Product Data Templates & Sheets
Guidance Notes

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Introduction

This document is to provide notes and guidance on the concepts, authoring and use of Product Data Templates (PDTs) and Product Data Sheets (PDSs).

Preface

Product Data Templates originated in the CIBSE BIM group as a response to UK Government's drive to Level 2 BIM. It was clear that while the project information had been well covered by the “pillars of BIM”, manufacturers’ products had not really been catered for outside of the project environment.

The spreadsheet view of COBie (Construction Operations Building Information Exchange), originally by the US Army Corps of Engineers, now specified by BS1192-4, was adopted and adapted to provide this cover.

Purpose of PDTs & PDSs

Even outside of a BIM environment, the ability to describe similar objects in a similar way is a fundamentally useful thing to be able to do. If you add BIM, as a method of consolidating and passing data through a project, then this usefulness becomes magnified.

The over-arching purpose of a PDT and PDS is to allow a manufacturer to pass on the information about a particular piece of equipment or material through the design, procurement, installation and maintenance chains in a simple and consistent manner.

It aims to ask only the relevant questions of a manufacturer, without being too onerous and not exposing the intellectual property upon which a manufacturing company relies. The questions may not be obvious to each player in the construction chain individually, but collectively they form a useful data set.

What the PDTs and PDSs do not set out to do is harvest the project related data, as this is well covered elsewhere and would produce double-handling of information and potentially introduce errors into the system. As such each product data sheet only tries to understand the product as the manufacturers catalogues would.

The uses to which this data can be put are many and varied, some of which have probably not even been thought of yet, but predominantly it is to provide a single source of the truth about a product or product line, which may be used by any and all actors in the construction and operations chain.

This process is seen as a way of reducing effort and cost at all levels, from the removal of the requirement for manufacturers to complete a multitude of equipment data sheets from various designers and contractors, to pre-populating an operation and maintenance manual with accurate data.

This feeds well into the high purposes of a BIM workflow, which is to reduce time, cost and errors in construction work and to ensure that each project is run at its optimal efficiency, which will further reduce cost and carbon.

When we look at the procurement process, it is often difficult to properly compare products effectively, as the data is all presented in different ways and different formats. So often a product is chosen on capital cost alone, which may not be the best solution, but it is the metric that we can all understand and compare directly.

Workflow using PDSs

There is no definitive right or wrong way to use the data from a PDS, but there are some guidance points that should be followed.

- The PDS data is owned by the manufacturer. Therefore it is recommended that PDSs are stored in a location that is accessible to the market but under the control of the manufacturer. The website is a good place.
- The data in a PDS is relevant to a product at the time of purchase; therefore the PDS in use should be stored as part of the project data and not have a reliance on the version at the manufacturer's website, which will probably change over time as the product progresses.
- The usual first use of a PDS would be by a designer. The use case here is to be able to compare performance with the designed requirement and compare similar products. This is where a particular feature or performance criteria can show through and sell a product.
- This performance data can then be consumed by, say, a design model and populate the real data from the PDS into the wider data set. This is where product and project data meet to make the complete property data set.
- As the design passes on to a contractor, the PDS should be transmitted at the same time. This will allow the contractor to understand all of the proposed components' features and performance criteria and, if their supply chain allows, a substitution may be made based on a full understanding, not just price.
As the project nears completion, the commissioning engineers step in to fettle the systems into efficient performance. To give them an understanding of peak performance ranges and the limits of what a product can do, the PDS will come in handy again.

When the project is up and running with tenants in, the maintenance of each part of the building becomes the biggest driver of operational efficiency. Having maintenance data to hand, based on the actual requirements as laid down by the manufacturer will keep everything running well.

Finally, when the building reaches the end of its life, or time for a major refit comes around, understanding what you have in your building, what can be recycled, what can be reused and what materials need disposal is the last major use of a PDS.

Other potential uses of PDSs could be:

- BREEAM or LEED analysis.
- Carbon analysis.
- Understanding what could replace a discontinued item.
- Spares procurement.
- Cost benefit analysis.
- Computer Aided Facilities Management system (CAFM) population.
- Portfolio asset registers.
- Preferred supplier lists.

**Quality**

The list of parameters (fields) on each PDT has been carefully chosen and thought about by all the actors in the PDT arena. Care has been taken to ask specific questions, in consistent ways to generate data that will be of use and is not overly onerous on the manufacturer.

To achieve this, a process of quality checks has been put in place to ensure that the industry has the chance to comment and have their say on what a PDT asks.

A full quality process chart is shown at the end of this document, but in brief, the actors in this process are:

- The relevant Chartered Institution or BIM4 group (e.g. CIBSE or BIM4M2).
- Related Trade Association (if available).
- Manufacturer and their competition.
- Suppliers and Resellers.
- Chartered Engineer or Architect.
- The public (for Consultation).
- Contractors.
- Facility Managers.

**Actors**

The Actors, or participants, in a PDT/PDS workflow are those that have an interest, input or use for a Product Data Template or Product Data Sheet. It may be that they wish to have input into the questions a PDT asks, or have a purpose for the output data; just some interface with the overall process.

**Client**

A Client, or Employer, will have some input into what is required of the data, as it is harvested from the products selected for the project. Ideally this will be part of the Employer’s Information Requirements (EIR) document. It may not be driven by the Client directly, but they should be the conduit through which the requests come.

Each PDT is being written with these requirements in mind, among others and should not require any further fields to be added. Hence, a completed PDS will, in most cases, cover all of the product data requirements generated by Client requests.

**Designers**

The Designers, be they Architects, consultant Engineers, Landscape Architects or any other, will have use for the PDS when selecting products that will fulfil the needs of their designs. This may be the first time that actual products are considered for the project and the Designer’s ability to compare like with like will help them make the right decision.

A Designer may use the data programmatically to embed data into the design model, maybe to drive geometry or performance criteria, or it may be used in a more simplistic way to just look at information side by side. There is no right or wrong in this, just the ability to have consistent data is useful and more efficient.
Tier 1 Contractor
The tier 1 Contractor may use the PDS data to assist in the procurement, comparison and analysis of suppliers' products to ensure that the design is made reality in as accurate a way as possible. This data can then be used again to provide operations and maintenance schedules and models and pre-load the Facilities Management systems.

Supply of these PDTs will usually be via the lower tier Contractors who will be responsible for aggregating data for their speciality and passing it up to the tier 1 Contractor, along with the project specific data that they will be generating.

As the format of the PDSs will be predictable, the Contractor will be able to programmatically input this into various databases to assist in their work.

Tier n Contractor
The Contractors working for the Main or Tier 1 Contractor will be the main aggregators of the data harvested from the PDSs and their design, procurement and construction work. How the PDS data is applied to the project is a matter for each project team, but the consistency of format will allow this to be flexible and not a prescriptive approach.

Suppliers and Manufacturers who have not yet completed their PDSs can be prompted by the specialist Contractor to do so, by providing them with the PDT for them to complete. This work will then be done ready for the next time data is requested on this product.

Chartered Institutions and BIM4 Groups
Where applicable, the Chartered Institutions have been bringing together practitioners, Trade Associations and Manufacturers to write, comment and promote the PDTs. Where there is not Chartered Institution cover for a specific area, BIM4 groups have stepped into the breach.

Members of the Chartered Institutions and BIM4 groups that are driving the writing of PDTs are keeping the collective effort co-ordinated by meeting as a PDT Steering Group. Generally, the PDTs are split by the interest of each institution and BIM4 group, so CIBSE, for example, would be looking at building services related PDTs, the Landscape Institute would look at landscape related ones.

The groups host the issued PDTs on their respective websites and these are aggregated together through the use of the BIMTalk website, which is a collaborative effort to explain BIM by several chartered institutions.

Trade Associations
Trade Associations have been critical to the success of the PDT mission to date. They have acted as neutral arbiters, allowing competing Manufacturers to come together and agree the fields that go to make up a PDT. They provide the technical expertise for ranges of product types, bringing the best minds together to cover the entirety of that market sector.

 Suppliers and Resellers
Suppliers and Resellers are seen as data aggregators, bringing together the information from various Manufacturers whose equipment they supply to Contractors. Where a Manufacturer is based abroad and may not have a set of PDSs, the Suppliers and Resellers can prompt them to supply data by sending PDTs to them.

They have also been very helpful in finding Manufacturers from sectors within the industry that do not have Trade Association representation and ensuring that PDTs exist to cover those pieces of equipment or products.

Manufacturers
Manufacturers are the most critical of groups within the PDT arena. They supply the majority of the technical expertise to write the templates and the product data to turn the templates into PDSs.

The PDT mission is seen as helping the Manufacturer as much, if not more, than any other Actor. It should help to remove the on-going requirement of completing information requests from Consultants and Contractors alike on a project-by-project basis, repeating the task of filling in equipment data sheets in a variety of formats.

It is essentially only catalogue information that the PDT seeks to answer, so the majority of the data should already exist with Manufacturer organisations. All we are seeking to do is to provide this existing information in a standard way.
Processes

Below are listed the expected processes for ensuring that PDTs and PDS data are correct and well formatted, easy to find and use and, above all, consistent.

Quality Assurance

The main provider of quality in a PDT is the rigour with which it is written, checked and consulted over. Each PDT title is proposed, often by a Manufacturer and checked against the master list, to see a) if that type of product is already covered and b) to see what similar products have been covered.

Then the author can set about writing the template, by gathering the standard data points that would normally describe such a thing and adding them to the latest version of the master template. This will then be checked by a peer group, usually under the guidance of a Trade Association, to ensure that it does not favour any one Manufacturer and is a fair and reasonable reflection of that product category.

This then, when agreed, becomes the draft issue for comment version of the PDT. This will then go to the relevant Chartered Institution or BIM4 group for their comments and will be available publicly for consultation. A minimum consultation period of four weeks is recommended.

Then, when all the comments have been collated, they may be deliberated upon by the Trade Association and the original author, preferably with oversight by the Chartered Institution or BIM4 group.

A final check by the Chartered Institution or BIM4 group to ensure that everything complies with the expected units, naming of parameters, cell drop downs, etc. are all in order and the PDT may be released.

Issuing a PDT

When the PDT has been through all its checks, it is ready for issue. This will be hosted by the relevant Chartered Institution or BIM4 group on their website. These files will also be referenced from the BIMTalk website, which will act as an aggregator website for all PDTs.

The version of each PDT is important and will be reflected in the header section of the document. Each time it is updated, due perhaps to a technology change in the product type, or more or less information being required either by statute or usability requirements, the revision will be increased by one (i.e. v.1, v.2, etc.). See section below on versioning.

Issuing a PDS

A PDS should be issued by a Manufacturer when it is completed. It is expected that these will be hosted by the Manufacturer on their website.

When the PDT is completed and becomes a PDS, the versioning of this file will also be important. The versioning should reflect the version of the PDT used and the version of that PDS. So if, for example, version 3 of a PDT is used, the product has some technical alterations from the original version and requires a PDS revision, this would carry the revision v.3.2, to signify version 3 PDT was used and this is version 2 of this PDS.

Naming of Templates and Sheets

For consistency and search-ability, it will be important for PDTs and PDSs to be named in a consistent manner. PDTs should be submitted to the owning organisation in this format, as this will greatly assist in filing and organising them.

The format for naming PDTs will be:

PDT–Product-Type

   e.g.: PDT–Fan-Coil-Units

The format for PDSs will be:

PDS-Product-Type-Manufacturer-Model-Name (or number or other unique identifier)

   e.g.: PDS-Fan-Coil-Units-FanCoilsRU-FCU100
Uses and Purposes

There are many uses and purposes to which PDTs and PDSs can be put, the following is a series of examples but any time that data relating to Products is used in a construction project, the PDTs may have a role to play.

Catalogues

As the data is always consistently formatted, a catalogue of items from a single Manufacturer can easily be sorted and searched by applying their PDS data to a database. Equally, if an Employer or Client has a preferred list of Suppliers, all of their data can be held centrally, to allow quick and easy comparisons between similar products for varying situations.

As the data is machine readable, it removes the need for Designers or Contractors to manually copy information from a PDF catalogue or website, reducing the chance of error and dramatically reducing the time required for such operations.

Operations and Maintenance

Certainly one of the biggest wins for PDTs is their ability to provide data for planned maintenance schedules, understanding the specific requirements for that model, not just averaged requirements for that product type.

It can also demonstrate all the options that are available for the particular product type if it is re-used elsewhere in a site.

Models

The everyday working interface for Designers is the model and PDSs can assist here too. Providing overall dimensional data, along with performance criteria, can help the Designer use actual examples, rather than generic data to design buildings, systems and infrastructure.

As the data can be accessed programmatically, “gaming” of varying solutions can be carried out, finding the best possible product for a given situation.

Schedules

One of the key deliverables for a Designer and Contractor alike are the equipment schedules. Each of these must contain consistent and accurate data for the products described in the design.

As a PDS has data in a consistent and expected format, they can be used to populate a schedule quickly and simply.

Specifications

Often aspects of a product are described in specifications, supplied by the Designer to a Contractor. Traditionally it has been a laborious task to copy information from a plethora of Manufacturers into the specification. As this data can now be supplied in an accessible format, much of this effort may be removed.

Technical Submissions

A technical submission could be checked for suitability by asking the question of the Manufacturer in a PDT format. Then the PDS response can easily be checked by comparing side by side or programmatically. This will simplify and speed up the process and, hopefully, ensureing accuracy and no missed points.

O&M Manuals

Long gone are the days of submitting lever arch files full of loose papers, but PDF submissions have only brought us so far. They are still difficult to search and read and data is not presented in a consistent manner. Using a PDS based system instead could simplify this process and increase the usability.

As maintenance data specific to the product is also supplied, the maintenance checklists can be tailored to suit the actual installed item, rather than the industry average regime. This could reduce unnecessary spares replacement and ensure that the care that the Manufacturer recommends can be communicated to the maintenance team.

Demolitions and Recycling

Understanding the bulk materials, components and their constituents is a key part of the planned demolition and recycling of a built asset. The demolition contractor can understand by interrogating a set of PDSs what materials they can expect when deconstructing something. The model could provide the quantities but may not have the major materials embedded so this is where some simple maths and the data from a PDS can complete the picture.
Procurement
If PDSs have been used in the design process, far more information is available to the Contractor in terms of what things need to be bought to complete the project. If the example of a Landscape Architecture project is taken; it is a common occurrence that for certain plants which may have been specified by the Landscape Contractor might not be available from a nursery. Having a PDS with better detail about the plant requirements will allow for a substitution that could reflect more of the plants properties, such as soil type tolerance, thorns, etc.

COBie
One of the primary reasons that PDTs were developed was to make supplying COBie data a more simple process for Manufacturers. As the data that relates to the Product will exist in a PDS, the Manufacturer can dispense their duty to provide this purely by supplying said PDS.

Further to this, the PDS itself can be a linked document from the COBie file and may provide better and more complete data than if it were just a COBie file that was exchanged during an information exchange (data drop).
PDT Authoring - guidance and tips

What is the Subject?
The PDT subject is determined by the product type it serves. Whenever possible, this should be aligned with the standard terminology used in standardised maintenance clauses, a good example of which is the B&ES owned SFG/20 for the various building services type products. Physical and technical variations within a product type should be catered by the same PDT; therefore the subject should be generic enough to cover these distinctions.

The link below contains the lists for current, developing and proposed PDT for building services, architectural, structural and landscape product types.

http://www.cibse.org/knowledge/bim-building-information-modelling/pdt-proposed-list

Preparing
If any of the product types are relevant but they do not have an author, then a request should be sent to the chair of your reviewing or owning body to become the product type PDT author. If additional categories are required which are not on the proposed list, a request should be sent to CIBSE to add the product type to the list, as it is CIBSE who maintain the overall list.

Requests to propose a new product type, to author a PDT or to offer support with PDTs should be sent to pdt@cibse.org or the chair of your reviewing/owning body.

Making a Start
Before creating a PDT, it must be remembered that the purpose of a PDT is to be a cross-industry standard for data on a product type which asks questions relevant for all products within the product type.

The master PDT template forms the basis of all PDT. This is available in an excel spreadsheet format and will need to be downloaded before starting to author any PDT. The latest version of the master PDT template will always be available on this link.


Tabs
A master PDT template contains three worksheet tabs:

1. Master template – contains the product description, dimensional, technical and maintenance information. All parameters, units and notes are to be reviewed and edited if necessary
2. SFG20 – contains the maintenance tasks. SFG2012 code to be identified for a product type (if applicable)
3. SPie (Specifier’s Products Information Exchange) attributes – The Attributes tab from the SPie spreadsheet are to be copied and pasted (if available). Any non-project specific attributes are covered by the PDT fields.

The two extra tabs are for more detailed maintenance and COBie mapping data. These are not to be used for this first iteration of the PDTs. It is possible to add a tab to a PDT, but only in exceptional circumstances. A good example of a tab addition is for “picklist”, where long drop down boxes are required (see Flora PDT on BIMTalk or Landscape Institute websites).

Header
The salmon pink cells at the top of the template show what is being described, this should be completed as far as possible by the PDT author. It is important that the headers in grey cells of the master PDT are not changed.

Template Category
For this header, the approved product type should be inserted. The words here should exactly match what has been agreed with your ownership body and the master list entry.

Template Version
The first version of approved and published PDT will be labelled as version 1. Once the first version has been published, any further published versions will be numbered accordingly. Version 1 will be the first version, revision 1.1 will be a revised version using the same template, revision 2 will be a major rewrite using a newer template.
Category Description
This should be a concise description of the main functions of the product type and should not be longer than a sentence.

Classification System
The value for this header may remain blank and will be edited by the reviewing body, such as CIBSE, at the review stage. The author may complete this field, if they are confident in the forms of classification provided.

Classification
The value for this header may remain blank and will be edited by the reviewing body, such as CIBSE, at the review stage. The author can complete this field, if they are confident in the form of classification described above.

Suitability for Use
The value for this header should remain blank and will be edited by the reviewing body during the various stages of development of the PDT.

Template Custodian
The reviewing Chartered Institution or BIM4 group are the template custodian of the various PDT. The value for this field should remain blank and will be edited by the reviewing body.

CIBSE is the template custodian of all the PDTs covering the building services industry. The reviewing body will acknowledge the author on the published version of the PDT.

Template Structure
All PDTs follow a standard format as set out in the PDT Master Template. The first column, the Information Category, distinguishes between the 3 types of information:

- Specification
- Sustainability
- Facilities / Asset Management

The second column sets out ‘Parameters’ to be answered by the manufacturer as ‘Values’ (when creating a PDS from a PDT) in the third column using the ‘Units’ given in the fourth column. The fifth column is for prompts and explanations.

Paragraphs
The paragraphs group the parameters into categories. Some of the paragraphs supplied with the master PDT must not be removed from the authored PDT, others can be removed if necessary.

The following categories will need to remain in all authored PDTs:

1. Manufacturer Data
   
   This must not be changed in any way at all – no addition or removal of the Paragraph or the Parameters is permitted.

2. Construction Data
   
   Paragraph cannot be removed. Parameters cannot be removed. New Parameters can be added.

3. Application Data
   
   Paragraph cannot be removed. Parameters cannot be removed. New Parameters can be added.

4. Dimensional Data
   
   Paragraph cannot be removed. Individual Parameters cannot be removed. ‘Blocks’ of Parameters can be removed if they are always irrelevant to the Product Type (for example: a PDT for concrete will not require the ‘Access Clearance’ lines). New Parameters can be added.

5. Performance Data
   
   Paragraph cannot be removed. Parameters can be removed. New Parameters can be added.

6. Sustainability
Paragraph cannot be removed. Parameters cannot be removed. New Parameters can be added. It has been agreed that the templates can state ‘Awaiting Industry Standard’ on some parameters until further notice. “Boilerplate” text is also acceptable with agreement from the authoring group and the review body.

7. Operations & Maintenance

Paragraph cannot be removed. Individual Parameters cannot be removed. ‘Blocks’ of Parameters can be removed if they are relating to “run time” of the product and the product is static (i.e. has no powered parts). New Parameters can be added.

Any paragraph which is optional, which is any not listed above, can be removed from the PDT. New paragraphs may also be added and will need to be approved by the reviewing body at the review stage.

For the optional paragraphs: Parameters can be removed. New Parameters can be added

Parameters (Fields)

Most of the parameters (fields) already supplied with the master PDT are mandatory and need to remain in the PDT. However, additional parameters may be added to the paragraphs to reflect additional functions of the product type.

The parameters required to describe the product as found in a catalogue should be listed in the PDT. Many of the parameters supplied with the master PDT template are relevant for a range of construction products.

If a paragraph is omitted (e.g. Electrical Data), then all corresponding parameters should also be removed (e.g. Voltage, Supply, Frequency). Similarly, additional parameters may be added to existing or new paragraphs to reflect additional functions of a product type.

Naming

All of the parameters must be plain English characters only. They must not include any punctuation or other special characters.

Exclusions

Any parameter that can only be completed after the Product is installed should not be shown on a PDT, as this cannot be completed by the Manufacturer.

Ranges and Lists

Some of the parameters may benefit from a list or range of predefined values, which can be included in the values column of the PDT. An example of a list found in the master PDT template is shown below:

<table>
<thead>
<tr>
<th>Green Guide for Specification</th>
<th>A</th>
<th>Text</th>
</tr>
</thead>
<tbody>
<tr>
<td>Environmental Product Declaration</td>
<td>B</td>
<td>Text</td>
</tr>
<tr>
<td>Responsible Sourcing of Materials</td>
<td>C</td>
<td>Text</td>
</tr>
<tr>
<td>Energy Technology List</td>
<td>D</td>
<td>Text</td>
</tr>
<tr>
<td>Responsible Extraction of Materials</td>
<td>E</td>
<td>Text</td>
</tr>
</tbody>
</table>

Any lists which exist in the master PDT template must not be changed.

For lists created by the PDT author, the values must also contain the three options of “Other, Not Known and Unset”.

Tip: To create a list, select the value cell where the list will be populated, and click on the Data Validation button in the Data tab in the toolbar.

Under the Settings tab in the dialog box, select the List option in the validation criteria. List the various options for values in the Source box, separated by a comma. Finish by clicking Okay to create the list on the cell.
It is also possible to create longer lists by referencing a column of cells on another tab. Please name this tab “picklists”. See example below:

Greying Out Cells

It may be the case that some cells in a PDT may not be relevant if a previous cell is answered in a particular way. An example would be that of a Luminaire, that can have one or more Lamps types. If only one Lamp type is required, the fields for a secondary one are no longer relevant. This is where greying out of a cell is useful.

The greying out process is achieved through the use of Conditional Formatting and works best if the controlling cell is completed through the use of a drop down list, so error checking will not be required.

The workflow is to create a new rule using a formula, apply it to the cells that you want greyed out and set the formatting to fill the cell and change the text colour to medium grey (RGB 128:128:128).

The formula will be similar to: =$C$48<>"Y"

Where; cell C48 is not equal to “Y”, the formula will act on the cells to which it is applied.
Units
There must be a unit of measure for each parameter. All units should be expressed in International System of Units (SI Units), unless otherwise discrepancies may arise within various uses of the template. An explanation of these units may be found here: [http://www.bipm.org/en/publications/si-brochure/](http://www.bipm.org/en/publications/si-brochure/).

For values which do not use a SI unit, the following points should be followed:

- Lists added to the values column should be labelled “Enumeration”
- Lists with only a Y/N option should have “Y/N” as the units
- Values which require text input in the values column should be labelled “Text”

There may be instances where SI Units are not the normal industry method of defining data. If this is the case deviation from this rule is allowed, but a note should be made in the Notes column that this is the case. Text similar to “This unit of measure is the industry norm and deviates from the SI Units of Measure.”.

Notes
The Notes column should be used for descriptive text for any of the parameters. Any of the notes already supplied with the master PDT should not be changed, but they may be added to if there is an industry variation that needs to be explained.

Checking and Peer Review
Here are some useful steps to help review a PDT and getting the PDT to a ‘draft publishable’ form ready for Public Consultation:

1. Check all template fields are present
2. Check for technical completeness - does this describe the object?
3. Does this describe all possible types of this object?
4. One tab only (for first pass of PDTs), except for illuminating objects which will have an IES tab. SFG20 and SPIe will stay in Master PDT for use later.
6. No symbols in parameter names (e.g. dia. symbol) – refer to guidance notes.
7. Check for typos – especially Units and Notes columns.
8. Check for correct SI units where appropriate.
9. Check that parameter names are in plain English.
10. Check that Enumerations actually have a drop down box and that the options are relevant, including the final three options of:
    - Other
    - NotKnown
    - Unset

Notes for the Reviewer:
1. There should be clear ‘Notes’ for just about all of the freeform entries particularly in the ‘Construction’ and ‘Performance’ data sections otherwise the inputs could vary widely.
2. The ‘Performance Data’ section - this infers single values but the PDT is likely to cover a range - this needs to be carefully considered so that it provides a workable PDT to suit a potential application ‘size’ and is not so wide that the PDT is likely to suit just one sub-range (see http://physics.nist.gov/cuu/Units/units.html for symbols - but note that the names in this table are Americanised!) It is important that the units are shown correctly - this not only reduces potential misunderstandings but also is important to maintain the technical integrity of the PDTs.
3. If words such as ‘nominal’ are used they should be very clear what they actually mean. Jargon (insider) words should be avoided or clarified. SPie attributes should be relevant to the product.
4. SFG20 references should be appropriate.

Professional Checking
The relevant Chartered Institution should inform the relevant trade association (with help from the originating author), and prompt other interested parties to comment during Consultation.

Public Consultation
Once drafted and reviewed, each PDT needs to be made available for public examination and comment. PDTs will be posted on the relevant Chartered Institution or BIM4 group website for a period of up to six weeks and a minimum of four weeks. To achieve any meaningful level of such feedback, members and the wider sector need to be alerted to the PDT and encouraged to take a critical look.

The administration of responses/feedback will be collated by the relevant Chartered Institution or BIM4 group and fed back to the relevant PDT Steering Group committee for final review of the PDT in question.

Issue
A final check by the Chartered Institution or BIM4 group to ensure that everything complies with the expected units, naming of parameters, cell drop downs, etc. are all in order. The PDT is then signed off by a Chartered Engineer and freely available to use by Actors.

Workflow
The following are some guidance points / workflow that could be followed for authoring PDTs for a trade association. This was developed by ICOM, who are submitting PDTs to CIBSE for review:

1. Check proposed PDT list to identify relevant product categories.
2. If categories match requirement, contact CIBSE to become author. If additional categories are required which are not on the proposed list, contact CIBSE to request category to be added to list.
3. Once product type is/types are selected, authoring trade associations should engage with members from the onset to explain the various stages of authoring, reviewing and publishing of the PDTs.
4. As the first step, it is useful to draw up a list of all the members who are interested in getting involved and the product type/s.
5. Send out the latest master PDT Template to all members to edit and add parameters as they consider necessary for the product type.
6. These comments should then be collated to create a first draft of the product type PDT.
7. At this stage, it is critical to gather all members involved with authoring the PDT to review every comment, edit and suggestion in person. Although this may appear to be demanding on the members’ time, it is quicker and more efficient in the longer run to review and finalise the draft PDT.
8. If there are members absent in the previous steps, it is advised to send the draft PDT for any additional comments.
9. This draft PDT can now be submitted to CIBSE.
10. Following the review process, CIBSE may send comments to edit the PDT in various ways. If these changes are critical to the product information, this should be consulted with the members before accepting any changes and resubmitting the edited version of the draft PDT.
PDS Authoring – guidance and tips

Headers
The header text should already be completed, only the version (as described above) will need to be altered.

Adding Values
There are several methods for adding the actual data that will turn a PDT into a PDS. Generally, the PDT will have been formatted to only accept data in a certain type, be that numbers, integers or text. If a range of products are being described, there are methods to show ranges (any number between these two numbers) or lists (any number specifically quoted).

Please do note that the units for numbers are fixed and cannot and should not be changed.

If notes are required to explain what the data means, the final column to the right may be used for this purpose. Any text is acceptable and there should not be a limit on the length of that text because of space constraints.

Explanatory notes may be added here.

If there are already notes in this field, they may be overwritten, as these are only there to help you complete the field.

Some fields will only have a certain number of possible responses for this product type. In this instance the PDT will have a drop down box that will let you select from a pre-defined set of responses.

<table>
<thead>
<tr>
<th>Unset</th>
<th>Enumeration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rectangular</td>
<td>Enumeration</td>
</tr>
<tr>
<td>Round</td>
<td>Rectangular</td>
</tr>
<tr>
<td>Square</td>
<td>Rectangular</td>
</tr>
<tr>
<td>Slot</td>
<td>Rectangular</td>
</tr>
<tr>
<td>Other</td>
<td>Rectangular</td>
</tr>
<tr>
<td>NotKnown</td>
<td>Rectangular</td>
</tr>
<tr>
<td>Unset</td>
<td></td>
</tr>
</tbody>
</table>

All of these drop downs will have the options of “Other”, “NotKnown” or “Unset”, these are standard IFC responses that indicate that the correct response was either not in the list (“Other”), not a value that can be known in this case (“NotKnown”) or that you do not wish to give this value (“Unset”).

In certain circumstances, responding in a certain way will “grey-out” other cells in the PDS. For example, if a luminaire has one lamp and this response is given, the data fields for a secondary lamp will grey out. This indicates that data is not required and nothing should be entered in these cells.
Appendix
Graphic of Quality Control process

- BIM Group author
- Liaise with Manufacturers

- Refer to Peers
- Liaise with Technical Committee

- Issue for draft use
- Gather feedback and enact where appropriate

- Final Technical Committee sign off
- Approved for use

- Review by BIM Group
- Changes approved by Technical Committee
Graphic of sample Timeline