

PCA Reference Data Content

Magne Valen-Sendstad

Contents

- What is Reference Data
 - Definitions
 - Structure
 - Subdivisions
- PCA RDL
- ISO 15926-4 RDL
- “Local names and RDL”
- Access to RDL

What is Reference Data?

- In general terms
 - “Common terminology”
- ISO 15926-1:2004 3.1.18 Reference Data (RD)
 - process plant life-cycle data that represents information about classes or individuals which are **common to many process plants or of interest to many users**
- ISO 15926-1:2004 3.1.19 Reference Data Library (RDL)
 - **managed collection** of reference data
- ISO CD-TS 15926-6:2009 3.4.1 Reference Data Item (RDI)
 - **thing that is defined within a reference data library**
- In the context of the PCA RDL we only apply the ISO 15926 Definitions

Classes Of Reference Data I

- ISO 15926-1:2004 3.1.18 reference data
 - process plant life-cycle data that represents information about classes or individuals which are **common to many process plants or of interest to many users**
 - and are instances of ISO 15926-2 (Data Model)
- “ISO 15926 RD” are instances of ISO 15926-2 (Data Model)
 - But this does not necessarily make it “Standard Reference Data”
- “Standard Reference Data” is standardised in ISO 15926-4 (or additional/new parts)
- PCA Reference Data is ISO 15926 RD, but it is not “Standard Reference Data”
 - It will be progressed to become so in due course, but is not so by default
 - It is, when standardised by PCA “Industry Standard Reference Data”
- Domain Data can become PCA or ISO 15926-4 RD by being subject to the appropriate level of standardisation.
 - This is what the PCA and SC4 procedures is about

Classes Of Reference Data II

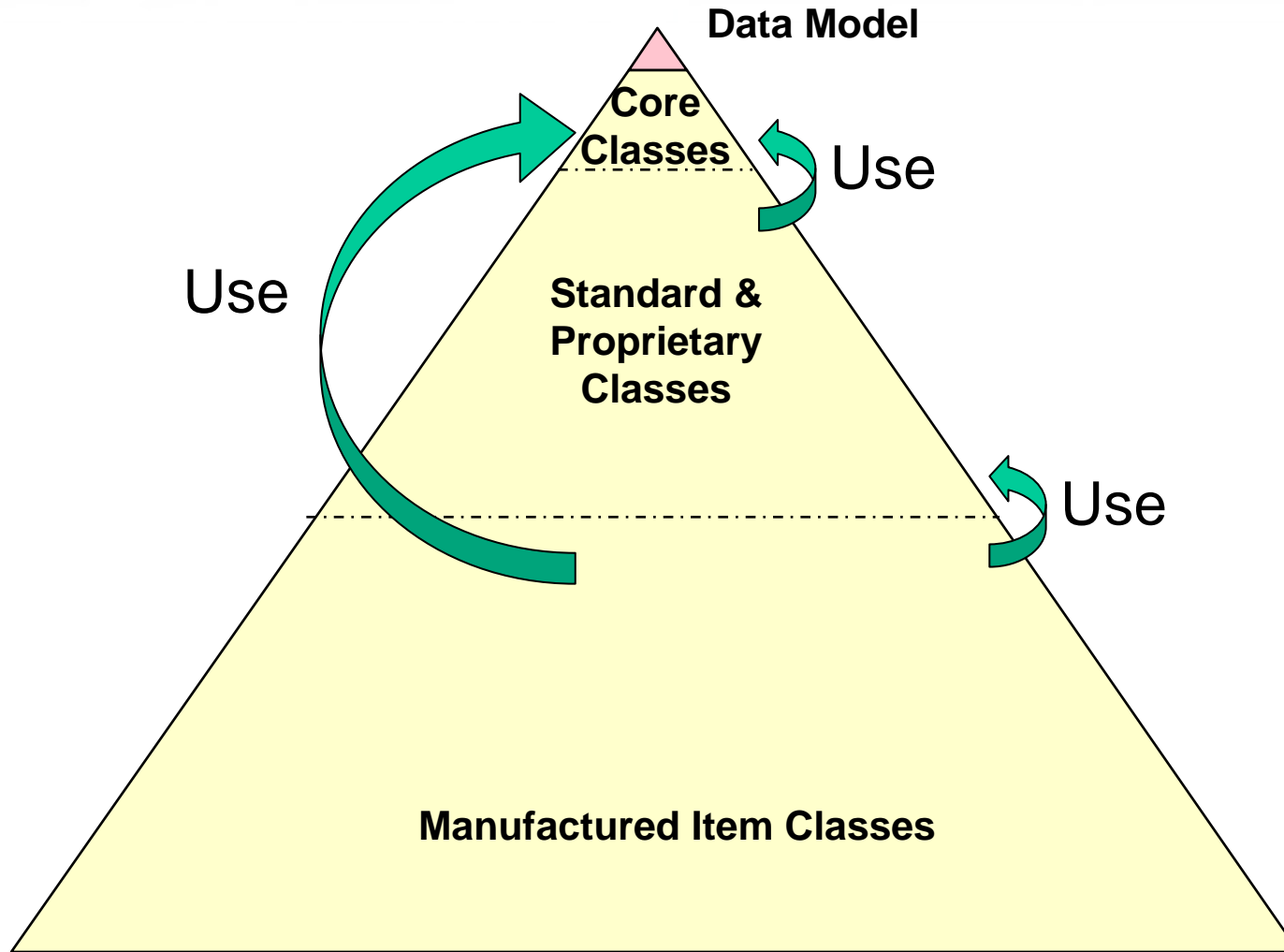
- Data from Industry Standards
 - The use of standard specifications has a long history in the industry
 - Any option for a type of products/equipment etc. described in a standard is in ISO 15926 terms actually a class
 - So the industry is has been working with “Reference Data” for many years already
 - Ideally this should have been represented as Reference Data by the standardisation bodies, but it is currently not
 - To provide adequate services to the industry, an initial set should therefore become part of the PCA RDL to support industry. (This should be taken over by the standardisation bodies when they are ready)
- Company specific RD is not standard in any way unless it has progressed through some levels of standardisation
 - And most of it should probably not be progressed, unless it is a de facto standard
- Work in-progress RD is where new RD Items are being processed.

Note: You can only communicate with systems that share data definitions (or RD), (as with any language).

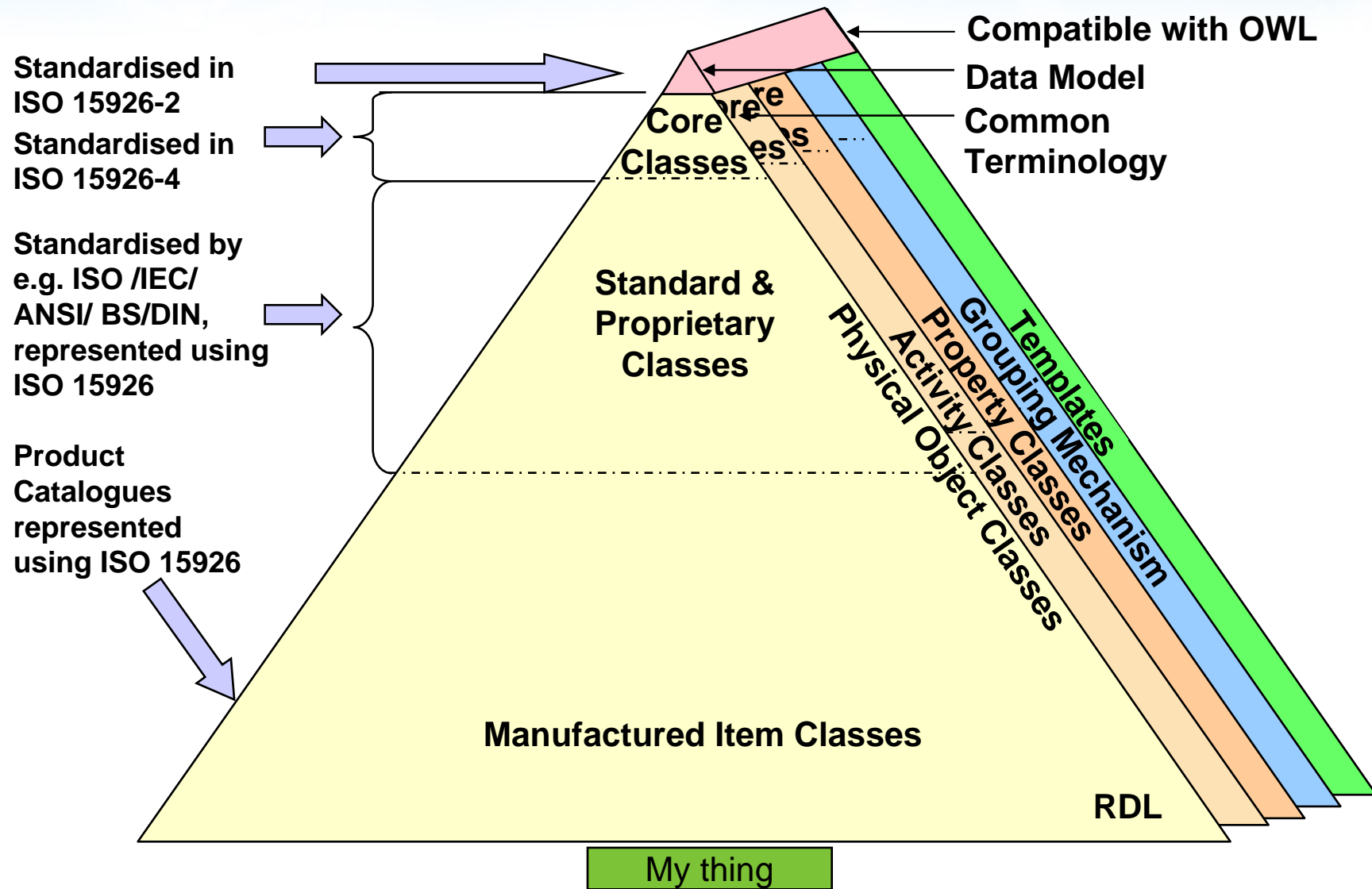
Classes Of Reference Data III

- Core Classes
 - Classes where the specifications of conditions for membership is expressed without reference to any Standard and/or proprietary specification. (Commonly understood terms)
 - Example: Elbow, Elbow 90 Degree Long Radius
- Standard Classes
 - Classes where the proprietary rights to the specifications of conditions for membership is owned/controlled by a standardisation body. (E.g. ASME, SAE, BS, ANSI, API, NORSOK)
 - Example: Elbow 90 Deg. LR ASME B16.9 BE 3" Sch. 80, NORSOK Type 6MO
- Proprietary Classes
 - Classes where the proprietary rights to specifications of conditions for membership is owned/controlled by a proprietary company/body non-standardisation body.
 - Example: Sandvik SteelXYZ, Graylock type ABC
- Manufactured Item Classes
 - Things we physically get (Things we can buy)
 - Example: Siemens 1LA6316-4-AA64-ZA11+G50+K45+N90+Y82
 - Example: Rosemount 3051CG5A22A1KB4I1L4M6Q4

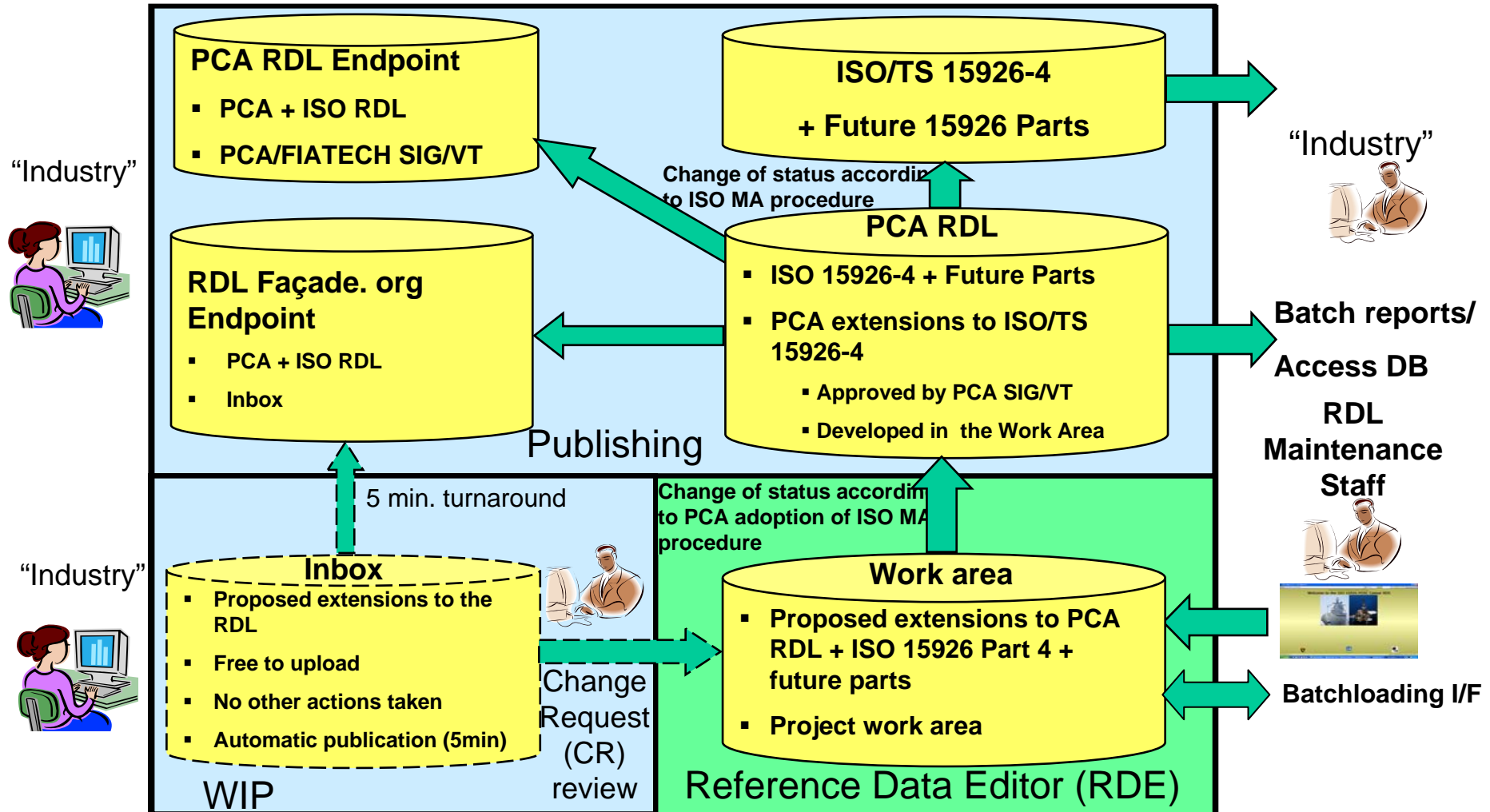
ISO 15926 - Data Model and Reference Data Library



ISO 15926 - Data Model and Reference Data Library



Logical Map of RDS



ISO/TS 15926-3/4 (2007) Initial Set

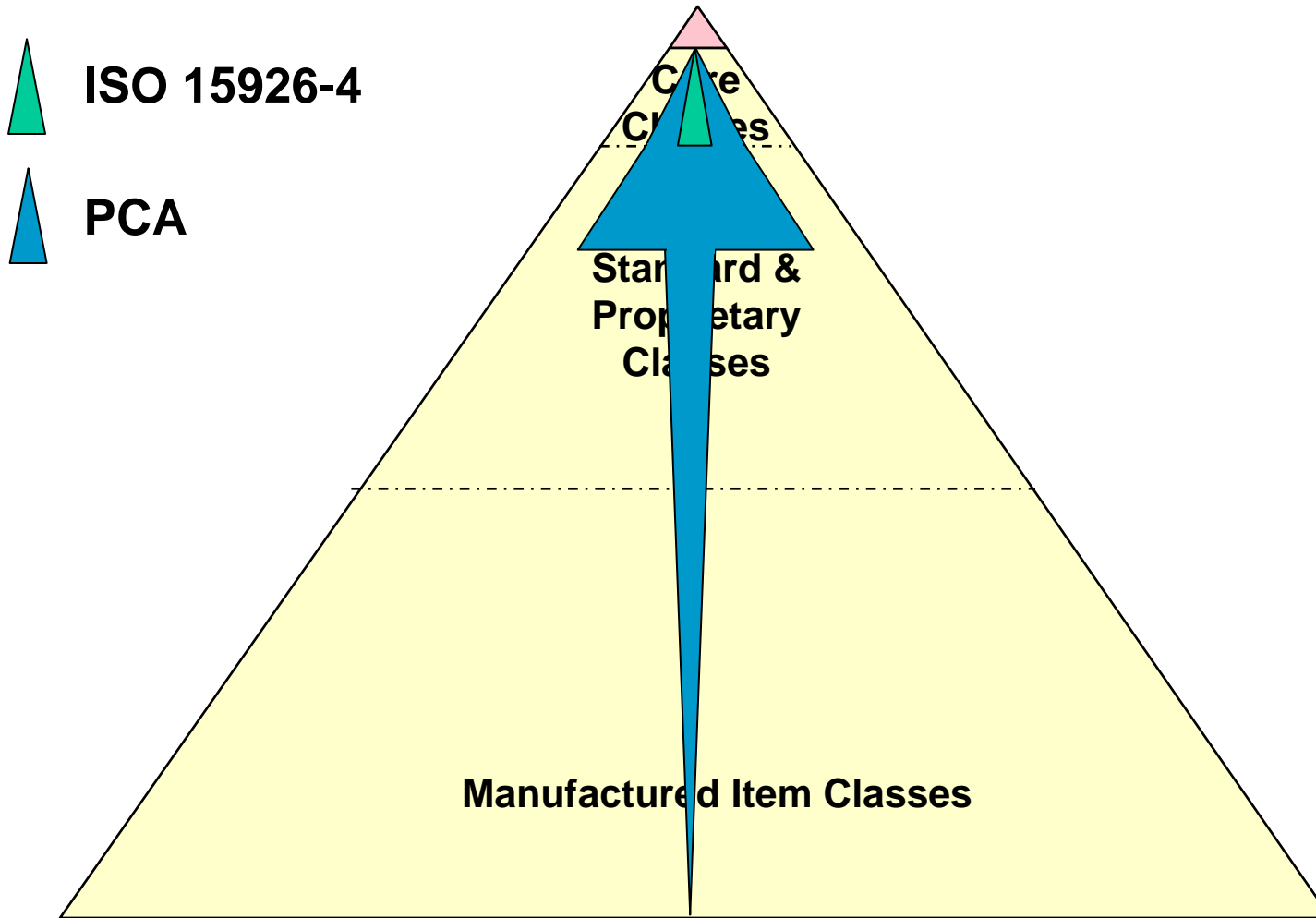
- ISO TS 15926-4 (2007) ACTIVITY
- ISO TS 15926-4 (2007) BASICS
- ISO TS 15926-4 (2007) CLASS OF CLASS
- ISO TS 15926-4 (2007) CONNECTION MATERIAL
- ISO TS 15926-4 (2007) CONTROL FUNCTION
- ISO TS 15926-4 (2007) ELECTRICAL
- ISO TS 15926-4 (2007) ENCODED INFORMATION
- ISO TS 15926-4 (2007) HEAT TRANSFER
- ISO TS 15926-4 (2007) INFORMATION
- ISO TS 15926-4 (2007) INSTRUMENT
- ISO TS 15926-4 (2007) PIPING
- ISO TS 15926-4 (2007) PROPERTY
- ISO TS 15926-4 (2007) PROTECTION
- ISO TS 15926-4 (2007) SOLID HANDLING
- ISO TS 15926-4 (2007) STATIC EQUIPMENT
- ISO TS 15926-4 (2007) TRANSPORT
- ISO TS 15926-4 (2007) UOM
- ISO TS 15926-4 (2007) VALVES
- ISO TS 15926-3 (2007) REFERENCE DATA

ISO TS 15926-4 (2008) ROTATING EQUIPMENT is ready to be added

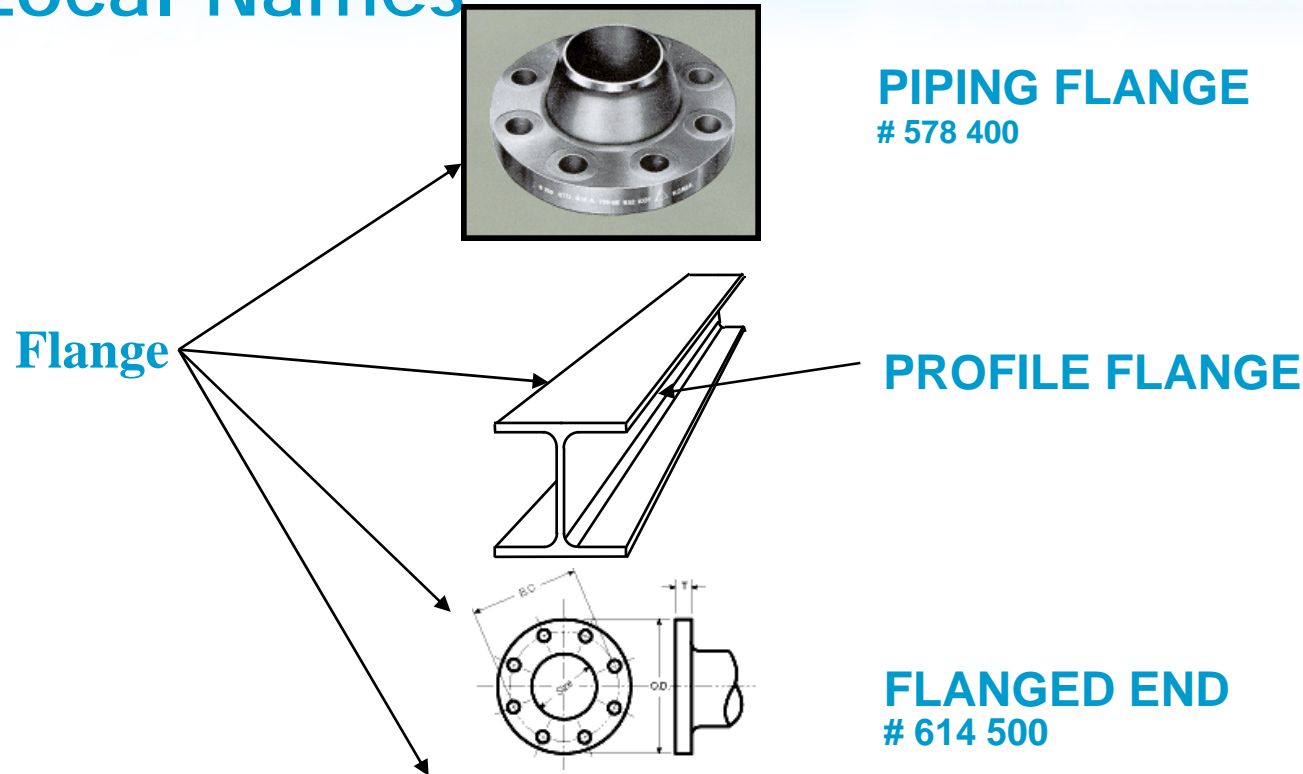
Needs to be upgraded to reflect additions defined in Amendment 1

To find classes, and member classes, search RDL for e.g. ISO TS 15926-4 (2007) ELECTRICAL CLASS, i.e. add "CLASS" to the name above

ISO 15926 - 4 RDL and PCA RDL Coverage



Local Names



- Names are normally not unique outside their context, and as such not precise enough for use in other contexts, as e.g. data integration
- The ISO 15926 RDL is designed for integration of data, so names has to be distinguishable one way or the other
- Addressing handling of “local names” is therefore important

Examples of "Local Names" / Uniqueness of Codes

Area

Explosion protection	: EEx ia
Gas-group	: IIC
Temperature class	: T5
Approval authority	: BASEEFA
Certificate	: BAS 97ATEX1089X
IP-Class	: IP66
ATEX group	: II
ATEX category	: 1
ATEX explosive atmosphere	: G
Ambient temperature	: -40 - 85 °C

T5: www.informativos.telecinco.es

t5.no-thobben på nett

Sony tilbakekaller Cyber-shot DSC-T5

Volvo T5

T5 here: T5 APPARATUS IEC 60079-0

IIC: International Institute for Conservation of Historic and Artistic Works

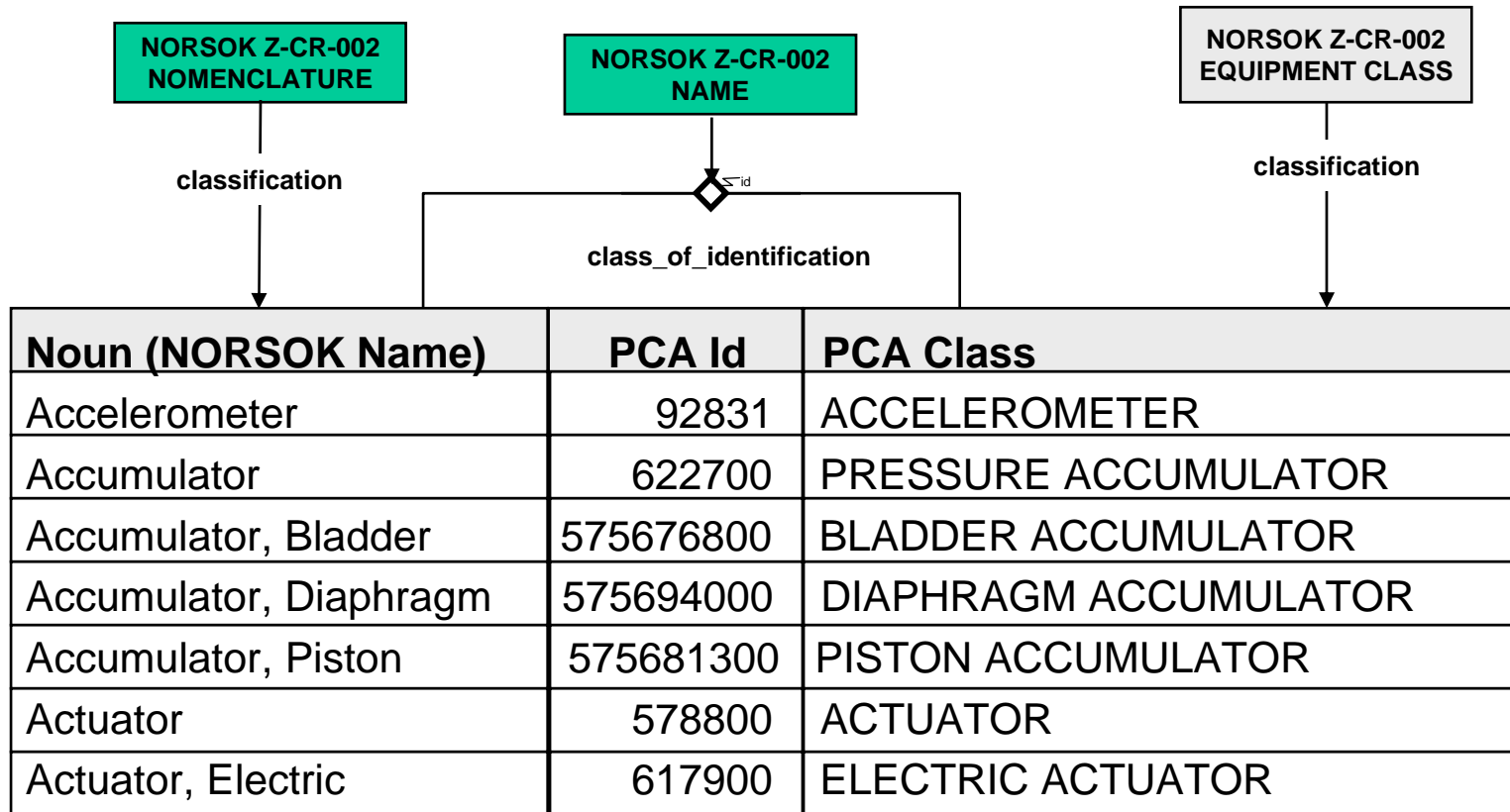
IIC here: GROUP IIC APPARATUS IEC 60079-0

IP66: IP66 APPARATUS IEC 60529

EEx ia: EX IA APPARATUS IEC 60079-11

The meaning of these data sheet labels and content text strings can only be understood from the context, i.e. presentation formats. This implicit information must be made explicit.

NORSOK Z-CR-002 Mapping Documentation (How to reference “Local Names”)



EXPRESS_string

Such additional information will not be part of the ISO RDL, but can be included in the PCA RDL as an option

Access to RDL's

● PCA RDL

- <http://193.212.132.108/rds/>
- <http://rdl-test.rdlfacade.org/> (under development)
- <http://rdl.rdlfacade.org/data?info=&search> (under development)
- <http://rds.posccaesar.org/downloads/PCA-RDL.mdb.zip> MS Access Database
- <http://rds.posccaesar.org/downloads/PCA-RDL.owl.zip> OWL file:
- <http://rds.posccaesar.org/2008/05/XML/RDL/> (Basis for rdl-test.rdlfacade.org/)
Example: <http://rds.posccaesar.org/2008/05/XML/RDL/RDS743399>

● ISO 15926-4

- <http://www.tc184-sc4.org/ts/15926/-4/ed-1/tech/rdl/> (Official site)
- http://rds.posccaesar.org/2008/05/XML/ISO-15926-4_2007/ (XML Browser)

● Other resources (under continuous improvement)

- <https://trac.posccaesar.org/wiki/RdsOtherResources>
 - (webservice specification needs update)

www.posccaesar.com
