



QMS Standard Work

Title:	Part Number Codes for Sourcing & Inspection of Castings and Forgings	Document Number & Revision:	PM-07-02-05	Orig
Process Owner:	Product Engineering	Date of Revision / Last Review:	02/23/2015	

Approved: : Project Management	Date:	Approved: Project Management	Date:
P. Pastore – Signature on File	1/9/15	K. Lothe – Signature on File	1/9/15
Approved: Product Engineering	Date:	Approved: Product Engineering	Date:
K. Kramlich – Signature on File	1/9/15	M. Burton – Signature on File	1/12/15
Approved: Unit ME	Date:	Approved: Supply Chain	Date:
S. Hansen – Signature on File	1/12/15	B. Eldredge – Signature on File	1/12/15
Approved: Quality	Date:	Approved:	Date:
M. Wright – Signature on File	1/12/15		
Approved: Author	Date:	Approved: Document Control	Date:
J. Hilbert – Signature on File	1/9/15	M. Wright – Signature on File	2/23/15

Description of Revision:	Initial release
Reference Documents:	<i>ME02AA01</i> <i>ISO3104, Glossary of Terms and Acronyms</i> <i>PM-07-01-01, Quote Generation</i> <i>PM-07-01-02, Contract Reviews</i> <i>PM-07-02-08, Part Number Codes for Sourcing, Certification, & Special Requirements</i> <i>PM-07-02-07, Item Master Creation</i> <i>PM-07-02-10, Item Numbering Convention</i> <i>PM-07-02-11, Item Numbering Instructions</i> <i>PM-07-02-13, Serialized Item Numbering</i> <i>PN41.25-50, Compliance with NACE MR0175/ISO15156 and MR0103</i>



QMS Standard Work

Title:	Part Number Codes for Sourcing & Inspection of Castings and Forgings	Document Number & Revision:	PM-07-02-05	Orig
Process Owner:	Product Engineering	Date of Revision / Last Review:	02/23/2015	

1.0 PURPOSE:

This instruction describes part number suffix codes and their application to indicate particular sourcing restrictions and inspections for castings and forgings, when such options are not available in the drawing part number key.

The codes described herein have been used historically, but are not the preference going forward. Newer part drawings should include part number key options for sourcing restrictions and inspections, which make the use of the codes described herein unnecessary in the future.

2.0 SCOPE:

- 2.1 This document applies to all personnel responsible for reviewing customer requirements, determining material requirements and creating new Item Masters. Applicable product types are Sundyne specific raw material defined by a drawing, i.e. castings, forgings. Customer Requirements for sourcing and inspection must be reviewed against the ME02AA01 document as well as the data provided in the tables below. Refer to the flowchart at the end of this document for an overview of the process.
- 2.2 For items other than castings and forgings, such as industry standard raw material, off-the-shelf standard mechanical, electrical, and instrumentation components, refer to PM-07-02-08 (Part Number Codes for Sourcing, Certification, & Special Requirements).

3.0 DEFINITIONS:

Manufacturing: Production of the raw material ingot into the final product form. Since casting vendors create and control the composition of the casting material, the casting production location is both the origin and manufacturing location.

Qualifying Country: See Table 2

Global: Not restricted to any country.

4.0 INSTRUCTIONS:

- 4.1 The sourcing and inspection codes described herein are intended to be suffixes to casting and forging part numbers defined by Sundyne drawings.
- 4.2 If special requirements exceed the scope of this document, then PM-07-02-13 (Serialized Item Numbering) should be used instead.
- 4.3 Material selection, sourcing, certification, and documentation requirements must be reviewed and determined during the Quoting (PM-07-01-01) and Contract Review (PM-07-01-02) processes.
- 4.4 When needed, new items masters that define material requirements are created per PM-07-02-07 (Item Master Creation) using the information defined in this work instruction.
- 4.5 The general process is to first identify the "standard" item which will require the suffix code. Next, an Item Master is created with one of the suffix codes defined in this work instruction. Only one suffix code from Table 1 may be used per item master, and the suffixes defined in PM-07-02-08 are not allowed to be used.



QMS Standard Work

Title:	Part Number Codes for Sourcing & Inspection of Castings and Forgings	Document Number & Revision:	PM-07-02-05	Orig
Process Owner:	Product Engineering	Date of Revision / Last Review:	02/23/2015	

- 4.6 The “-XRAY” suffix is intended to only be used for castings, and only for those that do not have an x-ray option in the drawing P/N Key. Radiographic method and acceptance criteria shall be per the casting drawing (which are typically provided in the drawing notes). In the rare case that a forging requires x-ray, or a casting drawing does not have x-ray instructions, the item master text must specify the method and acceptance criteria. The vendor shall provide reader sheets and radiographic films.
- 4.7 The “-D” suffix requires that both the origin of the raw material and the manufacturing of the part conform to the List of Qualified Countries in Table 2. For forgings, this requires that the vendor provide proof that the raw material ingot was cast in a qualified country, and that the part was forged in a qualified country. For castings, since the material composition is created and/or finalized by the casting vendor, proof that the part was cast in a qualified country is sufficient.
- 4.8 Note that the “-D” suffix requirement in this document requires a qualified country for both origin and manufacturing, while the “-D” sourcing code in PM-07-02-08 requires only that the manufacturing be from a qualified country.
- 4.9 The “-D” requirement should not be referred to as “Domestic”, since this description is incorrect.
- 4.10 Item masters for the parent items (finished parts made from the casting or forging) must be serialized per PM-07-02-13 in order to call out the casting or forging with the suffix. The parent items may not use suffixes (because they are defined by drawings). The serialized item master text for the parent item must clearly specify the casting or forging part number with the appropriate suffix.

5.0 Part Number Codes

Table 1 - Definitions

Code	Sourcing Description	Definition
-XRAY	Radiographic Inspection Required	Radiographic inspection of the part per the method and acceptance criteria defined on the casting drawing
-D	Qualifying Country Origin and Manufacturing	Sourcing origin and manufacturing must be documented to be from one of the qualified countries listed in Table 2
Notes: 1) For code “-XRAY”, the vendor shall provide reader sheets and radiographic films. 2) For code “-D”, the vendor shall provide certification of origin and manufacturing location.		



QMS Standard Work

Title:	Part Number Codes for Sourcing & Inspection of Castings and Forgings	Document Number & Revision:	PM-07-02-05	Orig
Process Owner:	Product Engineering	Date of Revision / Last Review:	02/23/2015	

Table 2 - List of Qualifying Countries

Austria	Germany	Norway
Australia	Greece	Portugal
Belgium	Ireland	Spain
Canada	Italy	Sweden
Denmark	Japan	Switzerland
Finland	Luxembourg	United Kingdom
France	Netherlands	United States

6.0 Item Master Text Examples

6.1 Item master text should be clear regarding the definition of the suffixes being applied per this procedure. The following examples are to be followed for clarity and consistency.

Note: The examples below may not actually exist or match existing item master text.

Example 1 (-XRAY): Diffuser casting requiring radiographic inspection:

Original casting P/N: CDJ09AG24DB

New casting P/N and Item Master text:

SUNDYNE P/N CDJ09AG24DB-XRAY
 CASTING,DIFFUSER
 CDJ09AG24DB WITH SPECIAL REQUIREMENT
 MARK P/N AS CDJ09AG24DB-XRAY
 -XRAY = RADIOGRAPH REQUIRED PER DRAWING C-DJ09AG24
 AND SUNDYNE PM-07-02-05

Original finished P/N: DJ09AC95DB0750L

New finished part P/N and Item Master text (serialized for S/N A12345678-01-02):

SUNDYNE P/N DJA12345678-01-02
 DJ09AC95DB0750L,SPECIAL
 DIFFUSER,INSERT,CONE EXTENSION
 MAKE PER DJ09AC90-96 DRAWING
 CONFIGURATION DJ09AC95DB0750L
 MARK P/N AS DJA12345678-01-02
 SPECIAL REQUIREMENTS:
 1) MAKE FROM CDJ09AG24DB-XRAY



QMS Standard Work

Title:	Part Number Codes for Sourcing & Inspection of Castings and Forgings	Document Number & Revision:	PM-07-02-05	Orig
Process Owner:	Product Engineering	Date of Revision / Last Review:	02/23/2015	

Example 2 (-D): Seal Housing forging requiring qualified country sourcing:

Original forging P/N: FHO08AD01DB

New forging P/N and Item Master text:

SUNDYNE P/N FHO08AD01DB-D

FORGING,HOUSING,SEAL

FHO08AD01DB WITH SPECIAL REQUIREMENT

MARK P/N AS FHO08AD01DB-D

-D = QUALIFIED COUNTRY SOURCING RESTRICTION

PER SUNDYNE PM-07-02-05

Original finished P/N: HO08AP14DBE0J

New finished P/N and Item Master text:

SUNDYNE P/N SHA12345678-01-02 (serialized for S/N SHA12345678-01-02)

HO08AP14DBE0J,SPECIAL

HOUSING,SEAL

MAKE PER HO08AP14 DRAWING

CONFIGURATION HO08AP14DBE0J

MARK P/N AS SHA12345678-01-02

SPECIAL REQUIREMENTS:

1) MAKE FROM FHO08AD01DB-D



QMS Standard Work

Title:	Part Number Codes for Sourcing & Inspection of Castings and Forgings	Document Number & Revision:	PM-07-02-05	Orig
Process Owner:	Product Engineering	Date of Revision / Last Review:	02/23/2015	

7.0 Process Overview Flowchart

