	Integer			Quantity of purchased sheets received for the order
	EOR		2		Carriage return, line feed, i.e. 0D and 0A (hex) or 13 and 10 (decimal)

Report Order Status Transaction Record (OrderStatusRptTran)

This record contains identifying and status information associated with the Report Order Status transaction.

Seq	Field Name	Type	Max Size	Format / Max value	Description
#1	TRANS_CODE	AlphaNum	4	"RPOS"	Code that identifies the transaction.
#2	RECORD_ID	AlphaNum	5	"**ORSRT**"	Record type Identifier
#3	ORDER_ID	AlphaNum	15	Not null	Order identifier
4	PART_ID	AlphaNum	3		Part Number associated with Order
5	PLANT_ID	AlphaNum	10		Associates a Plant with an Order, when there are multiple plants.
#6	ORDER_STATUS	Integer		Not null	Status of the order as defined in the "Codes for Shared Statuses" in the following table.
	EOR		2		Carriage return, line feed, i.e. 0D and 0A (hex) or 13 and 10 (decimal)

Order Statuses - Codes for Shared Statuses

Business Status	Description	CTI Status	Codes for Shared Statuses
	Shop order created and provided to CTI	New	
	Shop order is on hold and should not be planned for production on either the corrugator or converting work center, e.g., printing die out for repair.Shop order allocated to converting operations by Corr-Plan.	Held	5
	Shop order is available to be scheduled.	NotScheduled	10
	Shop order is being scheduled on the corrugator, i.e., in a trim group.	InTrimGroup	12
	Trimmed in CT		
	Sequenced in CT		
Released	Partially released to Corrugator (Order is in printed corrugator schedule and/or in released corrugator schedule), however planned corrugator production does not meet completion requirements for the order.	Trimmed (Partially)	15
	Fully released to the corrugator.	Trimmed (Fully)	20
Reserved	Material has been allocated to shop order.		
Issued	Material has been taken from inventory & issued to the order.		
Reported	Production has been reported for at least one operation (corrugator or converting), e.g., waste, scrap, etc.	Producing	
Parked	Something has happened and can't determine what, i.e., temporary suspension.		
Closed	Shop order is closed. (Either because completed or removed from schedule. A closed order can be reopened.)		
Canceled	Shop order is closed and will never return.		

Order Operation Statuses - Codes for Shared Statuses

Business System Status	Description	CTI Status	Codes for Shared Statuses
	Operation is scheduled (Shop order has been released.)	Waiting	
	Operation in set-up at a work center	Set-Up	
	Something has been reported for operation		
	Operation is running at a work center	Running	
	Operation has completed.	Completed	
	The operation is not going to happen. The order was either closed or canceled.		

Specification Transaction Records

The following records contain the data associated with the specification transactions.

Specification Transaction Master Record (SpecTran)

The following is the format of the master record defining the product (e.g., regular slotted container of specific dimensions and graphics) being produced. Send one of these records for each distinct product specification. This record contains identifying and other basic information about the item, such as the specification ID and finished dimensions.

Seq	Field Name	Type	Max Size	Format / Max value	Description
#1	TRANS_CODE	AlphaNum	4	"ASPC", "DSPC", "CSPC", "AORS" or "CORS"	Code that identifies the transaction containing this record.
#2	RECORD_ID	AlphaNum	5	"**SPECT**"	Record type Identifier
#3	INTERNAL_SPEC_ID	AlphaNum	15	Not null	Identifier of Item Specification. Order refers to this ID.
4	PART_ID	AlphaNum	3		Part Number associated with spec
5	PLANT_ID	AlphaNum	10		Associates a Plant with an Order, when there are multiple plants.
6	CUST_WASTE	Integer		>=0	Amount of waste that has been incorporated into the estimated cost of this item.
7	PROJ_WASTE	Integer		>=0	Total projected waste
8	SPECIAL_INSTR	AlphaNum	250		Free-form supplemental information that can be displayed or printed for this item spec.
9	STACK_FLAG	Integer	1	0 or 1	Stacking flag
#10	ITEM_WIDTH	Numeric			Finished Item Width
#11	ITEM_LENGTH	Numeric			Finished Item Length
12	ITEM_DEPTH	Numeric			Finished Item Depth
#13	GRADE_ID	AlphaNum	30		Board grade identifier of the order
#14	FLUTE	AlphaNum	3		Flute of order
15	JOINING	AlphaNum	3		Code identifying type of join
16	PANEL_COUNT	Integer			Number of panels for finished item
17	SLOT_COUNT	Integer			Number of slots for finished item
18	STYLE_CODE	AlphaNum	30		Style code (or brief description)
Provide the following data** (fields 19-40) **here if it cannot be provided for the specific converting operation (in ConvOperSpecTran)					

19	NUMBER_COLORS	Integer			Number of colors
#20	NUMBER_OUT	Numeric			Number of finished items output for each sheet
#21	NUMBER_IN	Integer	4		Indicates number of input items required to produce one output item (e.g. when multiple sheets are joined to form a larger sheet).
22	NUMBER_UP_WIDTH	Integer	3	Max 255	Number of items across the width of a blank
23	NUMBER_UP_LENGTH	Integer	3	Max 255	Number of items across the length of a blank
24	CUTTING_DIE_ID	AlphaNum	15		Cutting Die ID *[Provide here only if this information cannot be provided for the specific operation.]*
25	PRINT_DIE_ID_1	AlphaNum	15		Printing Die ID for 1st Die (IDs for up to 8 Printing Dies can be specified) *[Provide here only if this cannot be provided on the ConvOperSpec record for the specific operation.]*
26	PRINT_DIE_ID_2	AlphaNum	15		Printing Die ID for 2nd Die
27	PRINT _DIE_ID_3	AlphaNum	15		Printing Die ID for 3rd Die
28	PRINT _DIE_ID_4	AlphaNum	15		Printing Die ID for 4th Die
29	PRINT _DIE_ID_5	AlphaNum	15		Printing Die ID for 5th Die
30	PRINT _DIE_ID_6	AlphaNum	15		Printing Die ID for 6th Die
31	PRINT _DIE_ID_7	AlphaNum	15		Printing Die ID for 7th Die
32	PRINT _DIE_ID_8	AlphaNum	15		Printing Die ID for 8th Die
33	COLORS_1	AlphaNum	25		Code identifying ink color of 1st printing. *[Provide here only if this information cannot be provided on the ConvOperSpec record for the specific operation.]*
34	COLORS_2	AlphaNum	25		Code identifying ink color of 2nd printing.
35	COLORS_3	AlphaNum	25		Code identifying ink color of 3rd printing
36	COLORS_4	AlphaNum	25		Code identifying ink color of 4th printing
37	COLORS_5	AlphaNum	25		Code identifying ink color of 5th printing
38	COLORS_6	AlphaNum	25		Code identifying ink color of 6th printing
39	COLORS_7	AlphaNum	25		Code identifying ink color of 7th printing
40	COLORS_8	AlphaNum	25		Code identifying ink color of 8th printing
41	CAD_DRAWING_ID	AlphaNum	80		Identifier or location of Cad Drawing
	EOR		2		Carriage return, line feed, i.e. 0D and 0A (hex) or 13 and 10 (decimal)

Corrugator Operation Specification Record (CorrOperSpecTran)

This record contains the information regarding the corrugation of the sheet board required for the product, such as flute, board grade, corrugated sheet quantities and dimensions.

Seq	Field Name	Type	Max Size	Format / Max value	Description
#1	TRANS_CODE	AlphaNum	4	"ASPC", "CSPC", "AORS" or "CORS"	Code that identifies the transaction containing this record.
#2	RECORD_ID	AlphaNum	5	"**CORST**"	Record type Identifier
#3	INTERNAL_SPEC_ID	AlphaNum	15		Identifier of Master Item Specification. Order refers to this ID.
#4	ROUTING_NO	Integer		0,1,2,3…	Defines whether this is the primary routing or alternate routing for this operation. (Used when there are multiple corrugators that can corrugated this item. Default is 0.
5	CORR_CODE	AlphaNum	6		Identifies the corrugator associated with this operation when there is more than one corrugator.
#6	BLANK_WIDTH	Numeric		> 0	Width of the blank as it comes off the corrugator .*(Imperial: 32 1/16 inches, enter 32.0625; Metric: 700 mm, enter 0.700)*
#7	BLANK_LENGTH	Numeric		> 0	Length of the blank as it comes off the corrugator. *(Imperial: 32 1/16 inches, enter 32.0625; Metric: 700 mm, enter 0.700)*
8	SHYABLE	Integer	1	0=no, 1=yes	Indicates whether an order can be shied.
9	MAX_SHY	Integer			It the item can be shied, the maximum amount by which an order can be shied *(e.g. in mm, 16ths or 32nds)*
10	MAX_OVER_%	Integer	3		Absolute maximum allowable overrun %. If blank, established by corrugator record in Corr-Trim.
11	STD_OVER_%	Integer	3	=< Max Over %	Standard allowable overrun %. If blank, established by corrugator record in Corr-Trim
12	UNDER_%	Integer	3	=< Std Over %	Standard allowable under-run %. If blank, established by corrugator record in Corr-Trim
13	MIN_RUN	Numeric			Minimum lineal feet permitted for a dry-end setup of this item.
14	PER_UNIT	Integer			Stack count, Number of sheets per discharged unit.
15	MIN_OUT	Integer		>= 1	Minimum number out across the web that this order may be produced
16	MAX_OUT	Integer		>= Min Out	Maximum number out across the web that this order may be produced
17	SPLIT_CODE	Integer		Between	Establishes control over the ways in which

				(-9 and 2) or (0 and 4)	the order is permitted to be "split" or be broken up
18	KNIFE	Integer	1	0=Undefined 3=Lower 2=Middle 1=Upper	The specific knife upon which the item must run (if there is a preference).
19	NO_EDGE	Integer	1	"1" means order can be run without side trim; Blank, if not	Indicates whether the item can be run with no side trim
20	CLOSE_SCORE	Integer	1	0=no, 1=yes	Indicates whether the item has a corrugator score specified close to the edge of the blank. Prevents trimming the item multiple out or in combination with another item that has close scores.
21	ROTATE	Integer	1	1 if direction is irrelevant; 0 if ok to rotate	Indicates whether the direction of the corrugation is relevant or if the item can be rotated.
22	CORR_SPEED	Numeric		>= 0	Maximum speed at which this item can run on the corrugator (feet/min or meters/min)
23	MIN_SIDETRIM	Numeric			Minimum amount of side trim
24	MAX_SIDETRIM	Numeric			Maximum amount of side trim
25	MIN_LINEAL	Numeric			Minimum amount of lineal to run on the corrugator
26	MAX_SETUPS	Integer		>= 1	Maximum number of setups that this order can appear in
27	WIDTH_ASSIGN	Numeric			Pre-assigned board width assignment
28	BLOCK_CORR	Integer	1	0=no, 1=yes	Item must be run as a block
29	COMBINE	Integer	1	0=no, 1=yes	Indicates if item is to be combined
30	FAN_FOLD	Integer	1	0=no, 1=yes	Indicated whether the item is fan fold
31	MILL_ASSIGN	AlphaNum	5		Mill Specific roll stock required
32	UPGRADES	Integer	1	0=no, 1=yes	Indicates if upgrades are allowed for this item
33	STACK_HEIGHT	Numeric			Height in in inches or meters of discharged stacks
34	ROTATE_CODE	AlphaNum	3		Indicates degree of rotation of stacks after discharge.
35	INVERT_FLAG	Integer	1	0=no, 1=yes	Indicates whether sheets are to be inverted.
36	CONVEYOR_INFO	AlphaNum	25		Supplementary conveyor info.
	EOR		2		Carriage return, line feed, i.e. 0D and 0A (hex) or 13 and 10 (decimal)

Converting Operation Specification Record (ConvOperSpecTran)

This record contains information relating to the set-up and running characteristics of the product at a specific converting work center. There is one entry for each converting operation (primary and alternate) that can be used in the manufacture of the product.

Seq	Field Name	Type	Max Size	Format / Max value	Description
#1	TRANS_CODE	AlphaNum	4	"ASPC", "CSPC", "AORS" or "CORS"	Code that identifies the transaction containing this record.
#2	RECORD_ID	AlphaNum	5	"**CNVST**"	Record type Identifier
#3	INT_SPEC_ID	AlphaNum	15		Identifier of Master Item Specification. Order refers to this ID.
#4	WORKCENTER_ID	AlphaNum	6	Not null	Work Center identifier. (Identifier of machine that the operation is to run on)
#5	ROUTING_NO	Integer	3	Max 255	Defines whether this is a primary or alternate workcenter to be used for this operation. Zero (0) indicates the primary work center, 1 indicates the first alternate work center, 2 indicates the 2nd alternate.
6	MFG_STAGE	Integer	5	Max 32767	Needed for 1st converting step in operation's routing. (Not needed if Operation Number is provided.)
#7	OPERATION_NO	Integer	3	Min 30 Max 99	Identifies sequence of this operation in the routing, e.g. 30, 40, 50 would identify the 1st, 2nd and 3rd converting operations.
8	TASK_NO	Integer	3	Max 255	Routing Task number. This supports multiple operations (tasks) on an alternate routing as equivalent to one operation in primary routing. (Not needed if Operation Number is provided.)
9	PRINTING_DIE_ID_1	AlphaNum	15		Printing Die ID for 1st Die (IDs for up to 8 Printing Dies can be specified)
10	PRINTING_DIE_ID_2	AlphaNum	15		Printing Die ID 2
11	PRINTING_DIE_ID_3	AlphaNum	15		Printing Die ID 3
12	PRINTING_DIE_ID_4	AlphaNum	15		Printing Die ID 4
13	PRINTING_DIE_ID_5	AlphaNum	15		Printing Die ID 5
14	PRINTING_DIE_ID_6	AlphaNum	15		Printing Die ID 6
15	PRINTING_DIE_ID_7	AlphaNum	15		Printing Die ID 7
16	PRINTING_DIE_ID_8	AlphaNum	15		Printing Die ID 8
17	CUTTING_DIE_ID	AlphaNum	15		Cutting Die ID
18	COLORS_1	AlphaNum	25		Code identifying ink color of 1st printing at this operation.
19	COLORS_2	AlphaNum	25		Code identifying ink color of 2nd printing at this operation.
20	COLORS_3	AlphaNum	25		Code identifying ink color of 3rd printing
21	COLORS_4	AlphaNum	25		Code identifying ink color of 4th printing

22	COLORS_5	AlphaNum	25		Code identifying ink color of 5th printing
23	COLORS_6	AlphaNum	25		Code identifying ink color of 6th printing
24	COLORS_7	AlphaNum	25		Code identifying ink color of 7th printing
25	COLORS_8	AlphaNum	25		Code identifying ink color of 8th printing
#26	NUMBER_OUT	Integer	3	>0, Max 255	Number of items output for each input sheet
27	NUMBER_UP_WIDTH	Integer	3	Max 255	Number of items across the width of a blank
28	NUMBER_UP_LENGTH	Integer	3	Max 255	Number of items across the length of a blank
#29	INPUT_WIDTH	Numeric			Width of input sheet for Item
#30	INPUT_LENGTH	Numeric			Length of input sheet for Item
31	INPUT_MULTIPLIER	Numeric			Used to calculate number of input sheets to this operation. Ratio of number of sheets out (to be produced) to number of sheets input.
32	RATE_CLASS	AlphaNum	1	“A”, “B”, “C”, “D” or “E”	Default class to use for Running Rate and Projected Set-Up duration
33	FIXED_RUN_TIME	Integer	8	<=99999999	Running duration if not function of number of units (e.g. drying time)
34	CLASS_A_RUNRATE	Integer	8	<=99999999	Class A Running Rate in units of input blanks per hour.
35	CLASS_A_SETUP	Integer	8	<=99999999	Class A expected Set-Up duration (minutes)
36	CLASS_B_RUNRATE	Integer	8	<=99999999	Class B Running Rate in units of input blanks per hour.
37	CLASS_B_SETUP	Integer	8	<=99999999	Class B expected Set-Up duration
38	CLASS_C_RUNRATE	Integer	8	<=99999999	Class C Running Rate
39	CLASS_C_SETUP	Integer	8	<=99999999	Class C expected Set-Up duration
40	CLASS_D_RUNRATE	Integer	8	<=99999999	Class D Running Rate
41	CLASS_D_SETUP	Integer	8	<=99999999	Class D expected Set-Up duration
42	CLASS_E_RUNRATE	Integer	8	<=99999999	Class E Running Rate
43	CLASS_E_SETUP	Integer	8	<=99999999	Class E expected Set-Up duration
44	POST_DELAY	Integer	4	minutes	Duration (in minutes) of delay required for curing or transportation after this operation
45	MAX_DELAY_DUR	Integer	4	minutes	Maximum Post Delay Duration (in minutes)
46	PRE_DELAY	Integer	4	minutes	Pre-Operation Delay Duration (in minutes)
47	NUMBER_IN	Integer	4		Indicates number of input items required to produce one output item (e.g. when multiple sheets are joined to form a larger sheet).

* 48	SETUP_CODE	AlphaNum	40		Converting operation set-up codes: Other operation specific information relevant to scheduling of this item. This field is used to specify custom information. Multiple pieces of information are partitioned within this character field. (See next section for setup code layout.)
49	TOOLING	AlphaNum	15		ID(s) of tooling required for this operation
50	SPEC_INSTR	AlphaNum	100		Special instructions or other free format information
51	BUNDLE_COUNT	Integer	5	Max 32767	Number of output items in each load unit after this operation
	EOR		2		Carriage return, line feed, i.e. 0D and 0A (hex) or 13 and 10 (decimal)

Converting Operation Set-Up Codes

The following table is an example of set-up codes used for all operations/machines in the plant. This information, encoded in the SETUP_CODE field of the SPECG record (ConvOperTran), provides custom information regarding the setup of a converting machine to run a specific item. Additional codes can be added to support the plant's scheduling needs.

Field Name	Type	Length	Position	Description
reserved for future use	AlphaNum	1	1	
reserved for future use	AlphaNum	1	2	
reserved for future use	AlphaNum	1	3	
reserved for future use	AlphaNum	1	4	
reserved for future use	AlphaNum	25	16-40	

Generating Set-Up Codes from StyleCode

The integration can generate SetupCode subcodes based upon the StyleCode of the item. CTI must configure the integration (SETUPCODEDEF of the integration database) to enable this capability. The user can define the Stylecode to Setup sub-codes cross references (in table STYLETOSETUPCODE) via CTI desktop configuration function.

Note that the SetupCodes on all operations in the routing will have the same stylecode generated subcode values. There can be maximum of 8 stylecode generated sub-codes.

In the following example, one sub-code, generated value STRUCTURE, is configured to be stored in positions 9 through 17 of the SetupCode field. The possible generated values are "HSC ", "FOL " or "RSC "

Style Group	STRUCTURE	9	8
not used			
not used			
not used			
not used			
not used			
not used			
not used			

StyleCode	SetUp Code 1	SetUp Code 2	SetUp Code 3	SetUp Code 4	SetUp Code 5	SetUp Code 6	SetUp Code 7	SetUp Code 8
HSC	HSC							
HSC 2UP	HSC							
HSC-B-LRL-COHH	HSC							
HSC-B-LRL-SCHH	HSC							
HSC-BTM W/4 HH	HSC							
HSC-T-LRL	HSC							
FOL	FOL							
FOL CTR JOIN	FOL							
RSC	RSC							

Operation Process Spec Transaction Record (OperProcessSpecTran)

Information in this record is used to identify processes (or pre-defined messages) that are associated with a corrugation or converting operation.

Seq	Field Name	Type	Max Size	Format / Max value	Description
#1	TRANS_CODE	AlphaNum	4	"ASPC", "CSPC", "AORS" or "CORS"	Code that identifies the transaction containing this record.
#2	RECORD_ID	AlphaNum	5	"**PROCT**"	Record type Identifier
#3	INT_SPEC_ID	AlphaNum	15	Not null	Identifier of Item Specification. The Order record refers to this ID.
#4	OPERATION_NO	Integer		Min 10 Max 99…	Indicates the operation where the processes are to be applied. 10 indicates the corrugation step. Numbers 30 and above indicate converting operations, e.g., 30 the 1st converting step, 40 the 2 nd converting operation, 50 indicates the 3rd converting operation …
#5	PROCESS_CODE_1	AlphaNum	4		1st Process Code to be applied to manufacture this item. (All corrugator process codes must be 1 Alphabetic character only or all corrugator process codes must be 2 Alphanumeric characters. Cannot have some corrugator process codes of 1 character and others of 2 characters.)
6	PROC_COVERAGE_1	Numeric			Coverage for the 1st process. For example, Process Code may be TT for Tear Tape, and the coverage may be 2.0 for two strips of tear tape.
7	PROCESS_CODE_2	AlphaNum	4	Value must be a valid process type	2nd Process Code to be applied to manufacture this item
	PROC_COVERAGE_2	Numeric			Coverage for the 2nd process.
. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	***[Repeat for as many Process Codes as needed up to maximum of 8. If fewer than 8 Process Codes are needed, include appropriate number of commas for unused fields.]***
19	PROCESS_CODE_8	AlphaNum	4	Value must be a valid process type	8th Process Code to be applied to manufacture this item
20	PROC_COVERAGE_8	Numeric			Coverage for the 8th process.
	EOD		2		Carriage return, line feed, i.e. 0D and 0A (hex) or 13 and 10 (decimal)

Operation Scores Spec Transaction Record (OperScoreSpecTran)

This record identifies the scores (creases) that are applied at a specific corrugation or converting operation of the product.

Seq	Field Name	Type	Max Size	Format / Max value	Description
#1	TRANS_CODE	AlphaNum	4	"ASPC", "CSPC", "AORS" or "CORS"	Code that identifies the transaction.
#2	RECORD_ID	AlphaNum	5	"**SCORE**"	Record type Identifier
#3	INT_SPEC_ID	AlphaNum	15	Not null	Identifier of Item Specification. Order refers to this ID.
#4	OPERATION_NO	Integer		Min 10 Max 99…	Indicates the operation where the scores are to be applied. 10 indicates the corrugation step. Numbers 30 and above indicate converting operations, e.g., 30 the 1st converting step, 40 the 2 nd converting operation, 50 indicates the 3rd converting operation …
#5	SCORE_INDEX_1	Integer			1st score should have value of 1, 2nd score has value of 2, etc.
#6	SCORE_TYPE_1	Integer		Value must be a valid score type	Code indicating type of score to be applied
#7	SCORE_POS_1	Numeric			Distance of the 1st score from the edge of the blank
8	SCORE_POLAR_1	AlphaNum	1	"+" or "-" is offset score; 0 = no offset	Polarity (offset direction) of the 1st score. To indicate an offset score, use "+" or "-". For no offset, use "0". Blank indicates no preference.
9	SCORE_OFFSET_1	Numeric			The amount of offset of the 1st score.
#10	SCORE_INDEX_2	Integer			2
11	SCORE_TYPE_2	Integer		Value must be a valid score type	Code indicating type of score to be applied
#12	SCORE_POS_2	Numeric			Distance of the 2nd score from the 1ST blank
13	SCORE_POLAR_2	AlphaNum	1	"+" or "-" is offset score; 0 = no offset	Polarity (offset direction) of the 2nd score. To indicate an offset score, use "+" or "-". For no offset, use "0". Blank indicates no preference.
14	SCORE_OFFSET_2	Numeric			The amount of offset of the 2nd score.

. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	***[Repeat preceding 5 fields for as many scores (# of scores + 1) as desired up to maximum of 21 (20 scores). Sum of the score vaules must equal the width of the blank. If fewer than 32 scores, include appropriate number of commas for unused fields.]***
105	SCORE_INDEX_33	Integer			33
106	SCORE_TYPE_33	Integer		Value must be a valid score type	Code indicating type of score to be applied. Not needed for last score value.
107	SCORE_POS_33	Numeric			Distance from the 32nd score to the edge of the blank.
108	SCORE_POLAR_33	AlphaNum	1	"+" or "-" is offset score; 0 = no offset	Not used for the last score value.
169	SCORE_OFFSET_33	Numeric			Not used for the last score value.
	EOR		2		Carriage return, line feed, i.e. 0D and 0A (hex) or 13 and 10 (decimal)

Load Forming Spec Transaction Record (LoadFormSpecTran)

The information in this record identifies the bundling, palletizing or unitizing requirements for the product.

Seq	Field Name	Type	Max Size	Format / Max value	Description
#1	TRANS_CODE	AlphaNum	4	"ASPC", "CSPC", "AORS" or "CORS"	Code that identifies the transaction containing this record.
#2	RECORD_ID	AlphaNum	5	"**LOADT**"	Record type Identifier
#3	INT_SPEC_ID	AlphaNum	15	Not null	Identifier of Item Specification. Order refers to this ID.
4	ITEMS_PER_LOAD	Integer			Number of finished items per load
5	SHEETS_PER_LOAD	Integer			Number of sheets per WIP unit
6	STACK_PATTERN	AlphaNum	12		Code that identifies the stacking pattern
7	STRAP_PATTERN	AlphaNum	12		Code that identifies the strapping pattern
8	COMPRESSION	Integer			Identifies the amount of compression to apply when strapping the load
9	PROTECT_CODE	AlphaNum	12		Identifies the type of protection to apply to the load, e.g. plastic wrap, slip sheets, corner protection
10	LOAD_LENGTH	Numeric			Maximum length of the load when the stacking pattern must be calculated (e.g. for side chamber stacker on corrugator)
11	LOAD_WIDTH	Numeric			Maximum width of the load when the stacking pattern must be calculated (e.g. for side chamber stacker on corrugator)
12	LOAD_HEIGHT	Numeric			Maximum height of the load when the stacking pattern must be calculated
13	BUNDLE_HEIGHT	Numeric			Height of each bundle
14	LINE_PREFERENCE	AlphaNum	12		Code that identifies the conveyor strapping line preference
15	PALLET_TYPE	AlphaNum	12		Code that identifies the pallet type required for the item
16	PALLETIZING_CODE	AlphaNum	6		Supplementary palletizing information
17	ITEMS_PER_BUNDLE	Integer			Number of items in each bundle
18	BUNDLES_PER_TIER	Integer			Number of bundles per tier
19	TIERS_PER_UNIT	Integer			Number of tiers per unit
20	WRAPPING_CODE	AlphaNum	6		Supplementary wrapping information
21	BUNDLE_STRAP_CODE	AlphaNum	6		Identifies type of bundle strapping
22	TAG_FORMAT	Integer			Identifies the tag format to print
23	TAGS_PER_UNIT	Integer			Number of tags per load.
24	CONVEYOR_INFO	AlphaNum	25		Supplementary conveyor information.
	EOR		2		Carriage return, line feed, i.e. 0D and 0A (hex) or 13 and 10 (decimal)

Schedule & Production Data Transaction Records

Corrugator Schedule Transaction Record (CorruSchedTran)

This record is used to report the Corrugator Schedule to the business system.

Seq	Field Name	Type	Max Size	Format / Max value	Description
1.	TRANS_CODE	AlphaNum	4	"RCSH"	Code that identifies the transaction containing this record.
2.	RECORD_ID	AlphaNum	5	"CORSH"	Record type Identifier
3.	SETUP_ID	AlphaNum	20	Must be unique	Identifier of setup
4.	BOARD_WIDTH	Numeric		> 0	Width of the board
5.	PLANT_ID	AlphaNum	10	Not null	The Plant ID & Corr Code identify a unique corrugator in a multiple plant company
6.	CORR_CODE	AlphaNum	6	Must be valid ID for Corrugator	Identifier of corrugator
7.	GRADE_ID	AlphaNum	30		Planned Board grade identifier
8.	PLANNED_START_ DATE	Date	8	yyyymmdd	Date on which setup is due to start production
9.	PLANNED_START_ TIME	Time	6	hhmmss	Time at which setup is due to start production
10.	PLANNED_END_DAT E	Date	8	yyyymmdd	Date on which setup is due to complete production
11.	PLANNED_END_TIME	Time	6	hhmmss	Time at which setup is due to complete production
12.	UKNIFE_ORDER_ID	AlphaNum	15		Identifier of order going to upper knife
13.	UKNIFE_PART_ID	AlphaNum	3		The Order ID and Part ID uniquely identify order on upper knife as one to which this action applies
14.	UKNIFE_OPER_NO	Integer			Operation number for order on upper knife. This number identifies the sequence of this operation in the order's routing. CTI generates the operation numbers for corrugator operations. Splits of an order have Operation numbers, e.g. 10, 11, 12, 29
15.	UK_BLANK_WIDTH	Numeric			Width of the blank as it comes off the corrugator. *(Imperial: 32 1/16 inches, enter 32.0625; Metric: 700 mm, enter 0.700)*
16.	UK_BLANK_LENGTH	Numeric			Length of the blank as it comes off the corrugator. *(Imperial: 32 1/16 inches, enter 32.0625; Metric: 700 mm, enter 0.700)*
17.	UK_PLANNED_QTY	Integer	8	<=99999999	Number of planned sheets on upper knife
18.	UK_PLANNED_TOTAL	Integer	8	<=99999999	Number of planned sheets on upper knife
19.	UK_NUM_ACROSS	Integer	2		Number of blanks across upper knife

20.	UK_COMPLETE_IND	AlphaNum	1		Indicates whether there are additional splits (operations) of the upper knife order in this corrugator schedule. Values are: **L** - order is not complete and there are no additional occurrences in this schedule. **P** - order is not complete and there are additional occurrences of the order in this schedule. **C** – order is complete (and there are no additional occurrences).
21.	MKNIFE_ORDER_ID	AlphaNum	15		Identifier of order going to middle knife
22.	MKNIFE_PART_ID	AlphaNum	3		The Order ID and Part ID uniquely identify order on middle knife as one to which this action applies
23.	MKNIFE_OPER_NO	Integer			Operation number for order on middle knife. This number identifies the sequence of this operation in the order's routing. CTI generates the operation numbers for corrugator operations. Splits of an order have Operation numbers, e.g. 10, 11, 12, 29
24.	MK_BLANK_WIDTH	Numeric			Width of the blank as it comes off the corrugator. *(Imperial: 32 1/16 inches, enter 32.0625; Metric: 700 mm, enter 0.700)*
25.	MK_BLANK_LENGTH	Numeric			Length of the blank as it comes off the corrugator. *(Imperial: 32 1/16 inches, enter 32.0625; Metric: 700 mm, enter 0.700)*
26.	MK_PLANNED_QTY	Integer	8	<=99999999	Number of planned sheets on middle knife
27.	MK_PLANNED_TOTAL	Integer	8	<=99999999	Number of planned sheets on middle knife
28.	MK_NUM_ACROSS	Integer	2		Number of blanks across middle knife
29.	MK_COMPLETE_IND	AlphaNum	1		Indicates whether there are additional splits (operations) of the middle knife order in this corrugator schedule. Values are: **L** - order is not complete and there are no additional occurrences in this schedule. **P** - order is not complete and there are additional occurrences of the order in this schedule. **C** – order is complete (and there are no additional occurrences).
30.	LKNIFE_ORDER_ID	AlphaNum	15		Identifier of order going to lower knife
31.	LKNIFE_PART_ID	AlphaNum	3		The Order ID and Part ID uniquely identify order on lower knife as one to which this action applies
32.	LKNIFE_OPER_NO	Integer			Operation number for order on lower knife. This number identifies the sequence of this operation in the order's routing. CTI generates the operation numbers for corrugator operations. Splits of an order have Operation numbers, e.g. 10, 11, 12, 29

33.	LK_BLANK_WIDTH	Numeric			Width of the blank as it comes off the corrugator. *(Imperial: 32 1/16 inches, enter 32.0625; Metric: 700 mm, enter 0.700)*
34.	LK_BLANK_LENGTH	Numeric			Length of the blank as it comes off the corrugator. *(Imperial: 32 1/16 inches, enter 32.0625; Metric: 700 mm, enter 0.700)*
35.	LK_PLANNED_QTY	Integer	8	<=99999999	Number of planned sheets on lower knife
36.	LK_PLANNED_TOTAL	Integer	8	<=99999999	Number of planned sheets on lower knife
37.	LK_NUM_ACROSS	Integer	2		Number of blanks across lower knife
38.	LK_COMPLETE_IND	AlphaNum	1		Indicates whether there are additional splits (operations) of the lower knife order in this corrugator schedule. Values are: **L** - order is not complete and there are no additional occurrences in this schedule. **P** - order is not complete and there are additional occurrences of the order in this schedule. **C** – order is complete (and there are no additional occurrences).
39.	LINER1	AlphaNum	12		Grade of liner 1
40.	MEDIUM1	AlphaNum	12		Grade of medium 1
41.	LINER2	AlphaNum	12		Grade of liner 2
42.	MEDIUM2	AlphaNum	12		Grade of medium 2
43.	LINER3	AlphaNum	12		Grade of liner 3
44.	MEDIUM3	AlphaNum	12		Grade of medium 3
45.	LINER4	AlphaNum	12		Grade of liner 4
46.	LINER1_WIDTH	Numeric			Width of liner 1
47.	MEDIUM1_WIDTH	Numeric			Width of medium 1
48.	LINER2_WIDTH	Numeric			Width of liner 2
49.	MEDIUM2_WIDTH	Numeric			Width of medium 2
50.	LINER3_WIDTH	Numeric			Width of liner 3
51.	MEDIUM3_WIDTH	Numeric			Width of medium 3
52.	LINER4_WIDTH	Numeric			Width of liner 4
	EOR		2		Carriage return, line feed, i.e. 0D and 0A (hex) or 13 and 10 (decimal)

Corrugator Production Transaction Record (CorruProductionTran)

This record is used to report the Corrugator Production to the business system.

Seq	Field Name	Type	Max Size	Format / Max value	Description
1.	TRANS_CODE	AlphaNum	4	"RCPR"	Code that identifies the transaction containing this record.
2.	RECORD_ID	AlphaNum	5	"CORPR"	Record type Identifier
3.	SETUP_ID	AlphaNum	20	Setup ID & Setup production segment number combined must be unique.	Identifier of setup
4.	SETUP_PRODUCTIO N_SEGMENT_NO	Integer		Must have value of 1 through 99	Describes whether production for a setup is reported in multiple segments because one (or more) of the following events may occur during the running of the setup: • Corrugator down time, • Paper type/grade change (substitution), • Paper width change (substitution), • Shift change.
5.	REASON_FOR_NEW_ SEGMENT	AlphaNum	2	'D', 'PG', 'PW' or 'S'	Indicates what caused a new segment record to be written: • D- Corrugator down time, • PG - Paper type/grade change (substitution), • PW-Paper width change (substitution), • S-shift change
6.	PLANT_ID	AlphaNum	10	Not null	The Plant ID & Corr Code identify a unique work center in a multiple plant company
7.	CORR_CODE	AlphaNum	6	Must be valid ID for Corrugator	Identifier of corrugator
8.	SHIFT_ID	AlphaNum	3		Shift in which production occurred
9.	TEAM_ID	AlphaNum	3		ID of team crewing the corrugator
10.	BOARD_WIDTH	Numeric		> 0	Width of the board
11.	GRADE_ID	AlphaNum	30	Must be valid grade ID	Board grade identifier
12.	UKNIFE_ORDER_ID	AlphaNum	15		Identifier of order going to upper knife
13.	UKNIFE_PART_ID	AlphaNum	3		The Order ID and Part ID are used to uniquely identify this order on upper knife as the one to which this action applies

14.	UKNIFE_OPER_NO	Integer			Operation number for order on upper knife. This number identifies sequence of this operation in order's routing. CTI generates operation numbers for corrugator operations. Splits of order have Operation numbers , e.g. 10, 11, 12, 29
15.	UK_BLANK_WIDTH	Numeric			Width of the blank as it comes off the corrugator. *(Imperial: 32 1/16 inches, enter 32.0625; Metric: 700 mm, enter 0.700)*
16.	UK_BLANK_LENGTH	Numeric			Length of the blank as it comes off the corrugator. *(Imperial: 32 1/16 inches, enter 32.0625; Metric: 700 mm, enter 0.700)*
17.	UK_TOTAL_QTY	Integer	8	<=99999999	Total number of produced sheets on upper knife in this set-up.
18.	UK_GOOD_QTY	Integer	8	<=99999999	Number of produced good sheets on upper knife in this set-up (as reported from the corrugator knife).
19.	UK_GOOD_QTY_AUX	Integer	8	<=99999999	Number of produced good sheets on upper knife order in this set-up (as reported by an auxiliary source such as a scale or laser counter after the stacker).
20.	UK_WASTE_QTY_AUX	Integer	8	<=99999999	Number of waste sheets on upper knife order in this set-up (as reported by an auxiliary source).
21.	UK_PLANNED_QTY	Integer	8	<=99999999	Number of planned sheets on upper knife
22.	UK_PLANNED_TOTAL	Integer	8	<=99999999	Total planned quantity for this order.
23.	UK_NUM_ACROSS	Integer	2		Number of blanks across upper knife
24.	UK_COMPLETE_IND	AlphaNum	1		Indicates whether there are additional occurrences of this upper knife order in this schedule. Values are: **L** - order is not complete and there are no additional occurrences in this schedule. **P** - order not complete & there are additional occurrences of the order in this schedule. **C** – order is complete (and there are no additional occurrences)
25.	MKNIFE_ORDER_ID	AlphaNum	15		Identifier of order going to middle knife
26.	MKNIFE_PART_ID	AlphaNum	3		The Order ID and Part ID are used to uniquely identify order on middle knife as the one to which this action applies
27.	MKNIFE_OPER_NO	Integer			Operation number for order on middle knife. This number identifies sequence of this operation in order's routing. CTI generates operation numbers for corrugator operations. Splits of an order have Operation numbers, e.g. 10, 11, 12, 29
28.	MK_BLANK_WIDTH	Numeric			Width of the blank as it comes off the corrugator. *(Imperial: 32 1/16 inches, enter 32.0625; Metric: 700 mm, enter 0.700)*

29.	MK_BLANK_LENGTH	Numeric			Length of the blank as it comes off the corrugator. *(Imperial: 32 1/16 inches, enter 32.0625; Metric: 700 mm, enter 0.700)*
30.	MK_TOTAL_QTY	Integer	8	<=99999999	Total number of produced sheets on middle knife in this set-up (as reported from the corrugator knife).
31.	MK_GOOD_QTY	Integer	8	<=99999999	Number of produced good sheets on middle knife in this set-up (as reported from the corrugator knife).
32.	MK_GOOD_QTY_AUX	Integer	8	<=99999999	Number of produced good sheets on middle knife in this set-up (as reported by an auxiliary source such as a scale or laser counter after the stacker).
33.	MK_WASTE_QTY_AUX	Integer	8	<=99999999	Number of waste sheets on middle knife order in this set-up (as reported by an auxiliary source).
34.	MK_PLANNED_QTY	Integer	8	<=99999999	Number of planned sheets on middle knife
35.	MK_PLANNED_TOTAL	Integer	8	<=99999999	Total planned quantity for this order.
36.	MK_NUM_ACROSS	Integer	2		Number of blanks across middle knife
37.	MK_COMPLETE_IND	AlphaNum	1		Indicates whether there are additional occurrences of this middle knife order in this schedule. Values are: **L** - order is not complete and there are no additional occurrences in this schedule. **P** - order is not complete and there are additional occurrences of the order in this schedule. **C** – order is complete (and there are no additional occurrences).
38.	LKNIFE_ORDER_ID	AlphaNum	15		Identifier of order going to lower knife
39.	LKNIFE_PART_ID	AlphaNum	3		The Order ID and Part ID are used to uniquely identify order on lower knife as the one to which this action applies
40.	LKNIFE_OPER_NO	Integer			Operation number for order on lower knife. This number identifies sequence of this operation in order's routing. CTI generates operation numbers for corrugator operations. Splits of an order have Operation numbers, e.g. 10, 11, 12, 29
41.	LK_BLANK_WIDTH	Numeric			Width of the blank as it comes off the corrugator. *(Imperial: 32 1/16 inches, enter 32.0625; Metric: 700 mm, enter 0.700)*
42.	LK_BLANK_LENGTH	Numeric			Length of the blank as it comes off the corrugator. *(Imperial: 32 1/16 inches, enter 32.0625; Metric: 700 mm, enter 0.700)*
43.	LK_TOTAL_QTY	Integer	8	<=99999999	Total number of produced sheets on lower knife in this set-up.
44.	LK_GOOD_QTY	Integer	8	<=99999999	Number of produced good sheets on lower knife in this set-up (as reported from the corrugator knife).

45.	LK_GOOD_QTY_AUX	Integer	8	<=99999999	Number of produced good sheets on lower knife order in this set-up (as reported by an auxiliary source such as a scale or laser counter after the stacker).
46.	LK_WASTE_QTY_AUX	Integer	8	<=99999999	Number of waste sheets on lower knife order in this set-up (as reported by an auxiliary source).
47.	LK_PLANNED_QTY	Integer	8	<=99999999	Number of planned sheets on lower knife
48.	LK_PLANNED_TOTAL	Integer	8	<=99999999	Total planned quantity for this order.
49.	LK_NUM_ACROSS	Integer	2		Number of blanks across lower knife
50.	LK_COMPLETE_IND	AlphaNum	1		Indicates whether there are additional occurrences of this lower knife order in this corrugator schedule. Values are: **L** - order is not complete and there are no additional occurrences in this schedule. **P** - order is not complete and there are additional occurrences of the order in this schedule. **C** – order is complete (and there are no additional occurrences).
51.	ACTUAL_START_ DATE	Date	8	Yyyymmdd	Date on which setup started production
52.	ACTUAL_START_ TIME	Time	6	Hhmmss	Time at which setup started production
53.	ACTUAL_END_DATE	Date	8	Yyyymmdd	Date on which setup completed production
54.	ACTUAL_END_TIME	Time	6	Hhmmss	Time at which setup completed production
55.	LINER1	AlphaNum	12		Grade of liner 1
56.	MEDIUM1	AlphaNum	12		Grade of medium 1
57.	LINER2	AlphaNum	12		Grade of liner 2
58.	MEDIUM2	AlphaNum	12		Grade of medium 2
59.	LINER3	AlphaNum	12		Grade of liner 3
60.	MEDIUM3	AlphaNum	12		Grade of medium 3
61.	LINER4	AlphaNum	12		Grade of liner 4
62.	LINER1_WIDTH	Numeric			Width of liner 1
63.	MEDIUM1_WIDTH	Numeric			Width of medium 1
64.	LINER2_WIDTH	Numeric			Width of liner 2
65.	MEDIUM2_WIDTH	Numeric			Width of medium 2
66.	LINER3_WIDTH	Numeric			Width of liner 3
67.	MEDIUM3_WIDTH	Numeric			Width of medium 3
68.	LINER4_WIDTH	Numeric			Width of liner 4
69.	DATE_OF_LAST_EDIT	Date	8	yyyymmdd	Date on which information was last edited or entered
70.	TIME_OF_LAST_EDIT	Time	6	hhmmss	Time at which information was last edited or entered
71.	EOR		2		Carriage return, line feed, i.e. 0D and 0A (hex) or 13 and 10 (decimal)

Corrugator Waste Transaction Record (CorruWasteTran)

This record is used to report the Corrugator Waste to the business system.

Seq	Field Name	Type	Max Size	Format / Max value	Description
1	TRANS_CODE	AlphaNum	4	"RCWA"	Code that identifies the transaction containing this record.
2	RECORD_ID	AlphaNum	5	"CORWA"	Record type Identifier
3	PLANT_ID	AlphaNum	10	Not null	The Plant ID & Corr Code identify a unique work center in a multiple plant company
4	CORR_CODE	AlphaNum	6	Must be valid ID for Corrugator	Identifier of corrugator
5	SETUP_ID	AlphaNum	20	Setup ID must be unique.	Identifier of setup (if waste is associated with a corrugator dry-end).
6	ORDER_ID	AlphaNum	15		Identifier of order if waste is specified with a specific order.
7	PART_ID	AlphaNum	3		The Order ID and Part ID are used to uniquely identify this order as the one to which this action applies
8	OPERATION_NO	Integer			Operation number for order, which identifies the sequence of this operation in the order's routing. CTI generates the operation numbers for corrugator operations. Splits of an order have Operation numbers , e.g. 10, 11, 12, 29
9	WASTE_LINEAL	Numeric		In feet or meters	Waste amount, if entered by lineal measurement.
10	WASTE_WEIGHT	Numeric		In pounds or kilograms	Waste amount, if entered by weight measurement.
11	WASTE_SHEETS	Integer			Waste amount, if entered by number of pieces (sheets).
12	WASTE_REASON	AlphaNum	20		Waste reason, used to determine what caused the waste.
13	BOARD_WIDTH	Numeric		Format is in meters if metric, or XXXXYY if in inches (X denotes inches, Y denotes 16th or 20th.)	Width of the board.
14	GRADE_ID	AlphaNum	30	Must be a valid grade ID	Board grade identifier
15	LINER_1	AlphaNum	12		Grade of paper used in 1st liner

16	LINER_1_WIDTH	Numeric		> 0	Width of 1st liner
17	MEDIUM_1	AlphaNum	12		Grade of paper used in 1st medium
18	MEDIUM_1_WIDTH	Numeric		> 0	Width of 1st medium
19	LINER_2	AlphaNum	12		Grade of paper used in 2nd liner
20	LINER_2_WIDTH	Numeric		> 0	Width of 2nd liner
21	MEDIUM_2	AlphaNum	12		Grade of paper used in 2nd medium
22	MEDIUM_2_WIDTH	Numeric		> 0	Width of 2nd medium
23	LINER_3	AlphaNum	12		Grade of paper used in 3rd liner
24	LINER_3_WIDTH	Numeric		> 0	Width of 3rd liner
25	MEDIUM_3	AlphaNum	12		Grade of paper used in 3rd medium
26	MEDIUM_3_WIDTH	Numeric		> 0	Width of 3rd medium
27	LINER_4	AlphaNum	12		Grade of paper used in 4th liner
28	LINER_4_WIDTH	Numeric		> 0	Width of 4th liner
31	EVENT_ DATE	Date	8	yyyymmdd	Date on which waste occurred
32	EVENT_ TIME	Time	6	hhmmss	Time at which waste occurred
33	DATE_OF_LAST_EDIT	Date	8	yyyymmdd	Date on which waste information was last edited or entered
34	TIME_OF_LAST_EDIT	Time	6	hhmmss	Time at which waste information was last edited or entered
	EOR		2		Carriage return, line feed, i.e. 0D and 0A (hex) or 13 and 10 (decimal)

Corrugator Downtime Transaction Record (CorruDownTran)

This record is used to report the Corrugator Waste to the business system.

Seq	Field Name	Type	Max Size	Format / Max value	Description
1	TRANS_CODE	AlphaNum	4	"RCDT"	Code that identifies the transaction containing this record.
2	RECORD_ID	AlphaNum	5	"CORDT"	Record type Identifier
3	PLANT_ID	AlphaNum	10	Not null	The Plant ID & Corr Code identify a unique work center in a multiple plant company
4	CORR_CODE	AlphaNum	6	Must be valid ID for Corrugator	Identifier of corrugator
5	SETUP_ID	AlphaNum	20	Setup ID must be unique.	Identifier of setup, if downtime is associated with a dry-end setup. (e.g. it was switching to or running the setup when the corrugator went down.)
6	DOWNTIME_REASON	AlphaNum	20		Downtime reason, used to determine what caused corrugator to go down.
7	START_ DATE_OF_ DOWNTIME	Date	8	yyyymmdd	Date on which downtime period started
8	START_ TIME_OF_ DOWNTIME	Time	6	hhmmss	Time at which downtime period started
9	END_DATE _OF_ DOWNTIME	Date	8	yyyymmdd	Date on which downtime period ended
10	END_TIME_OF_ DOWNTIME	Time	6	hhmmss	Time at which downtime period ended
11	DATE_OF_LAST_EDIT	Date	8	yyyymmdd	Date on which downtime information was last edited or entered
12	TIME_OF_LAST_EDIT	Time	6	hhmmss	Time at which downtime information was last edited or entered
	EOR		2		Carriage return, line feed, i.e. 0D and 0A (hex) or 13 and 10 (decimal)

Corrugator Load Quantity Transaction Record (CorruLoadQtyTran)

This record is used to report the quantity in each corrugated load to CTI.

Seq	Field Name	Type	Max Size	Format / Max value	Description
1	TRANS_CODE	AlphaNum	4	"RCLC"	Code that identifies the transaction containing this record.
2	RECORD_ID	AlphaNum	5	"CORLQ"	Record type Identifier
3	PLANT_ID	AlphaNum	10		The Plant ID & Corr Code identify a unique work center in a multiple plant/corrugator. Can be null.
4	CORR_CODE	AlphaNum	6		Identifier of corrugator. Can be null if only one corrugator in the plant.
5	SETUP_ID	AlphaNum	20		Identifier (generated by the corrugator scheduling system) of the corrugator setup that produced the measured load.
6	LOAD_ID	Integer			Identifies the load, e..g, 1, 2, 3 ..
7	GOOD_BLANK_COUNT	Integer			Quantity of sheets in the load.
8	START_ TIME_OF_ DOWNTIME	Time	6	hhmmss	Time at which downtime period started
11	DATE_OF_LAST_EDIT	Date	8	yyyymmdd	Date on which the information was last edited or entered
12	TIME_OF_LAST_EDIT	Time	6	hhmmss	Time at which information was last edited or entered
	EOR		2		Carriage return, line feed, i.e. 0D and 0A (hex) or 13 and 10 (decimal)

Converting Schedule Transaction Record (ConvSchedTran)

This record is used to report the Converting Work Center Schedules to the business system.

Seq	Field Name	Type	Max Size	Format / Max value	Description
1.	TRANS_CODE	AlphaNum	4	"RCVS"	Code that identifies the transaction containing this record.
2.	RECORD_ID	AlphaNum	5	"CVSH"	Record type Identifier
3.	PLANT_ID	AlphaNum	10	Not null	The Plant ID and Work Center Code identify a unique work center in a multiple plant company
4.	WORK_CENTER_ID	AlphaNum	6	Must be valid ID for a converting work center	Identifier of the converting work center.
5.	SEQUENCE_NO	Integer			The sequence of this operation (job) in the workcenter's schedule. (e.g., 1, 2, 3 ..)
6.	ORDER_ID	AlphaNum	15	Not null	Identifier of order to which following schedule data applies:
7.	PART_ID	AlphaNum	3		The Order ID and Part ID are used to uniquely identify this order as the one to which this action applies.
8.	OPERATION_NO	Integer		Nnn (30-99)	Operation number for order that identifies the sequence of this operation in the order's routing.
9.	OPERATION_SPLIT_ID	Integer			Identifies the order operation split when the planner has scheduled the operation in multiple splits.
10.	PLANNED_SETUP_ START_ DATE	Date	8	yyyymmdd	Date on which setup is due to start for this operation and this order.
11.	PLANNED_SETUP_ START_ TIME	Time	6	hhmmss	Time at which setup is due to start for this operation and this order.
12.	PLANNED_SETUP_ END_DATE	Date	8	yyyymmdd	Date on which setup is expected to end for this operation and this order.
13.	PLANNED_SETUP_ END_TIME	Time	6	hhmmss	Time at which setup is expected to end for this operation and this order.
14.	PLANNED_RUN_ START_ DATE	Date	8	yyyymmdd	Date on which this order / operation is expected to start running.
15.	PLANNED_RUN_ START_ TIME	Time	6	hhmmss	Time at which this order / operation is expected to start running.
16.	PLANNED_RUN_ END_DATE	Date	8	yyyymmdd	Date on which this order / operation is expected to finish running.
17.	PLANNED_RUN_ END_TIME	Time	6	hhmmss	Time at which this order / operation is expected to finish running.
18.	QUANTITY_IN	Integer		> 0	Number of input pieces (or sheets) planned for conversion at this operation.

19.	COMPLETE_ INDICATOR	AlphaNum	1		Indicates whether there are additional occurrences (operations) of this order in this work center lineup. Values are: **L** - order is not complete and there are no additional occurrences in this schedule. **P** - order is not complete and there are additional occurrences of the order in this schedule. **C** – order is complete (and there are no additional occurrences).
	EOR		2		Carriage return, line feed, i.e. 0D and 0A (hex) or 13 and 10 (decimal)

Converting Production Header Transaction Record (ConvProductionHdr)

(This record is **only** provided when the system is configured to provide production segments which do not overlap downtime instances.)

Seq	Field Name	Type	Max Size	Format / Max value	Description
1.	TRANS_CODE	AlphaNum	4	"RCVH"	Code that identifies the transaction containing this record.
2.	RECORD_ID	AlphaNum	5	"**CVPH**"	Record type Identifier
3.	PLANT_ID	AlphaNum	10	Not null	The Plant ID and Work Center Code identify a unique work center in a multiple plant company
4.	PROD_INFO_ID	AlphaNum	14	Not Null / 999999999 99999	Preceeds packet of production information with identifying code that can be used by business/ERP system to identify/replace previously sent production information
	EOR		2		Carriage return, line feed, i.e. 0D and 0A (hex) or 13 and 10 (decimal)

Converting Production Transaction Record (ConvProductionTran)

Seq	Field Name	Type	Max Size	Format / Max value	Description
1.	TRANS_CODE	AlphaNum	4	"RCVP" "RCPP"	Code that identifies the transaction containing this record.
2.	RECORD_ID	AlphaNum	5	"**CVPR**"	Record type Identifier
3.	PLANT_ID	AlphaNum	10	Not null	The Plant ID and Work Center Code identify a unique work center in a multiple plant company
4.	WORK_CENTER_ID	AlphaNum	6	Must be valid ID for a converting work center	Identifier of the converting work center.
5.	SHIFT_ID	AlphaNum	3		Identifier of shift
6.	CREW_ID	AlphaNum	3		Identifier of crew
7.	CREW_SIZE	INTEGER	3		Size of crew during this production event
8.	ORDER_ID	AlphaNum	15	Not null	Identifier of order to which following production data applies:
9.	PART_ID	AlphaNum	3		The Order ID and Part ID are used to uniquely identify this order as the one to which this action applies.
10.	OPERATION_NO	Integer		Nnn (30-99)	Operation number for order that identifies the sequence of this operation in the order's routing.
11.	OPERATION_SPLIT_ID	Integer			Used for Set-Up and Run events when the operation is explicitly split by the operator or implicitly split when the operation spans a shift. Normally equals 0 when operation has not been split. Would be incremented each time the order operation is split (e.g., order operation spans a shift so the set-up or run event that occurs in the earlier shift has a split id = 0. The event occurring in the 2nd shift will have a split id = 1).
12.	ACTUAL_SETUP_ START_ DATE	Date	8	yyyymmdd	Date on which setup started for this operation and order.
13.	ACTUAL_SETUP_ START_ TIME	Time	6	hhmmss	Time at which setup started for this operation and order.
14.	ACTUAL_SETUP_END _DATE	Date	8	yyyymmdd	Date on which setup completed production
15.	ACTUAL_SETUP_END _TIME	Time	6	hhmmss	Time at which setup completed production
16.	ACTUAL _RUN_ START_ DATE	Date	8	yyyymmdd	Date on which this order / operation is expected to start running.

17.	ACTUAL _RUN_ START_ TIME	Time	6	hhmmss	Time at which this order / operation is expected to start running.
18.	ACTUAL _RUN_ END_DATE	Date	8	yyyymmdd	Date on which this order / operation is expected to finish running.
19.	ACTUAL _RUN_ END_TIME	Time	6	hhmmss	Time at which this order / operation is expected to finish running.
20.	SET_UP_TOTAL	Integer			Number of pieces produced during set-up.
21.	RUN_TOTAL	Integer			Number of pieces produced during running.
22.	GOOD_QUANTITY	Integer			Number of good pieces produced by this operation.
23.	DATE_OF_LAST_EDIT	Date	8	yyyymmdd	Date on which information was last edited or entered
24.	TIME_OF_LAST_EDIT	Time	6	hhmmss	Time at which information was last edited or entered
25.	OPERATION_LINK	Integer			Obsolete (use PROD_INFO_ID)
26.	COMPLETE_IND	AlphaNum	1		Indicates whether the operation (and order) are complete. Values are: P – This operation/ job was partially run. There is an additional split of this operation to be run. C – This operation/job is complete and there are other outstanding operations for this order. F – This last mfg step for the order, and the order, are both complete. There are no outstanding operations for this order and the order is complete. L – This last mfg step for the order is complete. There are no outstanding operations for the order, however the order is not complete, i.e., the number of finished items is below the completion threshold. D – More production for this operation will follow the next downtime record. (**Only** used when system is configured to provide production segments which do not overlap downtime instances)
27.	NUMBER_OUT	Integer	3		Number of items output for each input sheet. Can be used by the ERP / Business system to calculate the number of total and good feeds, respectively, i.e., (set_up_total + run total) / number out, good_quantity / number out.
28.	NUMBER_IN	Integer	3		Number of input sheets required to produce one output item from this operation.
29.	PRODUCTION_DATE	Date	8		“YYYYMMDD” indicating the date of production (primarily used when the production shift spans midnight).

30.	END_OF_SHIFT	AlphaNum	3		"EOS" indicates whether this production is the last for the shift, otherwise blank ("")
31	INPUT_WIDTH	Numeric			Width of input sheet for Item
32	INPUT_LENGTH	Numeric			Length of input sheet for Item
33.	PROD_INFO_ID	AlphaNum	14	Not Null / 999999999 99999	Unique id that identifies the packet of converting production information with identifying code that can be used by business/ERP system to identify/replace previously sent production information
	EOR		2		Carriage return, line feed, i.e. 0D and 0A (hex) or 13 and 10 (decimal)

Converting Waste Transaction Record (ConvWasteTran)

This record is used to report the Converting Waste to the business system.

Seq	Field Name	Type	Max Size	Format / Max value	Description
1.	TRANS_CODE	AlphaNum	4	"RCVW"	Code that identifies the transaction containing this record.
2.	RECORD_ID	AlphaNum	5	"CVWA"	Record type Identifier
3.	PLANT_ID	AlphaNum	10	Not null	The Plant ID and Work Center Code identify a unique work center in a multiple plant company
4.	WORK_CENTER_ID	AlphaNum	6	Must be valid ID for a converting work center	Identifier of the converting work center.
5.	SHIFT_ID	AlphaNum	3		Identifier of shift
6.	CREW_ID	AlphaNum	3		Identifier of crew
7.	ORDER_ID	AlphaNum	15	Not null	Identifier of order to which following data applies:
8.	PART_ID	AlphaNum	3		The Order ID and Part ID are used to uniquely identify this order as the one to which this action applies.
9.	OPERATION_NO	Integer		Nnn (30-99)	Operation number for order that identifies the sequence of this operation in the order's routing.
10.	OPERATION_SPLIT_ID	Integer			Identifies the order operation split (usually 0) associated with the waste. (The job may have spanned a shift or the machine operator explicitly split the job.)
11.	WASTE_WEIGHT	Numeric		In pounds or kilograms	Waste amount, if entered by weight.
12.	WASTE_SHEETS	Integer			Waste amount, if entered by number of pieces (or sheets).
13.	WASTE_REASON	AlphaNum	20		Waste reason, used to determine what caused the waste.
14.	EVENT_ DATE	Date	8	yyyymmdd	Date on which waste occurred
15.	EVENT_ TIME	Time	6	hhmmss	Time at which waste occurred
16.	DATE_OF_LAST_EDIT	Date	8	yyyymmdd	Date on which waste information was last edited or entered
17.	TIME_OF_LAST_EDIT	Time	6	hhmmss	Time at which waste information was last edited or entered
18.	OPERATION_LINK	Integer			Obsolete (use PROD_INFO_ID)
19.	PROD_INFO_ID	AlphaNum	14	Not Null / 99999999999999	Unique id that identifies the packet of converting production information with identifying code that can be used by business/ERP system to identify/replace previously sent production information
	EOR		2		Carriage return, line feed, i.e. 0D and 0A

					(hex) or 13 and 10 (decimal)

Converting Downtime Transaction Record (ConvDownTran)

This record is used to report the Corrugator Waste to the business system.

Seq	Field Name	Type	Max Size	Format / Max value	Description
1.	TRANS_CODE	AlphaNum	4	"RCVD"	Code that identifies the transaction containing this record.
2.	RECORD_ID	AlphaNum	5	"CVDT"	Record type Identifier
3.	PLANT_ID	AlphaNum	10	Not null	The Plant ID and Work Center Code identify a unique work center in a multiple plant company
4.	WORK_CENTER_ID	AlphaNum	6	Must be valid ID for a converting work center	Identifier of the converting work center.
5.	SHIFT_ID	AlphaNum	3		Identifier of shift
6.	CREW_ID	AlphaNum	3		Identifier of crew
7.	ORDER_ID	AlphaNum	15	~~Not null~~	Identifier of order to which following data applies:
8.	PART_ID	AlphaNum	3		The Order ID and Part ID are used to uniquely identify this order as the one to which this action applies.
9.	OPERATION_NO	Integer		Nnn (30-99)	Operation number for order that identifies the sequence of this operation in the order's routing.
10.	OPERATION_SPLIT_ID	Integer			Identifies the order operation split (usually 0) associated with the down time. (The job may have spanned a shift or the machine operator explicitly split the job.)
11.	DOWNTIME_REASON_CODE	AlphaNum	6		Identifies the cause of the downtime segment.
12.	START_ DATE_OF_ DOWNTIME	Date	8	yyyymmdd	Date on which downtime period started
13.	START_ TIME_OF_ DOWNTIME	Time	6	hhmmss	Time at which downtime period started
14.	END_DATE _OF_ DOWNTIME	Date	8	yyyymmdd	Date on which downtime period ended
15.	END_TIME_OF_ DOWNTIME	Time	6	hhmmss	Time at which downtime period ended
16.	DATE_OF_LAST_EDIT	Date	8	yyyymmdd	Date on which downtime information was last edited or entered
17.	TIME_OF_LAST_EDIT	Time	6	hhmmss	Time at which downtime information was last edited or entered
18.	OPERATION_LINK	Integer			Obsolete (use PROD_INFO_ID)

20.	PROD_INFO_ID	AlphaNum	14	Not Null / 9999999999 9999	Unique id that identifies the packet of converting production information with identifying code that can be used by business/ERP system to identify/replace previously sent production information.
	EOR		2		Carriage return, line feed, i.e. 0D and 0A (hex) or 13 and 10 (decimal)

Work Center Status Transaction Record (WorkCenterStatusTran)

Transactions in this record are used to report for CTI to report Work Center Status to the business system. This information is needed by CTI so that it can determine the current running order.

Seq	Field Name	Type	Max Size	Format / Max value	Description
#1	TRANS_CODE	AlphaNum	4	"RCVS" "RSPS"	Code that identifies the transaction.
#2	RECORD_ID	AlphaNum	5	"**WCST**"	Record type Identifier
3	PLANT_ID	AlphaNum	10	Not null	Plant identifier
#4	WORK_CENTER_ID	AlphaNum	6	Not null	Work Center identifier
#5	WORK_CENTER_ STAT	Integer			Status of the Work Center
6	ORDER_ID	AlphaNum	15	Not null	Identifier of order, if Work Center has begun setup for an order.
7	PART_ID	AlphaNum	3		The Order ID and Part ID are used to uniquely identify this order as the one to which this action applies.
8	OPERATION_NO	Integer		Nnn (30-99)	Operation number for order that identifies the sequence of this operation in the order's routing.
9	QUANTITY	Integer			Number of input pieces (sheets) converted, if the Work Center has begun running an order.
10	ACTUAL_START_ DATE_OF_ DOWNTIME	Date	8	yyyymmdd	Actual date on which downtime period started, if Work Center is currently down.
11	ACTUAL_START_ TIME_OF_ DOWNTIME	Time	6	hhmmss	Actual time at which downtime period started, if Work Center is currently down.
12	EXPECTED_END_ DATE _OF_ DOWNTIME	Date	8	yyyymmdd	Date on which Work Center is expected to come up, if Work Center is currently down.
13	EXPECTED_END_ TIME_OF_ DOWNTIME	Time	6	hhmmss	Time at which Work Center is expected to come up, if Work Center is currently down.
14	DOWNTIME_REASO N_CODE	AlphaNum	6		Identifies the cause of the downtime segment.
	EOR		2		Carriage return, line feed, i.e. 0D and 0A (hex) or 13 and 10 (decimal)

Roll Stock Inventory Transaction Record (RollStockInvTran)

The following record contains the plant's roll stock inventory (by Grade/Width stock keeping unit) information:

Seq	Field Name	Type	Max Size	Format / Max value	Description
#1	TRANS_CODE	AlphaNum	4	"RINv"	Code that identifies the transaction.
#2	RECORD_ID	AlphaNum	5	"ROLLS"	Record type Identifier
3	PLANT_ID	AlphaNum	10	Not null	Plant identifier that uses this roll stock inventory
#4	PAPER_GRADE	AlphaNum	12		Paper grade identifier
#5	WIDTH	Numeric			Roll width (inches or meters)
#6	LINEAL	Numeric			Available quantity of this paper grade and width (lineal feet or meters)
#7	ROLLS	Integer			Number of rolls of this paper grade and width.
8	COST	Numeric			Average cost of this grade and width of paper. (For example, 100.50 = one hundred dollars and fifty cents per 1000 square feet.)
	EOR		2		Carriage return, line feed, i.e. 0D and 0A (hex) or 13 and 10 (decimal)

Work Center Calendar Transaction Record (WorkCenterCalendarTran)

The information in these records identifies the planned idle/downtime periods for all the work centers in the plant. Each record corresponds to a period of idle/downtime for a specific work center. The calendars for all Work Centers are initialized by this transaction. If no idle/downtime periods are specified, CTI will clear existing idle/down time periods. Provide one record for each downtime period for each work center.

Seq	Field Name	Type	Max Size	Format / Max value	Description
#1	TRANS_CODE	AlphaNum	4	"WCAL"	Code that identifies the transaction.
#2	RECORD_ID	AlphaNum	5	"WCCA**L**"	Record type Identifier
#3	PLANT_ID	AlphaNum	10	Not null	Plant identifier
#4	WORK_CENTER_ID	AlphaNum	6	Not null	Work Center identifier
#5	START_DATE	Date	8	yyyymmdd	Start date for scheduled downtime period
#6	START_TIME	Time	6	hhmmss	Start time for scheduled downtime period
#7	END_DATE	Date	8	yyyymmdd	End date for scheduled downtime period
#8	END_TIME	Time	6	hhmmss	End time for scheduled downtime period
#9	DOWN_TIME_CODE	Integer			Downtime code, e.g. 10=not crewed, 15=lunch break, 20=other break, 30=scheduled maintenance.
	EOR		2		Carriage return, line feed, i.e. 0D and 0A (hex) or 13 and 10 (decimal)

Static Data Transaction Records

The following tables contain the data associated with transactions that define static data of the system.

Board Grade Definition Transaction Record (BoardGradeDefTran)

The following record contains the information that defines the Board Grades:

Seq	Field Name	Type	Max Size	Format / Max value	Description
#1	TRANS_CODE	AlphaNum	4	"AGRD" "DGRD"	Code that identifies the transaction.
#2	RECORD_ID	AlphaNum	5	"GRADE"	Record type Identifier
3	PLANT_ID	AlphaNum	10	Not null	The identifier of the plant that manufactures this board grade.
#4	GRADE_ID	AlphaNum	30		Unique board grade identifier.
#5	WEIGHT	Numeric			Weight of board (grams per square meter)
6	COST	Numeric			Cost of board per 1000 square feet
7	TEST	AlphaNum	10		Test of this grade
#8	BOARD_CALIPER	Numeric			Thickness of combined board (in. or mm.)
#9	FLUTE	AlphaNum	10		Flute of this grade
10	COLOR	AlphaNum	10		Color of this grade
11	ADHESIVE	AlphaNum	10		Type of adhesive used in making this grade
12	PROCESS_CODE_1	AlphaNum	10		1ST Process to be added to the board
13	PROCESS_CODE_2	AlphaNum	10		2nd Process to be added to the board
14	PROCESS_CODE_3	AlphaNum	10		3rd Process to be added to the board
15	PROCESS_CODE_4	AlphaNum	10		4th Process to be added to the board
#16	LINER_1	AlphaNum	12		Grade of paper used in 1st liner
#17	MEDIUM_1	AlphaNum	12		Grade of paper used in 1st medium
18	LINER_2	AlphaNum	12		Grade of paper used in 2nd liner (may be blank)
19	MEDIUM_2	AlphaNum	12		Grade of paper used in 2nd medium (may be blank)
20	LINER_3	AlphaNum	12		Grade of paper used in 3rd liner (may be blank)
21	MEDIUM_3	AlphaNum	12		Grade of paper used in 3rd medium (or blank
22	LINER_4	AlphaNum	12		Grade of paper used in 4th liner (or blank)
23	LINER_1-2	AlphaNum	12		2nd paper used in 1st liner (may be blank)
24	MEDIUM_1-2	AlphaNum	12		2nd paper used in 1st medium (or blank)
25	LINER_2-2	AlphaNum	12		2nd paper used in 2nd liner (may be blank)
26	MEDIUM_2-2	AlphaNum	12		2nd paper used in 2nd medium (may be blank
27	LINER_3-2	AlphaNum	12		2nd paper used in 3rd liner (may be blank)
28	MEDIUM_3-2	AlphaNum	12		2nd paper used in 3rd medium (may be blank)
29	LINER_4-2	AlphaNum	12		2nd paper used in 4th liner (may be blank)
	EOR		2		Carriage return, line feed, i.e. 0D and 0A (hex) or 13 and 10 (decimal)

Ink Color Definition Transaction Record (InkColorDefTran)

Contains the ink color information associated with the Ink Color Definition transaction. The transaction data associates an ink color code to a numerical code which groups colors within a color group (or hue) from lightest to darkest shade.

Seq	Field Name	Type	Max Size	Format / Max value	Description
#1	TRANS_CODE	AlphaNum	4	"AICD" "DICD"	Code that identifies the transaction.
#2	RECORD_ID	AlphaNum	5	"INKTR"	Record type Identifier
3	PLANT_ID	AlphaNum	10	Not null	The identifier of the plant that uses this ink color.
#4	PLANT_COLOR_CODE	AlphaNum	10		Code used in the plant to identify this ink color.
#5	PS_COLOR_CODE	Integer			Numerical code of the format hhsss, where hh is the hue (or color group) and sss is the relative shade of this color within the group. The higher the number, the darker the shade.
	EOR		2		Carriage return, line feed, i.e. 0D and 0A (hex) or 13 and 10 (decimal)

APPENDIX A – Sample Data Files

A.1 AORS (Add Order with Spec)

A.2 CORS (Change Order with Spec)