

CNV-1010 PM Assembly / Construction Type

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Purpose

The purpose of this document is to define the conversion approach to create PM Assembly / Construction Type in S/4 HANA. For the purpose of this document, the term A/CT shall refer to the object PM Assembly / Construction Type.

Construction Type

In SAP Plant Maintenance (SAP S/4HANA EAM), the Construction Type is a Material Master reference assigned to a technical object (Equipment or Functional Location) to represent its standard design or assembly structure. This allows the system to link standard data such as Bills of Materials (BOM), Task Lists, and Catalogs to multiple technical objects that share the same physical construction. The Catalog profile assigned to the Construction Type is used to define the Object Parts, Causes, Damages of the asset.

Assemblies

In SAP Plant Maintenance (SAP S/4HANA EAM), Assemblies are represented as IBAU materials. These materials define the construction structure of an asset and are used to group consumable materials typically required during maintenance activities.

Each Assembly is associated with a Material Bill of Material (BOM) that specifies the component materials forming part of the Assembly structure. These Material BOMs are subsequently assigned to the Construction Type of the corresponding Equipment or Functional Location, enabling standardized and global use across Syensqo.

A/CT needs to be constructed as a logical grouping based on the above.

Conversion Scope

The scope of this document covers the approach for creation of A/CT in S/4 HANA following the PM Assembly / Construction Type Master Data Design Standard.

The creation of A/CT follows the endorsed EAM Core Data Design describing the Asset Identification Methodology.

Conversion from legacy will adopt a hybrid method: DCT and Extraction for migration.

Legacy system did not have the concept of using Construction Type in the similar manner as S/4 Hana. Hence, there is no extraction of Construction Type required from Legacy.

However, in the Legacy system, the Assemblies are used as part of Bill of Material (BOM) to represent the structure of the assets. These Assemblies will be extracted for migration into S/4 Hana.

In SAP, the Assembly / Construction Type data is a Material Master that uses a predefined list of Material Types.

The data from legacy system includes:

1. All Assembly with the Material Type (MARA-MTART) from the below list:

- IBAU-Maintenance Assembly
- Z750-0 Aggregates PM IBAU (PF2 only)
- ZZ90-Maintenance Assembly (PF2 only)
- ZIBA-Maintenance Assembly (WP2 Only)

2. From the above list, only extract the objects that are assigned to:

- BOM Header (MAST-MATNR) for plants (MAST-WERKS) in scope, or
- BOM Item (STPO-IDNRK) for plants (MAST-WERKS/TPST-WERKS/EQST-WERKS) in scope, or
- Functional Location Construction Type (IFLOT.SUBMT) for plants (ILOA-SWERK) in scope, or
- Equipment Construction Type (EQUZ.SUBMT) for plants (EQUI-SWERK) in scope, or
- Task List Construction Type (PLKO-ISTRU) for plants (PLKO-IWERK) in scope

For the relevant plants in scope, refer to Value Mapping: Plant (Maintenance Plant = Yes).

Relevant languages (MAKT-SPRAS) in scope for Assembly Description include the following:

- English (E)

- French (F)
- Italian (I)
- Mandarin (1)
- Brazilian Portugese (P)
- German (D)
- Spanish (S)

The data from legacy system excludes:

1. Assembly marked for deletion (MARA-LVORM = 'X'), OR
2. If the Assembly (MARA-MATNR) is the BOM Header (MAST-MATNR) and is not assigned as a Construction Type to the Functional Location (IFLOT-SUBMT) / Equipment (EQUZ-SUBMT) / Task List (PLKO-ISTRU) OR
3. If the Assembly (MARA-MATNR) is the BOM Item (STPO-IDNRK) and is assigned to a BOM Header (MAST-MATNR) from (2) OR
4. If the Assembly (MARA-MATNR) is the BOM Header (MAST-MATNR) where all the BOM Items (STPO-IDNR) are also part of the Material Type (MARA-MTART) from the above inclusion list (1)

List of Tables to extract for this object is maintained here: [Extract Table Register](#).

List of source systems and approximate number of records:

Source	Scope	Source Approx No. of Records	Target System	Target Approx No. of Records
DCT	A/CT for plants which do not have data existing from PF2 and WP2.	1,000	S/4 HANA	1,000
	Construction Type for assignment to Functional Location, Equipment and Task List originating from PF2 and WP2. Additional Assembly for assignment to BOM Header originating from PF2 and WP2 (if required).	30,000	S/4 HANA	30,000
PF2, WP2	Relevant Assembly will be extracted from PF2 and WP2.	30,000	S/4 HANA	30,000

Additional Information

Multi-language Requirement

A/CT description will be made available in English.

Multi language is supported for A/CT. Login via a different language will have its description displayed in the logon language if the language key is maintained in the A/CT.

A/CT Description will be updated in all relevant Languages for Plants in scope.

Document Management

Not Applicable

Legal Requirement

Not Applicable

Special Requirements

Not Applicable

Target Design

The technical design of the target for this conversion approach

1. A/CT (Main)

Table	Field	Data Element	Field Description	Data Type	Length	Requirement
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MARA	MATNR	MATNR	Material Number	CHAR	40	Mandatory (Internal Number)
MARA	MBRSH	MBRSH	Industry Sector	CHAR	1	Mandatory
MARA	MEINS	MEINS	Base Unit of Measure	UNIT	3	Mandatory
MARA	MTART	MTART	Material type	CHAR	4	Mandatory
MARA	RBNRM	RBNR	Catalog Profile	CHAR	9	Conditional
MARA	BISMT	BISMT	Old material number	CHAR	40	Mandatory
MARA	MAKTX_EN	MAKTX	Description	CHAR	40	Mandatory

Note: The English description will be displayed as part of the Basic Data 1 view.

2. A/CT (Short Text)

Table	Field	Data Element	Field Description	Data Type	Length	Requirement
MAKT	MATNR	MATNR	Material Number	CHAR	40	Mandatory
MAKT	SPRAS	SPRAS	Language Key	LANG	1	Mandatory
MAKT	MAKTX	MAKTX	Material description	CHAR	40	Mandatory

Note: Each A/CT must have 1 entry for each language in scope: English, French, Italian, Mandarin, Brazilian Portuguese, German and Spanish. English language is displayed in Basic Data 1 view.

3. A/CT (Characteristics Values Header)

Table	Field	Data Element	Field Description	Data Type	Length	Requirement
KLAH	KLART	KLASSENART	Class Type	CHAR	3	Mandatory
INOB	OBTAB	TABELLE	Name of Database Table for Object	CHAR	30	Mandatory
KLAH	CLASS	KLASSE_D	Class number	CHAR	18	Mandatory
MARA	MATNR	MATNR	Material Number	CHAR	40	Mandatory
KLAH	STATU	KLSTATUS	Class Status	CHAR	1	Mandatory

4. A/CT (Characteristics Values Allocation)

Table	Field	Data Element	Field Description	Data Type	Length	Requirement
KLAH	KLART	KLASSENART	Class Type	CHAR	3	Mandatory
INOB	OBTAB	TABELLE	Name of Database Table for Object	CHAR	30	Mandatory
KLAH	CLASS	KLASSE_D	Class number	CHAR	18	Mandatory
MARA	MATNR	MATNR	Material Number	CHAR	40	Mandatory
CABN	ATNAM	ATNAM	Characteristic Name	CHAR	30	Mandatory
AUSP	ATWRT	ATWRT	Characteristic Value	CHAR	30	Mandatory
AUSP	POSNR	KPOSNR	Item Number	CHAR	3	Mandatory

A/CT Data strictly adheres to the Master Data Standard. The complete information of the key fields that hold the A/CT information follows the Master Data Standard document that is located [here](#)

Data Cleansing

ID	Criticality	Error Message/Report Description	Rule	Output	Source System
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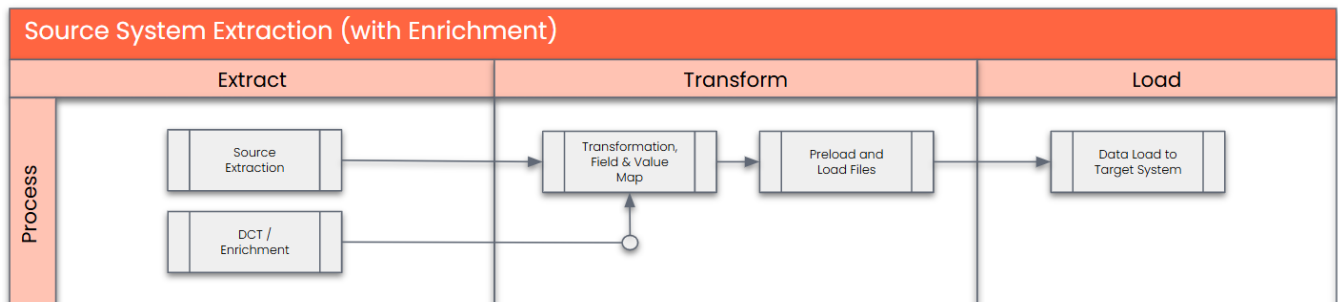
1010-01	C3	<p>Assembly is a BOM Header that is not relevant because they are not assigned to any relevant BOM / Equipment / FLoc / Task List.</p> <p>Relevant Assembly must be assigned to relevant BOM / Equipment / FLoc / Task List.</p>	To report Assembly which is a BOM Header that is not assigned to any relevant BOM / Equipment / FLoc / Task List	Assembly, Description	PF2, WP2
1010-02	C3	<p>Assembly is a BOM Item and is assigned to a BOM Header that is not relevant because they are not assigned to any relevant BOM / Equipment / FLoc / Task List.</p> <p>Relevant Assembly as BOM Item must have BOM Header assigned to relevant BOM / Equipment / FLoc / Task List.</p>	To report Assembly which is a BOM Item of a BOM Header that are not assigned to any relevant BOM / Equipment / FLoc / Task List	Assembly, Description, BOM Header Material, BOM Plant	PF2, WP2
1010-03	C3	<p>Assembly is a BOM Header where all the BOM Items are also part of the Assembly Material Type.</p> <p>Relevant Assembly as a BOM Header cannot have all the BOM Items with Assembly Material Type.</p>	<p>Assembly is a BOM Header where all the BOM Items are also part of the Assembly Material Type:</p> <ul style="list-style-type: none"> • IBAU-Maintenance Assembly • Z750-0 Aggregates PM IBAU (PF1 only) • ZZ90-Maintenance Assembly (PF1 only) • ZIBA-Maintenance Assembly (WP1 Only) 	Assembly, Description, BOM Plant	PF2, WP2
1010-04	C3	<p>CT of Equipment assigned with Material which are not relevant Assembly / Construction Type (Based on Material Type).</p> <p>If there is a BOM for these materials, or if these materials are valid, they should be included as components within the BOM (to update the DCT for BOM and Assembly)</p>	<p>To report relevant Equipment which have Construction Type assigned with Material which are not part of the Assembly Material Type:</p> <ul style="list-style-type: none"> • IBAU-Maintenance Assembly • Z750-0 Aggregates PM IBAU (PF1 only) • ZZ90-Maintenance Assembly (PF1 only) • ZIBA-Maintenance Assembly (WP1 Only) 	Equipment, Equipment Description, Construction Type, Material Type of Construction Type	PF2, WP2
1010-05	C3	<p>CT of Functional Location assigned with Material which are not relevant Assembly / Construction Type (based on Material Type).</p> <p>If there is a BOM for these materials, or if these materials are valid, they should be included as components within the BOM (to update the DCT for BOM and Assembly)</p>	<p>To report relevant Functional Location which have Construction Type assigned with Material which are not part of the Assembly Material Type:</p> <ul style="list-style-type: none"> • IBAU-Maintenance Assembly • Z750-0 Aggregates PM IBAU (PF1 only) • ZZ90-Maintenance Assembly (PF1 only) • ZIBA-Maintenance Assembly (WP1 Only) 	Functional Location, Functional Location, Description, Construction Type, Material Type of Construction Type	PF2, WP2

Note: List of Cleansing is maintained here: [Conversion Specs Register \(DCT & Cleansing Report\)](#)

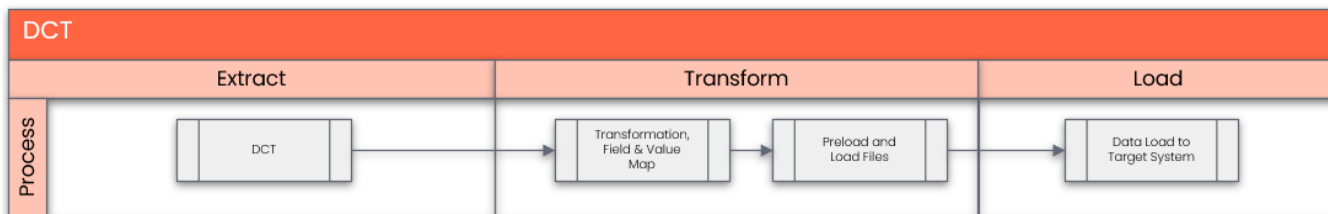
Conversion Process

The high-level process is represented by the diagram below:

1. Source = PF2/WP2:



2. Source = DCT



Collection will be done manually in the Data Collection Template for the following scenarios:

- For sites not on SAP-PF2 or WP2 systems
- For new A/CTs that need to be created to support the to-be design

Data Privacy and Sensitivity

Not Applicable

Extraction

Extract data from a source into Syniti Migrate. There are 2 possibilities:

1. The data exists. Syniti Migrate connects to the source and loads the data into Syniti Migrate. There are 3 methods:
 - a. Perform full data extraction from relevant tables in the source system(s).
 - b. Perform extraction through the application layer.
 - c. Only if Syniti Migrate; cannot connect to the source, data is loaded to the repository from the provided source system extract/report.
2. The data does not exist (or cannot be converted from its current state). The data is manually collected by the business directly in Syniti Migrate. This is to be conducted using DCT (Data Collection Template) in Syniti Migrate

The agreed Relevancy criteria is applied to the extracted records to identify the records that are applicable for the Target loads

Extraction Run Sheet

Req #	Requirement Description	Team Responsible
1	Extract data from source system based on relevancy rule	SyWay Data Team

Selection Screen

Selection Ref Screen	Parameter Name	Selection Type	Requirement	Value to be entered/set
Not Applicable				

Data Collection Template (DCT)

Target Ready Data Collection Template will be created for A/CT data with exception of some fields which require transformation as mentioned in the transformation rule.

Delta Data Management: Initial collection will be done via the report and one-time load to the DCT will be performed. Any delta after the initial collection within the DCT will require business to take due diligence to ensure any subsequent delta cleansing is verified and aligned within the DCT.

Note: All rules specified below should be documented as a **tooltip** in the DC Page.

Format:

Line 1: Mandatory / Conditional

Line 2: Remaining text

1. A/CT (Main) Data Construction Rules

Field Name	Field Description	Rule
zLegacyM ATNR	Old material number	Mandatory Must be unique
RBNRM	Catalog Profile	Conditional Required if Characteristic for "A_SUB_ASSEMBLY" = No Blank if Characteristic for "A_SUB_ASSEMBLY" = Yes Must exist in Catalog Profile DCT
MAKTX_EN	Description (English)	Mandatory Guide for Description for Construction Type (A_SUB_ASSEMBLY = No): A = Technical Object Type GROUP DESCRIPTION (in specified language) B = Construction Type Description as provided by Business Material Description = A+B E.g - Pump Centrifugal 50 HP (40 Chars only) Cannot have duplicate records based on corresponding language text (2 A/CT cannot have the same English language key texts)
MAKTX_FR	Description (French)	Mandatory Guide for Description for Construction Type (A_SUB_ASSEMBLY = No): A = Technical Object Type GROUP DESCRIPTION (in specified language) B = Construction Type Description as provided by Business (in specified language) Material Description = A+B (40 Chars only) Cannot have duplicate records based on corresponding language text (2 A/CT cannot have the same French language key texts)
MAKTX_IT	Description (Italian)	Mandatory Guide for Description for Construction Type (A_SUB_ASSEMBLY = No): A = Technical Object Type GROUP DESCRIPTION (in specified language) B = Construction Type Description as provided by Business (in specified language) Material Description = A+B (40 Chars only) Cannot have duplicate records based on corresponding language text (2 A/CT cannot have the same Italian language key texts)
MAKTX_ZH	Description (Mandarin)	Mandatory Guide for Description for Construction Type (A_SUB_ASSEMBLY = No): A = Technical Object Type GROUP DESCRIPTION (in specified language) B = Construction Type Description as provided by Business (in specified language) Material Description = A+B (40 Chars only) Cannot have duplicate records based on corresponding language text (2 A/CT cannot have the same Mandarin language key texts)

MAKTX_PT	Description (Brazilian Portuguese)	<p>Mandatory</p> <p>Guide for Description for Construction Type (A_SUB_ASSEMBLY = No):</p> <p>A = Technical Object Type GROUP DESCRIPTION (in specified language) B = Construction Type Description as provided by Business (in specified language)</p> <p>Material Description = A+B (40 Chars only)</p> <p>Cannot have duplicate records based on corresponding language text (2 A/CT cannot have the same Brazilian Portuguese language key texts)</p>
MAKTX_DE	Description (German)	<p>Mandatory</p> <p>Guide for Description for Construction Type (A_SUB_ASSEMBLY = No):</p> <p>A = Technical Object Type GROUP DESCRIPTION (in specified language) B = Construction Type Description as provided by Business (in specified language)</p> <p>Material Description = A+B (40 Chars only)</p> <p>Cannot have duplicate records based on corresponding language text (2 A/CT cannot have the same German language key texts)</p>
MAKTX_ES	Description (Spanish)	<p>Mandatory</p> <p>Guide for Description for Construction Type (A_SUB_ASSEMBLY = No):</p> <p>A = Technical Object Type GROUP DESCRIPTION (in specified language) B = Construction Type Description as provided by Business (in specified language)</p> <p>Material Description = A+B (40 Chars only)</p> <p>Cannot have duplicate records based on corresponding language text (2 A/CT cannot have the same Spanish language key texts)</p>

2. A/CT (Characteristics Value Allocation) Data Construction Rules

Field Name	Field Description	Rule
zLegacyMATNR	Old material number	<p>Mandatory</p> <p>Key to link to the A/CT (Material Basic View)</p>
ATNAM	Characteristic Name	<p>Mandatory</p> <p>Allowed Values:</p> <ol style="list-style-type: none"> 1. A_SUB_ASSEMBLY 2. A_ALLOWED_TOT (multiple records allowed) <ol style="list-style-type: none"> a. If Characteristic Name "A_SUB_ASSEMBLY" is set to "No" - It is mandatory to populate "A_ALLOWED_TOT" for this field b. If Characteristic Name "A_SUB_ASSEMBLY" is set to "Yes"- This field should not be populated (this record should not be present in the DCT)
ATWRT	Characteristic Value	<p>Mandatory</p> <ol style="list-style-type: none"> 1. If Characteristic Name = A_SUB_ASSEMBLY, allowed values are "Yes" or "No" 2. If Characteristics Name = A_ALLOWED_TOT - <ol style="list-style-type: none"> a. If Characteristic A_SUB_ASSEMBLY is set to "No" - The list of Technical Object Types associated with the CT is updated in this characteristic b. If Characteristic A_SUB_ASSEMBLY is set to "Yes"- This Characteristic should not be populated (this record should not be present in the DCT) c. If multiple records, the FIRST 4 CHARACTERS of all the records must be the same, eg: <p>1_01_001 : Centrifugal Pump</p> <p>1_01_002 : Piston Pump</p>

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3. ENR-Assembly Data Construction Rules

Field Name	Field Description	Rule
zLegacyM ATNR	Old material number	Mandatory Must be unique Must exist in PF2/WP2
MAKTX_EN	Description (English)	Mandatory Guide for Description for Construction Type (A_SUB_ASSEMBLY = No): A = Technical Object Type GROUP DESCRIPTION (in specified language) B = Construction Type Description Material Description = A+B E.g - Pump Centrifugal 50 HP (40 Chars only) Cannot have duplicate records based on corresponding language text (2 A/CT cannot have the same English language key texts)
MAKTX_FR	Description (French)	Mandatory Guide for Description for Construction Type (A_SUB_ASSEMBLY = No): A = Technical Object Type GROUP DESCRIPTION (in specified language) B = Construction Type Description (in specified language) Material Description = A+B (40 Chars only) Cannot have duplicate records based on corresponding language text (2 A/CT cannot have the same French language key texts)
MAKTX_IT	Description (Italian)	Mandatory Guide for Description for Construction Type (A_SUB_ASSEMBLY = No): A = Technical Object Type GROUP DESCRIPTION (in specified language) B = Construction Type Description (in specified language) Material Description = A+B (40 Chars only) Cannot have duplicate records based on corresponding language text (2 A/CT cannot have the same Italian language key texts)
MAKTX_ZH	Description (Mandarin)	Mandatory Guide for Description for Construction Type (A_SUB_ASSEMBLY = No): A = Technical Object Type GROUP DESCRIPTION (in specified language) B = Construction Type Description (in specified language) Material Description = A+B (40 Chars only) Cannot have duplicate records based on corresponding language text (2 A/CT cannot have the same Mandarin language key texts)
MAKTX_PT	Description (Brazilian Portuguese)	Mandatory Guide for Description for Construction Type (A_SUB_ASSEMBLY = No): A = Technical Object Type GROUP DESCRIPTION (in specified language) B = Construction Type Description (in specified language) Material Description = A+B (40 Chars only) Cannot have duplicate records based on corresponding language text (2 A/CT cannot have the same Brazilian Portuguese language key texts)

MAKTX_DE	Description (German)	<p>Mandatory</p> <p>Guide for Description for Construction Type (A_SUB_ASSEMBLY = No):</p> <p>A = Technical Object Type GROUP DESCRIPTION (in specified language) B = Construction Type Description (in specified language)</p> <p>Material Description = A+B (40 Chars only)</p> <p>Cannot have duplicate records based on corresponding language text (2 A/CT cannot have the same German language key texts)</p>
MAKTX_ES	Description (Spanish)	<p>Mandatory</p> <p>Guide for Description for Construction Type (A_SUB_ASSEMBLY = No):</p> <p>A = Technical Object Type GROUP DESCRIPTION (in specified language) B = Construction Type Description (in specified language)</p> <p>Material Description = A+B (40 Chars only)</p> <p>Cannot have duplicate records based on corresponding language text (2 A/CT cannot have the same Spanish language key texts)</p>

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Note: List of DCTs is maintained here: [Conversion Specs Register \(DCT & Cleansing Report\)](#)

Extraction Dependencies

Item #	Step Description	Team Responsible
1	Relevancy Criteria for Equipment	SyWay A2D Data Team
2	Relevancy Criteria for Functional Location	SyWay A2D Data Team
3	Relevancy Criteria for BOM	SyWay A2D Data Team
4	Relevancy Criteria for Task List	SyWay A2D Data Team

Transformation

The Target fields are mapped to the applicable Legacy field that will be its source, this is a 3-way activity involving the Business, Functional team and Data team. This identifies the transformation activity required to allow Syniti Migrate to make the data Target ready:

1. Perform value mapping and data transformation rules.
 - a. Legacy values are mapped to the to-be values (this could include a default value)
 - b. Values are transformed according to the rules defined in Syniti Migrate
2. Prepare target-ready data in the structure and format that is required for loading via prescribed Load Tool. This step also produces the load data ready for business to perform Pre-load Data Validation

Transformation Run Sheet

Item #	Step Description	Team Responsible
1	Obtain DCT Sign-off from Business.	SyWay Data Team
2	In dspMigrate, select the wave – S4/HANA – Plant Maintenance	Syniti
3	Go to Process Area Launch and Process the Object – PM Assembly / Construction Type	Syniti
4	Review and Validate Error and Preload Reports	Syniti
5	Execute the transformation to prepare the target tables	Syniti
6	Validate data from pre-load and error reports	Business
7	Generate load files	Syniti

Transformation Rules

1. A/CT (Main) - DCT

Rule #	Source system	Source Table	Source Field	Source Description	Target System	Target Table	Target Field	Target Description	Transformation Logic
1	-	-	-	-	S/4 Hana	MARA	MATNR	Material Number	Internal Generated Number
2	-	-	-	-	S/4 Hana	MARA	MBRSH	Industry Sector	Default to "M"
3	-	-	-	-	S/4 Hana	MARA	MEINS	Base Unit of Measure	Default to "EA"
4	-	-	-	-	S/4 Hana	MARA	MTART	Material type	Default to "IBAU"
5	DCT	MARA	RBNRM	Catalog Profile	S/4 Hana	MARA	RBNRM	Catalog Profile	Direct Mapping
6	DCT	MARA	zLegacyMATNR	Old material number	S/4 Hana	MARA	BISMT	Old material number	Direct Mapping
7	DCT	MARA	MAKTX_EN	Description (English)	S/4 Hana	MAKT	MAKTX	Material description	Direct Mapping

2. A/CT (Main) - ECC

Rule #	Source system	Source Table	Source Field	Source Description	Target System	Target Table	Target Field	Target Description	Transformation Logic
1	-	-	-	-	S/4 Hana	MARA	MATNR	Material Number	Internal Generated Number
2	-	-	-	-	S/4 Hana	MARA	MBRSH	Industry Sector	Default to "M"
3	-	-	-	-	S/4 Hana	MARA	MEINS	Base Unit of Measure	Default to "EA"
4	-	-	-	-	S/4 Hana	MARA	MTART	Material type	Default to "IBAU"
5	-	-	-	-	S/4 Hana	MARA	RBNRM	Catalog Profile	Blank
6	PF2, WP2	MARA	MATNR	Material number	S/4 Hana	MARA	BISMT	Old material number	Direct Mapping
7	PF2, WP2	MAKT	MAKTX	Material Description	S/4 Hana	MARA	MAKTX_EN	Material Description	Direct Mapping where SPRAS = "E". Overwrite with ENR-Assembly DCT if provided (as part of enrichment)

3. A/CT (Short Text) - DCT

Rule #	Source system	Source Table	Source Field	Source Description	Target System	Target Table	Target Field	Target Description	Transformation Logic
1	DCT	MARA	zLegacyMATNR	Old material number	-	-	-	-	Key to link to the A/CT (Material Basic View)
2	-	-	-	-	S/4 Hana	MAKT	SPRAS	Language Key	Default to "F"
3	DCT	MARA	MAKTX_FR	Description (French)	S/4 Hana	MAKT	MAKTX	Material description	Direct Mapping

UNION

Rule #	Source system	Source Table	Source Field	Source Description	Target System	Target Table	Target Field	Target Description	Transformation Logic
1	DCT	MARA	zLegacyMATNR	Old material number	-	-	-	-	Key to link to the A/CT (Material Basic View)
2	-	-	-	-	S/4 Hana	MAKT	SPRAS	Language Key	Default to "I"
3	DCT	MARA	MAKTX_IT	Description (Italian)	S/4 Hana	MAKT	MAKTX	Material description	Direct Mapping

UNION

Rule #	Source system	Source Table	Source Field	Source Description	Target System	Target Table	Target Field	Target Description	Transformation Logic
1	DCT	MARA	zLegacyMATNR	Old material number	-	-	-	-	Key to link to the A/CT (Material Basic View)
2	DCT	-	-	-	S/4 Hana	MAKT	SPRAS	Language Key	Default to "1"
3	DCT	MARA	MAKTX_ZH	Description (Mandarin)	S/4 Hana	MAKT	MAKTX	Material description	Direct Mapping

UNION

Rule #	Source system	Source Table	Source Field	Source Description	Target System	Target Table	Target Field	Target Description	Transformation Logic
1	DCT	MARA	zLegacyMATNR	Old material number	-	-	-	-	Key to link to the A/CT (Material Basic View)
2	DCT	-	-	-	S/4 Hana	MAKT	SPRAS	Language Key	Default to "P"
3	DCT	MARA	MAKTX_PT	Description (Brazilian Portuguese)	S/4 Hana	MAKT	MAKTX	Material description	Direct Mapping

UNION

Rule #	Source system	Source Table	Source Field	Source Description	Target System	Target Table	Target Field	Target Description	Transformation Logic
1	DCT	MARA	zLegacyMATNR	Old material number	-	-	-	-	Key to link to the A/CT (Material Basic View)
2	DCT	-	-	-	S/4 Hana	MAKT	SPRAS	Language Key	Default to "D"
3	DCT	MARA	MAKTX_DE	Description (German)	S/4 Hana	MAKT	MAKTX	Material description	Direct Mapping

UNION

Rule #	Source system	Source Table	Source Field	Source Description	Target System	Target Table	Target Field	Target Description	Transformation Logic
1	DCT	MARA	zLegacyMATNR	Old material number	-	-	-	-	Key to link to the A/CT (Material Basic View)
2	DCT	-	-	-	S/4 Hana	MAKT	SPRAS	Language Key	Default to "S"
3	DCT	MARA	MAKTX_ES	Description (Spanish)	S/4 Hana	MAKT	MAKTX	Material description	Direct Mapping

4. A/CT (Short Text) - ECC

Rule #	Source system	Source Table	Source Field	Source Description	Target System	Target Table	Target Field	Target Description	Transformation Logic
1	WP2, PF2	MARA	MATNR	Material Number	-	-	-	-	Key to link to the A/CT (Material Basic View)
2	WP2, PF2	MAKT	SPRAS	Language Key	S/4 Hana	MAKT	SPRAS	Language Key	Direct Mapping
3	WP2, PF2	MARA	MAKTX	Description	S/4 Hana	MAKT	MAKTX	Material description	Direct Mapping where SPRAS <-> "E" Overwrite with ENR-Assembly DCT if provided (as part of enrichment)

5. A/CT (Characteristics Values Header) - DCT

Rule #	Source system	Source Table	Source Field	Source Description	Target System	Target Table	Target Field	Target Description	Transformation Logic
1	-	-	-	-	S/4 Hana	KLAH	KLART	Class Type	Default to "001"
2	-	-	-	-	S/4 Hana	INOBO	OBTAB	Name of Database Table for Object	Default to "MARA"
3	-	-	-	-	S/4 Hana	KLAH	CLASS	Class number	Default to "EAM_9999"
4	DCT	-	zLegacyMATNR	Material Number	S/4 Hana	MARA	MATNR	Material Number	Value Mapping: Assembly and Construction Type
5	-	-	-	-	S/4 Hana	KLAH	STATU	Class Status	Default to "1"

6. A/CT (Characteristics Values Header) - ECC

Rule #	Source system	Source Table	Source Field	Source Description	Target System	Target Table	Target Field	Target Description	Transformation Logic
1	-	-	-	-	S/4 Hana	KLAH	KLART	Class Type	Default to "001"
2	-	-	-	-	S/4 Hana	INOBO	OBTAB	Name of Database Table for Object	Default to "MARA"
3	-	-	-	-	S/4 Hana	KLAH	CLASS	Class number	Default to "EAM_9999"
4	PF2, WP2	MARA	MATNR	Material Number	S/4 Hana	MARA	MATNR	Material Number	Value Mapping: Assembly and Construction Type
5	-	-	-	-	S/4 Hana	KLAH	STATU	Class Status	Default to "1"

7. A/CT (Characteristics Values Allocation) - DCT

Rule #	Source system	Source Table	Source Field	Source Description	Target System	Target Table	Target Field	Target Description	Transformation Logic
1	-	-	-	-	S/4 Hana	KLAH	KLART	Class Type	Default to "001"
2	-	-	-	-	S/4 Hana	INOBO	OBTAB	Name of Database Table for Object	Default to "MARA"
3	-	-	-	-	S/4 Hana	KLAH	CLASS	Class number	Default to "EAM_9999"
4	DCT	-	zLegacyMATNR	Material Number	S/4 Hana	MARA	MATNR	Material Number	Value Mapping: Assembly and Construction Type
5	DCT	CABN	ATNAM	Characteristic Name	S/4 Hana	CABN	ATNAM	Characteristic Name	Value Mapping: Characteristic A2D
6	DCT	AUSP	ATWRT	Characteristic Value	S/4 Hana	AUSP	ATWRT	Characteristic Value	Direct Mapping
7	-	-	-	-	S/4 Hana	AUSP	POSNR	Item Number	For each Characteristic Name per A/CT, default with "001" and increase sequentially if there are multiple values, eg: If there are 3 values for A_ALLOWED_TOT for one A/CT, then assign "001", "002", "003" accordingly.

8. A/CT (Characteristics Values Allocation) - ECC

Rule #	Source system	Source Table	Source Field	Source Description	Target System	Target Table	Target Field	Target Description	Transformation Logic
1	-	-	-	-	S/4 Hana	KLAH	KLART	Class Type	Default to "001"
2	-	-	-	-	S/4 Hana	INOBO	OBTAB	Name of Database Table for Object	Default to "MARA"
3	-	-	-	-	S/4 Hana	KLAH	CLASS	Class number	Default to "EAM_9999"
4	PF2, WP2	MARA	MATNR	Material Number	S/4 Hana	MARA	MATNR	Material Number	Value Mapping: Assembly and Construction Type
5	-	-	-	-	S/4 Hana	CABN	ATNAM	Characteristic Name	Value Mapping: Characteristic A2D based on value: A_SUB_ASSEMBLY
6	-	-	-	-	S/4 Hana	AUSP	ATWRT	Characteristic Value	Default to "Yes"
7	-	-	-	-	S/4 Hana	AUSP	POSNR	Item Number	Default to "001"

List of Custom Target Reports for this object is maintained here: [Conversion Specification - Custom Reports Register](#).

Transformation Mapping

Mapping Table Name	Mapping Table Description
Assembly and Construction Type	Mapping of legacy Assembly / Construction Type to new Assembly / Construction Type Note: New Assembly / Construction Type will be available after the data load.
Characteristic A2D	Old to New Characteristic A2D

List of Transformation Mappings with additional details is maintained here: [Transformation Mappings](#).

Transformation Dependencies

List the steps that need to occur before transformation can commence

Item #	Step Description	Team Responsible
1	Ensure DCT tables completeness	SyWay Data Team
2	Ensure all Transformation mappings are up to date.	SyWay Data Team

Pre-Load Validation

Project Team

Completeness

Task	Action
Verify Record Count	Data team to verify that the total number of relevant records from the source systems is equal to the total number of records in the Preload and Load Sheets.

Accuracy

Task	Action
Conversion Accuracy	Data team to verify that all fields below meet pass the checks: <ol style="list-style-type: none"> 1. Mandatory Fields 2. Field and Value Mapping Correctness 3. Null Checks 4. Text Length Checks
Review error reports	Review and correct the errors. Achieve a zero-error record count as much as possible. Raise defects for data remediated and requiring a correction in the source data.

Business

Completeness

Task	Action
Verify Record Count	Business team to verify that the total number of relevant records from the source systems is equal to the total number of records in the Preload and Load Sheets.

Accuracy

Task	Action
Conversion Accuracy	Business to verify that all the data in the load table/file is accurate as per endorsed transformation/mapping rules (and signed-off data)

Load

The load process includes:

1. Execute the automated data load into target system using load tool or product the load file if the load must be done manually
2. Once the data is loaded to the target system, it will be extracted and prepared for Post Load Data Validation

Load Run Sheet

Item #	Step Description	Team Responsible
1	Ensure Pre-load sign-offs are obtained.	SyWay Data team
2	Go to the load tool and select the correct load Program.	SyWay Data team
3	Proceed with Data load.	SyWay Data team
4	Validate few records loaded by accessing standard transactions.	SyWay Data team
5	Generate the post load reports in the tool.	SyWay Data team
6	Log errors as defects, if any and address resolutions. Close defects.	SyWay Data team
7	Resolve defects by re-upload and re-generate post load reports if necessary.	SyWay Data team
8	Business to validate the post load files as part of post-load validation, raise data defects or provide the post-load sign-off.	Business
9	Repeat steps 5 to 7 if necessary.	SyWay Data team

Load Phase and Dependencies

Pre-Cutover: 1010 - PM Assembly / Construction Type

Pre-Cutover: 1010a - PM Assembly / Construction Type Characteristics Assignment

Note: A separate load program may need to be created for 1010a if these become a risk to the actual cutover and need to be removed from the critical path. This will be evaluated post Mock 1

Configuration

Item #	Configuration Item
1	NRIV-Number Range
2	TCLA-Class Types
3	T006-Units of Measurement
4	T134-Material Types
5	T137-Industries for materials
6	T002-Language Key

Conversion Objects

Object #	Preceding Object Conversion Approach
1008	Catalog Profile
1015	Characteristics
1009	Class

Error Handling

Error Type	Error Description	Action Taken
Configuration	Invalid Number Range	Engage Functional team to expedite and fix the error in the system
Configuration	Invalid Class Types	Engage Functional team to expedite and fix the error in the system
Configuration	Invalid Units of Measurement	Engage Functional team to expedite and fix the error in the system
Configuration	Invalid Material Types	Engage Functional team to expedite and fix the error in the system
Configuration	Invalid Industries for materials	Engage Functional team to expedite and fix the error in the system
Configuration	Invalid Language Key	Engage Functional team to expedite and fix the error in the system
Invalid Date	Invalid Catalog Profile	Expedite whether the master data is changed in the system
Invalid Date	Invalid Characteristics	Expedite whether the master data is changed in the system
Invalid Date	Invalid Class	Expedite whether the master data is changed in the system

Post-Load Validation

Project Team

Completeness

Task	Action
Verify Count	Data team to verify the record count created in target S/4 HANA by accessing post load reports in dspMigrate or standard reports from S/4 HANA.
Verify Logs	Check if there is data that failed to load and perform the necessary actions (e.g. register as post load issue, or attempt to load the record again, etc.).

Accuracy

Task	Action
Conversion Accuracy	Data team to verify that the A/CT data in target S/4 HANA were loaded correctly via dspMigrate post load reports or standard reports from S/4 HANA.

Business

Completeness

Task	Action
Verify Count	Download Post Load Reports from dspMigrate and verify that the record count loaded in the target S/4 HANA is the same count as of the endorsed load file.

Accuracy

Task	Action
Conversion Accuracy	Verify that the A/CT data in target S/4 HANA were loaded correctly via dspMigrate post load reports or standard reports from S/4 HANA.

Key Assumptions

- Master Data Standard is up to date as on the date of documenting this conversion approach and data load.
- Data cleansing has met the required percentage threshold for the specified mock cycle and all preparation activities have been completed.
- Data entries in DCT are target-ready data unless a specific transformation rule is stated for that field in the transformation rules.
- Not all legacy A/CT need to be mapped to S/4 HANA A/CT. If any of the successor objects is dependent on a A/CT field with no mapped values, this will be an enrichment activity or manual transformation for the successor object to derive the A/C .

See also

Change log

Version	Published	Changed By	Comment
CURRENT (v. 135)	08, 2026 14:57	PUN-ext, Eddy	
v. 134	Feb 10, 2026 12:25	PUN-ext, Eddy	
v. 133	Feb 05, 2026 13:55	PUN-ext, Eddy	CR0280-Additional DCTs for Approved Conversion Specs
v. 132	Feb 05, 2026 13:10	PUN-ext, Eddy	
v. 131	Feb 05, 2026 11:42	PUN-ext, Eddy	
v. 130	Feb 03, 2026 15:45	PUN-ext, Eddy	
v. 129	Feb 03, 2026 15:44	PUN-ext, Eddy	
v. 128	Nov 25, 2025 11:51	PUN-ext, Eddy	Replaced KSML-POSNR with A USP-POSNR
v. 127	Nov 17, 2025 16:11	PUN-ext, Eddy	Replaced Allowed TOT Characteristics with A_ALLOWED_TOT
v. 126	Nov 17, 2025 16:09	PUN-ext, Eddy	Characteristic name change from Sub Assembly to A_SUB_ASSEMBLY, new mapping table OI

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