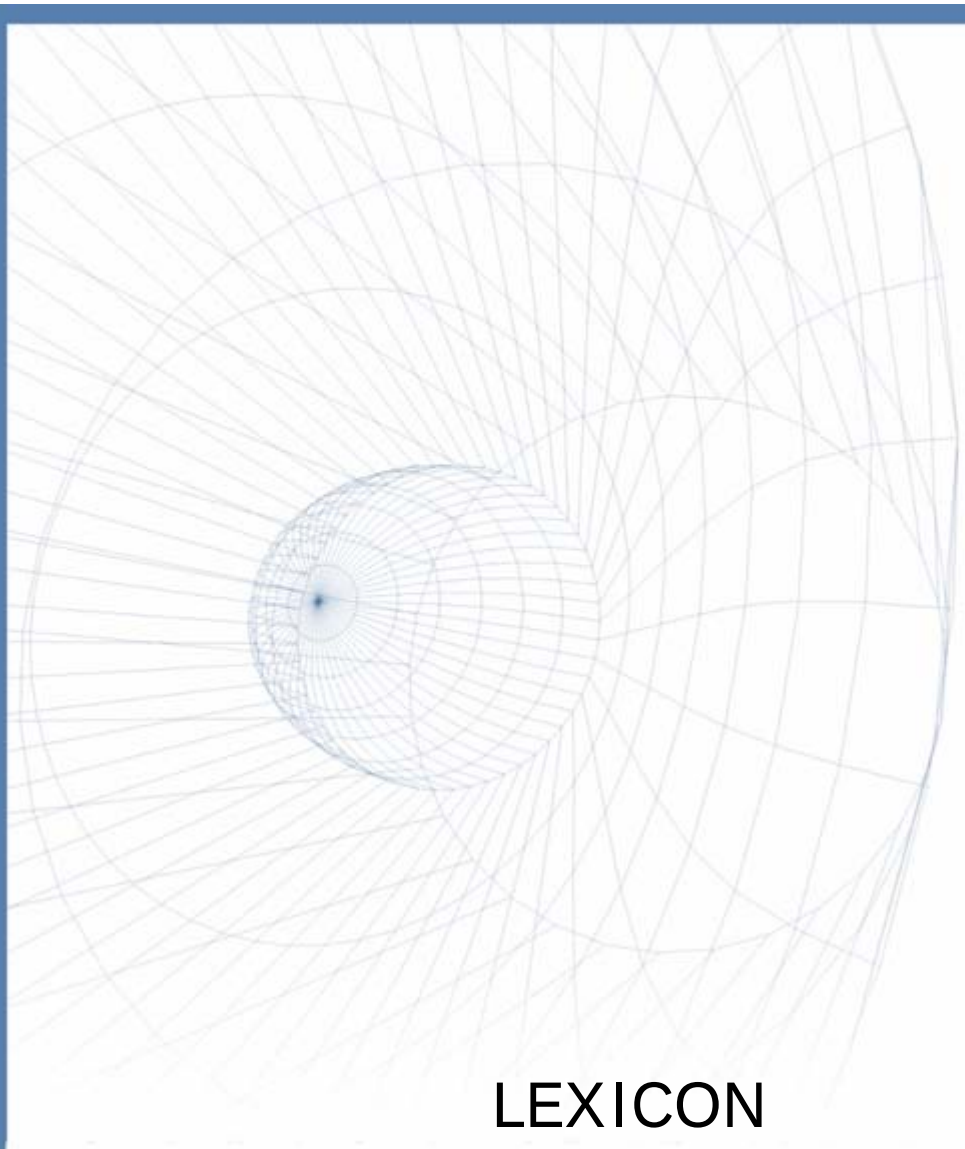


AVEVA MARINE

LEXICON

User Guide

www.aveva.com

AVEVA Solutions Ltd

Disclaimer

Information of a technical nature, and particulars of the product and its use, is given by AVEVA Solutions Ltd and its subsidiaries without warranty. AVEVA Solutions Ltd and its subsidiaries disclaim any and all warranties and conditions, expressed or implied, to the fullest extent permitted by law.

Neither the author nor AVEVA Solutions Ltd, or any of its subsidiaries, shall be liable to any person or entity for any actions, claims, loss or damage arising from the use or possession of any information, particulars, or errors in this publication, or any incorrect use of the product, whatsoever.

Copyright

Copyright and all other intellectual property rights in this manual and the associated software, and every part of it (including source code, object code, any data contained in it, the manual and any other documentation supplied with it) belongs to AVEVA Solutions Ltd or its subsidiaries.

All other rights are reserved to AVEVA Solutions Ltd and its subsidiaries. The information contained in this document is commercially sensitive, and shall not be copied, reproduced, stored in a retrieval system, or transmitted without the prior written permission of AVEVA Solutions Ltd Where such permission is granted, it expressly requires that this Disclaimer and Copyright notice is prominently displayed at the beginning of every copy that is made.

The manual and associated documentation may not be adapted, reproduced, or copied, in any material or electronic form, without the prior written permission of AVEVA Solutions Ltd. The user may also not reverse engineer, decompile, copy, or adapt the associated software. Neither the whole, nor part of the product described in this publication may be incorporated into any third-party software, product, machine, or system without the prior written permission of AVEVA Solutions Ltd, save as permitted by law. Any such unauthorised action is strictly prohibited, and may give rise to civil liabilities and criminal prosecution.

The AVEVA products described in this guide are to be installed and operated strictly in accordance with the terms and conditions of the respective license agreements, and in accordance with the relevant User Documentation. Unauthorised or unlicensed use of the product is strictly prohibited.

First published September 2007

© AVEVA Solutions Ltd, and its subsidiaries

AVEVA Solutions Ltd, High Cross, Madingley Road, Cambridge, CB3 0HB, United Kingdom

Trademarks

AVEVA and Tribon are registered trademarks of AVEVA Solutions Ltd or its subsidiaries. Unauthorised use of the AVEVA or Tribon trademarks is strictly forbidden.

AVEVA product names are trademarks or registered trademarks of AVEVA Solutions Ltd or its subsidiaries, registered in the UK, Europe and other countries (worldwide).

The copyright, trade mark rights, or other intellectual property rights in any other product, its name or logo belongs to its respective owner.

LEXICON User Guide

Contents **Page**

User Guide

Introduction 1:1

Who Should Read This Manual 1:1

Other Documentation 1:1

Overview of the LEXICON GUI 2:1

Starting LEXICON GUI 2:1

Navigating the LEXICON GUI 2:2

Dictionary Explorer 2:3

Current Element Editor 2:3

Command Window 2:4

Using the Menu Bar 2:4

Creating Elements 2:5

Create LEXICON World 2:5

Create LEXICON Group 2:6

Create a UDA or USDA 2:8

Create a UDET 2:13

1 Introduction

This User Guide helps you to understand and use the LEXICON interface. LEXICON allows you to:

- Create and modify User Defined Attributes and User Defined Element Types
- Group similar elements for administrative ease
- Delete elements
- View all available elements in a user-friendly Explorer window.

This User Guide gives you detailed, step-by-step instructions on working with the UDAs and UDETs using the graphical user interface (GUI).

1.1 Who Should Read This Manual

This User Guide is written for System Administrators. This User Guide assumes that you are familiar with using Outfitting at a System Administrator level. Access to the LEXICON GUI is normally restricted to FREE users only.

1.2 Other Documentation

The commands underlying the interface are described in the Outfitting LEXICON Reference Manual.

2 Overview of the LEXICON GUI

The LEXICON User Guide describes the LEXICON Graphical User Interface (GUI). The LEXICON GUI provides an intuitive interface allowing complete administration of the Dictionary (DICT) database of a project.

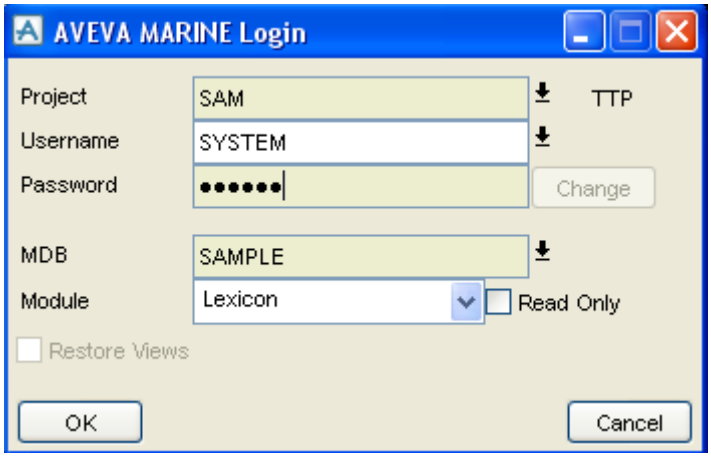
A familiarity of common navigation practices within Outfitting is recommended but not essential.

There are three main element types used in the LEXICON, these are UDA (User Defined Attributes), UDETs (User Defined Element Types) and USDAs (User System Defined Attributes). Once created in the LEXICON they can be added to other databases in a project.

Note: For more information, refer to the LEXICON *Command Reference Manual*.

2.1 Starting LEXICON GUI

To open the LEXICON GUI, start Outfitting. You will be presented with a Login Window.



Project: Enter the name of the project you are currently working on. Click on the arrow symbol to choose your project from a list of available projects.

Username: Type in your unique username or select it from the list by clicking on the arrow symbol. The user must be a free user to be able to access the LEXICON.

Password: Enter your password. Remember that passwords are case-sensitive.

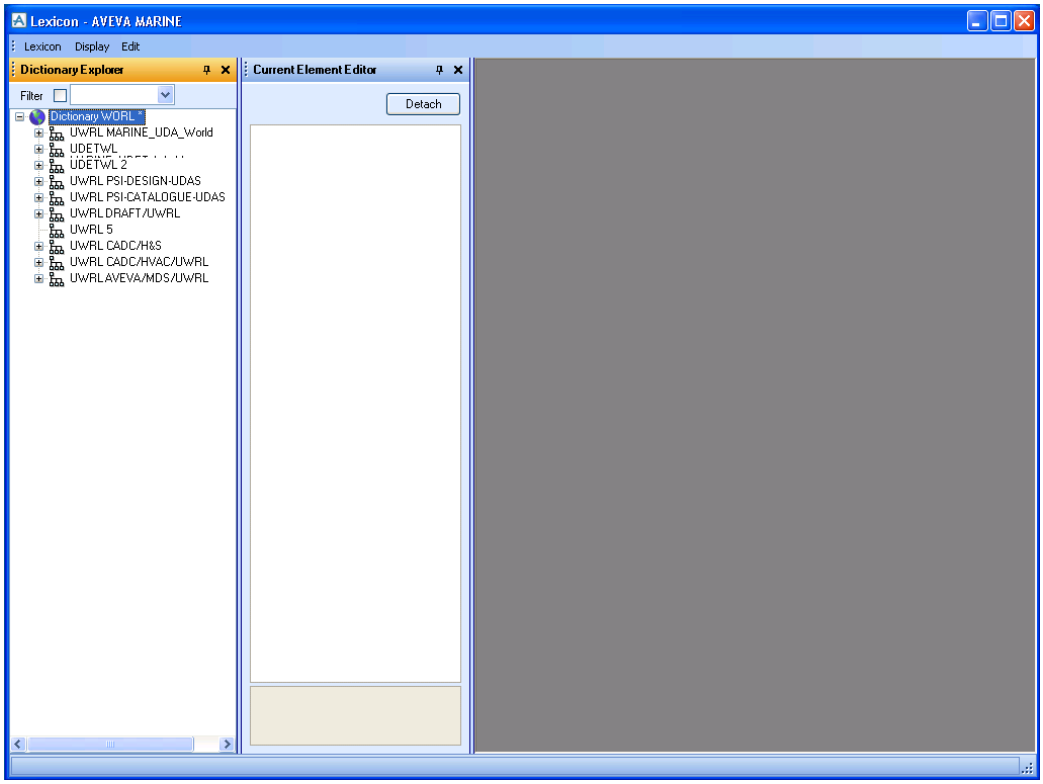
MDB Enter the name of the Multiple Databases within the project. Click on the arrow symbol to choose from a list of Multiple Databases. The chosen MDB must contain a writable Dictionary Database.

Module: Choose the LEXICON Module from the drop-down menu.

Click OK to open the LEXICON GUI.

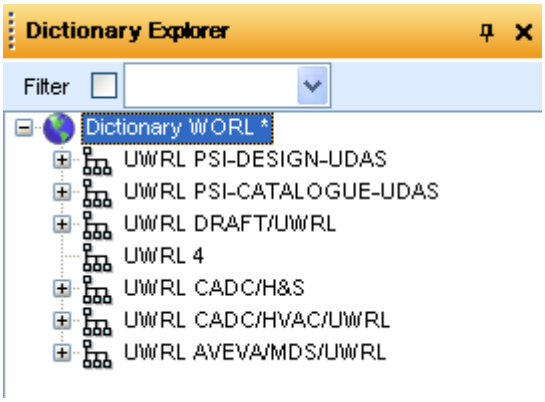
2.2 Navigating the LEXICON GUI

The LEXICON GUI is split into two window panes. To the left is the **Dictionary Explorer** and to the right the **Current Element Editor**. An empty work area provides space for additional instances of the *Dictionary Explorer* and the *Command Window*.



2.2.1 Dictionary Explorer

The Dictionary Explorer lists all available elements in the Dictionary (DICT) database. All Dictionary Explorer functionality is provided through selections made via a right mouse click. Depending of the type of element currently selected, a different set of options will be available.



The following options are available when right clicking in the Dictionary Explorer regardless of element type:

Cut: Delete the currently selected element and place it in the clipboard ready for later pasting.

Copy: Copy the currently selected element into the clipboard for later pasting.

Paste: Paste an element stored in the clipboard into the database hierarchy below the currently selected element.

Delete: Delete the current element. If the current element has one or more members, both Element and Members will be deleted.

New Explorer: Open another Dictionary Explorer window in the Lexicon GUI work area. When the new explorer window is opened it will only display the currently selected element and its members. This can be useful when editing a particular branch in the database hierarchy.

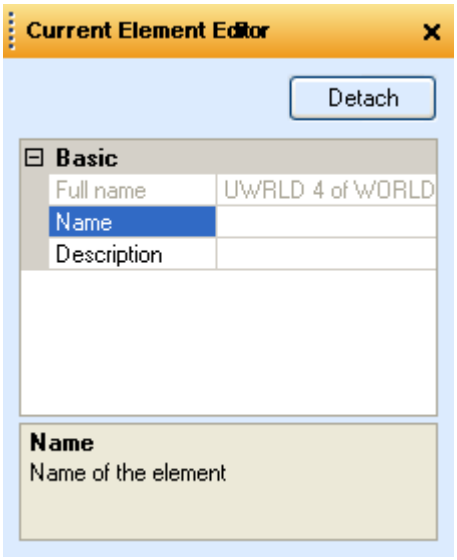
Note: The topmost element, Dictionary World cannot be modified or deleted from the explorer.

2.2.2 Current Element Editor

The Current Element Editor displays the attributes of the currently selected element in the Dictionary Explorer. Attributes are grouped into categories.

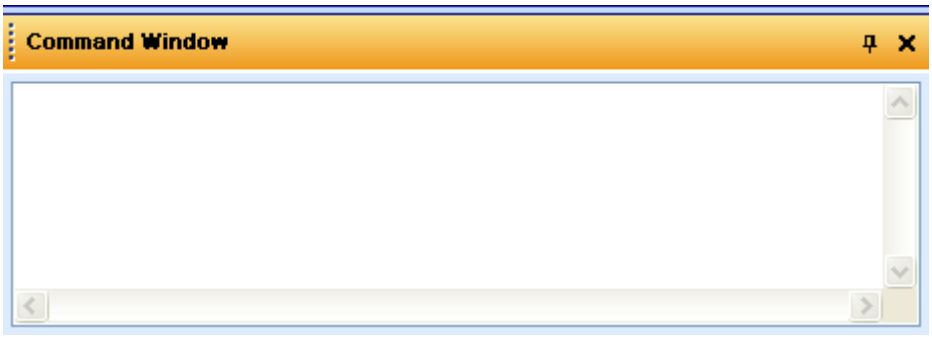
Modify attributes by clicking on, and then typing directly into the fields provided. If the value entered is incorrect (for example exceeds the length limit or contains invalid characters) you will be prompted with an appropriate input error message. If this is the case you will be forced to re-enter a value or abort the change.

When an input field is selected a description of the attribute is displayed at the bottom of the Current Element Editor.



2.2.3 Command Window

The Command Window allows the administrator to maintain the Dictionary database through the use of a command line interface. Although it is possible to achieve the same results using the GUI, it may be useful to revert to the command line in certain circumstances.



For a detailed explanation of the LEXICON command line refer to the LEXICON *Command Reference Manual*.

By default the Command Window is not displayed. To open the Command Window select **Display > Command Line** from the Menu bar.

2.3 Using the Menu Bar

The Menu bar at the top of the window includes two pull-down menus.

Click on the LEXICON pull-down to select from one of the following options:

Save Work:	Saves and compiles all changes made to the DICT database
Get Work:	Loads previous changes from the DICT database
Module:	Switches to a different module
Exit:	Exits the LEXICON GUI

Click on the **Display** pull-down to select from one of the following options:

Dictionary Explorer:	Toggle the visibility of the Dictionary Explorer window.
Current Element Editor:	Toggle the visibility of the Current Element Editor window.
Command Line:	Toggle the visibility of the Command Line window.

2.4 Creating Elements

Elements created in the Dictionary database must be created in a particular order. UDA's, USDA's and UDET's must be created below a Group. A group must reside below a World.

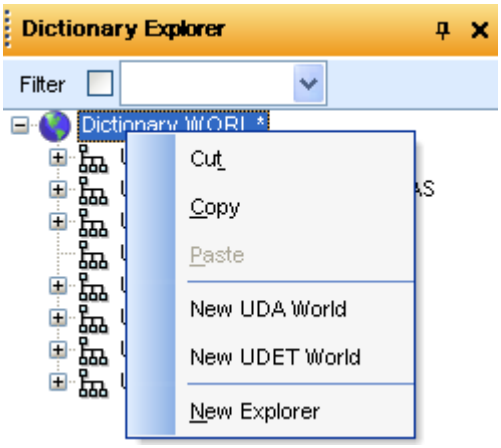
For a full explanation of the structure of a Dictionary database refer to the LEXICON *Command Reference Manual*.

2.4.1 Create LEXICON World

The top level elements within the DICT database are the elements UDA World (UWRL) and UDET World (UDETWL).

These elements must be created directly below the Dictionary World.

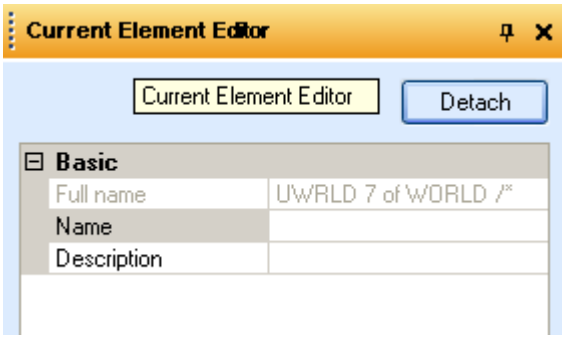
In the Dictionary Explorer right click on the Dictionary WORL* element to display the following selection menu:



New UDA World: Create a new UDA World element in the database hierarchy.

New UDET World: Create a new UDET World in the database hierarchy.

Note: When a new element is created in the database hierarchy using the **Dictionary Explorer** the **Current Element Editor** will automatically update to display the attributes for that element, these will initially be empty.



After creating a **New UDA World** or a **New UDET World** populate the following attributes in the **Current Element Editor**:

Name: Enter a valid name for the UDA/UDET World in this text box. Special characters are not allowed.

Description: Enter a brief description of the UDA/UDET World.

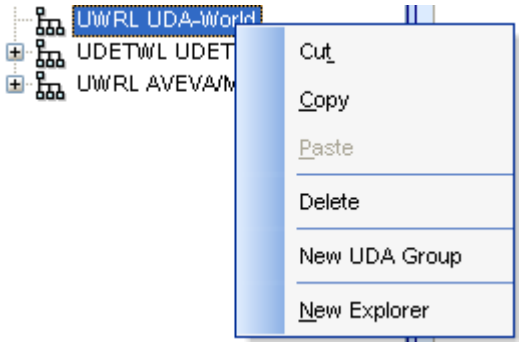
The **Dictionary Explorer** will automatically update to show the specified name for the element.

2.4.2 Create LEXICON Group

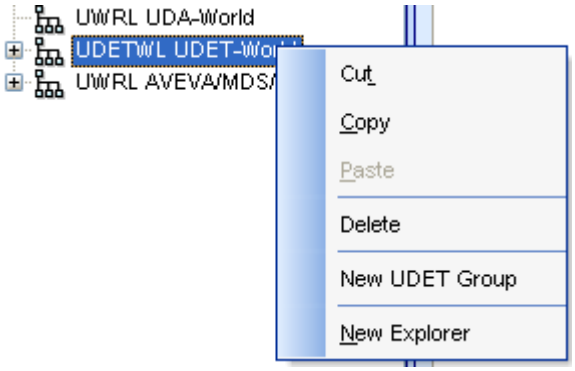
If multiple elements of a similar type are to be created in the dictionary database then groups can be used to simplify navigation of the database hierarchy.

A UDA Group (UGRO) or UDET Group (UDETGR) must be created below a UDA World or UDET World respectively.

In the **Dictionary Explorer** right click on a UWRL element to display the following selection menu:



In the **Dictionary Explorer** right click on a UDETWL element to display the following selection menu:



New UDA Group: Create a new UDA Group (UGRO) element in the database hierarchy below the currently selected UDA World (UWRL).

New UDET Group: Create a new UDET Group (UDETGR) element in the database hierarchy below the currently selected UDET World (UDETWL).

After creating a **New UDA Group** or a **New UDET Group** populate the following attributes in the **Current Element Editor**:

Name: Enter a valid name for the UDA/UDET Group in this text box. Special characters are not allowed.

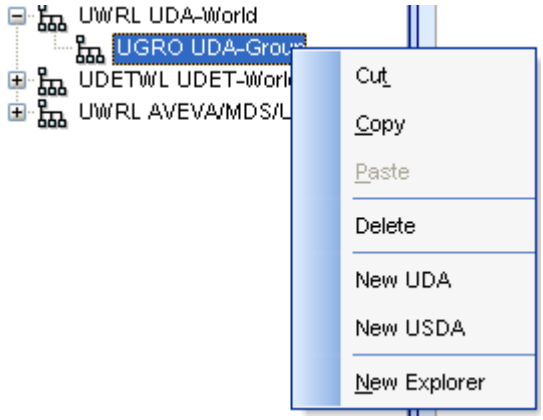
Description: Enter a brief description of the UDA/UDET Group.

The **Dictionary Explorer** will automatically update to show the specified name for the element.

2.4.3 Create a UDA or USDA

A UDA and USDA must be created below a UDA Group (UGRO) element.

In the **Dictionary Explorer** right click on a UGRO element to display the following selection menu:



New UDA: Create a new UDA element in the database hierarchy below the currently selected UDA Group (UGRO).

New USDA: Create a new USDA element in the database hierarchy below the currently selected UDA Group (UGRO).

After creating a **New UDA** populate the following attributes in the **Current Element Editor**:

Name: Enter a valid name for the UDA in this text box. Special characters are not allowed.

Description: Enter a brief description of the UDA to be created or modified.

User Defined Attribute Name: Enter a name for the UDA. This is the name that will be displayed in the Outfitting modules. Special characters are not allowed. To know more about Names and UDA Names, please refer to the LEXICON *Reference Manual*.

Reporter Text: Use this option to enter any descriptive text to specify the column headings.

Type: Choose a UDA type from all the available types by clicking on the drop-down. Depending on the type chosen, other related fields will be disabled accordingly.

E.g. If you select the LOGICAL type, the *Unit* settings are disabled. If you select the REFERENCE type, the *Referred types* will be enabled.

Length: An integer value from 1 to 120 can be set in this option to denote UDA Length. The length option is applicable only for UDA types REAL, INTEGER, TEXT, WORD and REFERENCE.

Category Enter a value to allow the UDA to be grouped together on the attributes form within other modules

e.g. 'MYCATAGORY'.

Units: Units option is enabled only for UDA type REAL. It is disabled for other UDA types.

Default value: Use this option to set a default value.

Element types: Contains the list of element types for which the UDA is valid. The elements may exist in the DESIGN, CATALOGUE or DRAFT (PADD) databases, or in the Dictionary database itself. Up to 100 element types may be set.

Enter a value directly in the Element types field or click ... to open the *Select Element Types Form* which can be used to make a list of Element types.

Referred types: This is only relevant if Type is set to Reference. It is the list of valid element types that the UDA may reference. For example, if a UDA is set in DESIGN to an EQUI element and the UDA element's Referred type is set to VALV, then an error will result. If Referred type is not set, it is assumed that all element types may be referenced.

Enter a value directly in the Referred types field or click ... to open the *Select Element Types Form* which can be used to make a list of Referred types.

Valid values: Depending on the type of element selected enter a valid numeric value, value range or text strings.

For numeric ranges separate minimum from maximum value with a single dash (-).

Multi-word strings must be enclosed in either single quotes (') or apostrophes (`) or vertical bars (|).

Single-word strings do not have to be enclosed.

All items must be separated by commas or white space.

For example it the UDA Type is set to real or integer then enter a numeric range such as 5-9.

To simplify editing valid values click ... to open the Edit valid values form.

Protection This attribute holds a logical value, setting this to true will disallow viewing of the attribute in a protected database.

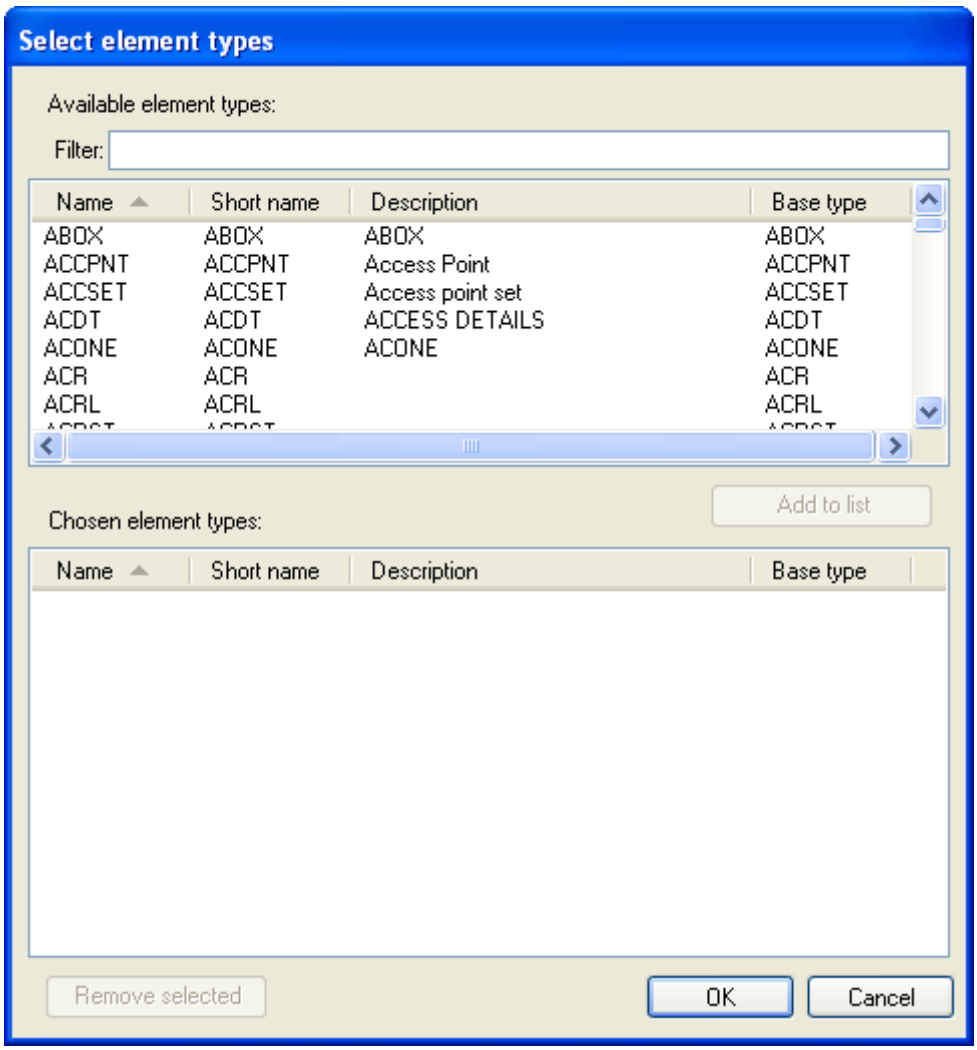
Hidden	This attribute holds a logical value, setting this to true will indicate that the UDA will be hidden from the 'Q ATT' command and from the attribute form within other Modules. Querying of the individual UDA will not be effected by this setting.
Hyperlink	This attribute holds a logical value, setting this to true will allow the text value of a UDA to contain a path to the external file.
Connection	This attribute holds a logical value, setting the value to true will signal that the UDA is a connection in the reference list.
Pseudo attribute	This attribute holds a logical value, setting this to true will indicate the UDA is pseudo attribute. Pseudo attribute allow for dynamic values to be returned as needed rather than having static values stored in the database.

After creating a **New USDA** populate the following attributes in the **Current Element Editor**:

Name:	Enter a valid name for the USDA in this text box. Special characters are not allowed.
Description:	Enter a brief description of the USDA to be created or modified.
System attribute:	Enter the underlining system attribute to which the USDA is to be applied. To pick from a list of system attributes click to open the Select System Attribute form.
Category	Enter a value to allow the USDA to be grouped together on the attributes form within other modules e.g. 'MYCATAGORY'.
Element types:	Contains the list of element types for which the USDA is valid. The elements may exist in the DESIGN, CATALOGUE or DRAFT (PADD) databases, or in the LEXICON database itself. Up to 100 element types may be set. Set the Element types via the Element Types From (see *Select Element Types Form*).
Hidden	This attribute holds a logical value, setting this to true will indicate that the UDA will be hidden from the 'Q ATT' command and from the attribute form within other Modules. Querying of the individual UDA will not be effected by this setting.

- **Select Element Types Form**

  The **Select Element Types** form is opened via the **Element types** or **Referred types** field of a UDA or USDA in the **Current Element Editor**.



The list of **Available element types** by default lists all available element types. To filter the list enter a text value in the Filter field. The list will refresh to display all elements that contain all or part of the text value entered in the Filter field. For example enter 'Box' to display all elements which contain 'Box' in either the Name, Short Name, Description or Base Type attribute of the element type.

Highlight an Element type from the list of **Available element types**. Make multiple selections by holding down Shift or CTRL on the keyboard while left clicking an entry.

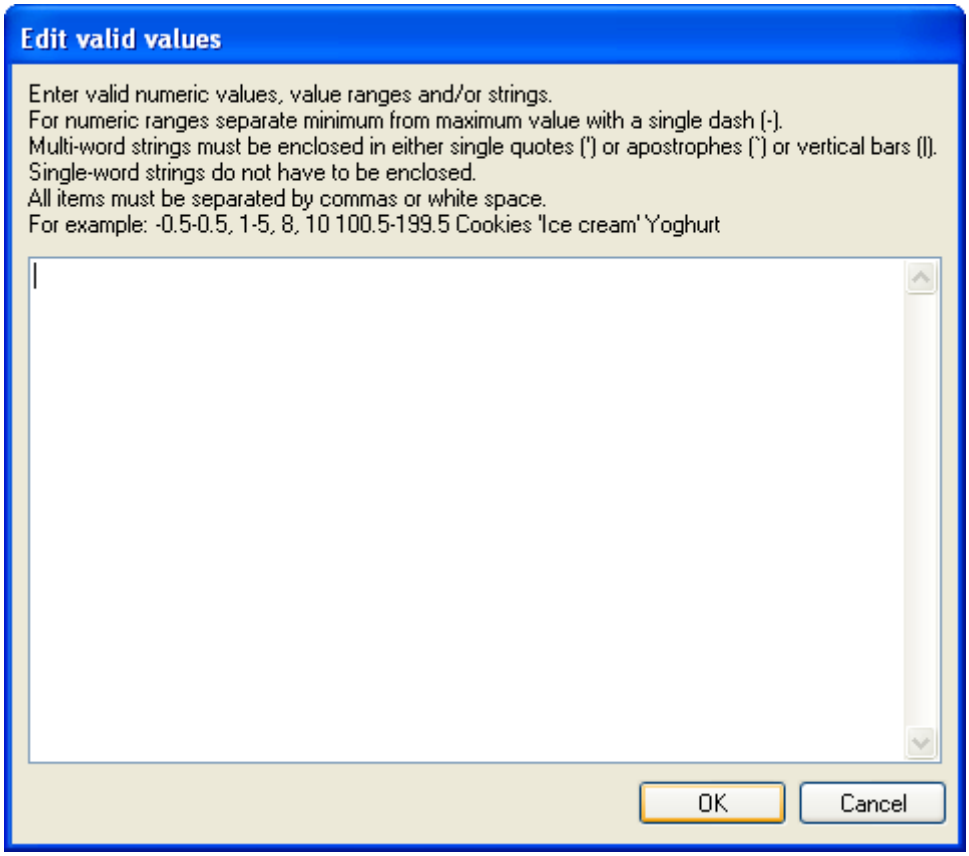
Click on **Add to list** to add the selected elements to the list of **Chosen element types**.

To remove elements from the list of **Chosen element types** highlight an element (or multiple elements) and click **Remove selected**.

Click **OK** to close the form and return the values in the list of Chosen element types to the appropriate field in the Current Element Editor.

- **Edit Valid Values Form**

  The **Edit Valid Values** form is opened via the **Valid Values** field of a UDA in the **Current Element Editor**. The Edit valid values form provides a large input area to allow multiple valid values to be input.



  If a valid value has already been set this will be displayed in the input area allowing the user to edit the value, alternatively input a new set of values. Values can be removed by simply deleting the text.

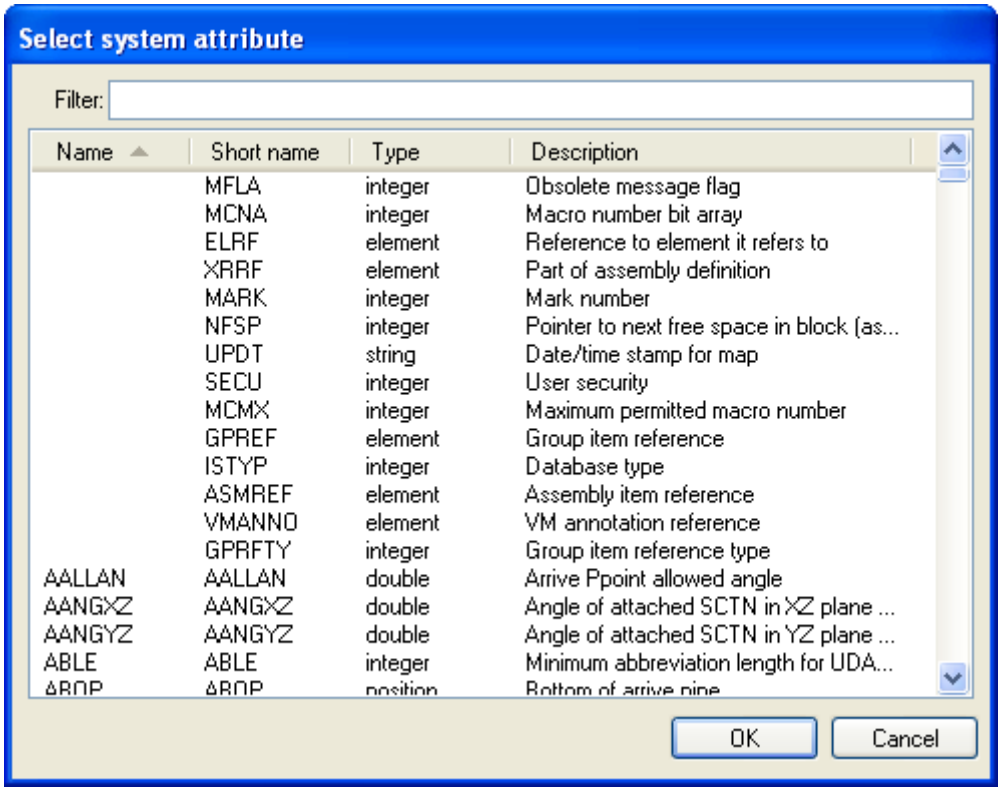
  Click **OK** to return the values back to the Valid values field of the Current Element Editor.

- **Select System Attribute Form**

  The **Select System Attribute** form is opened via the **System attribute** field of a USDA in the **Current Element Editor**.

  The Select System Attribute form allows the user to easily select a base System Attribute when creating a USDA.

  To filter the list enter a text value in the Filter field. The list will refresh to display all system attributes that contain all or part of the text value entered in the Filter field.



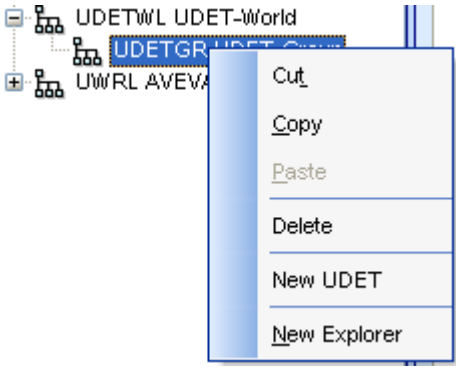
Choose a System Attribute by clicking on an entry to highlight it.

Click **OK** to close the form and pass the selected System Element back to the Current Element Editor.

2.4.4 Create a UDET

A UDET must be created below a UDET Group (UDETGR) element.

In the Dictionary Explorer right click on a UDETGR element to display the following selection menu:



New UDET: Create a new UDET element in the database hierarchy below the currently selected UDET Group (UDETGR).

After creating a **New UDET** populate the following attributes in the **Current Element Editor**:

Name: Enter a valid name for the UDET in this text box. Special characters are not allowed.

Description: Enter a brief description of the UDET to be created or modified.

User-defined type name: Enter a name for the UDET. This is the name that will be displayed in the other modules. Special characters are not allowed.

To know more about Names and *UDET Names*, refer to the LEXICON *Command Reference Manual*.

Base type: A UDET must be derived from an existing base type. The UDET will then inherit all of the attributes of that base type.

Enter a base type or pick from a list of base types by clicking ... to open the *Select Base Type Form*.

Owner types: The *Owner types* list is automatically populated with the list of valid owners when the Base Type is selected.

You can then remove owners from the list by clicking ... to open the *Select Owner Types Form*.

Note: There should be at least one valid owner for an element.

Member types: The *UDET Members* list is automatically populated when the Base Type is selected.

You can then remove members from the list by clicking ... to open the *Select Member Types Form*.

Hidden Attributes: The *Hidden Attributes* list is automatically populated when the Base Type is selected.

You can then selectively hide attributes from the list and/or re-add them if required.

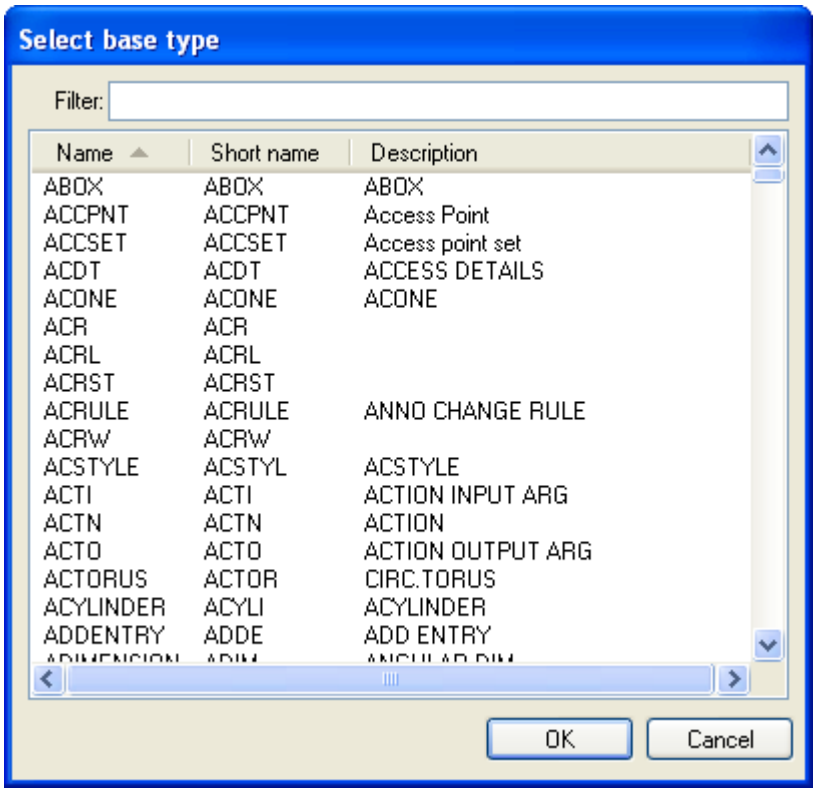
You can hide attributes from the list by clicking ... to open the *Select Hidden Attributes Form*.

- ### Select Base Type Form

The **Select Base Type** form is opened via the **Base Types** field of a UDET in the **Current Element Editor**.

The Select Base Type form allows the user to pick from the lists all available base types. The selection will then be used to derive a UDET.

To filter the list enter a text value in the Filter field. The list will refresh to display all system attributes that contain all or part of the text value entered in the Filter field.



Choose a base type by clicking on an entry to highlight it.

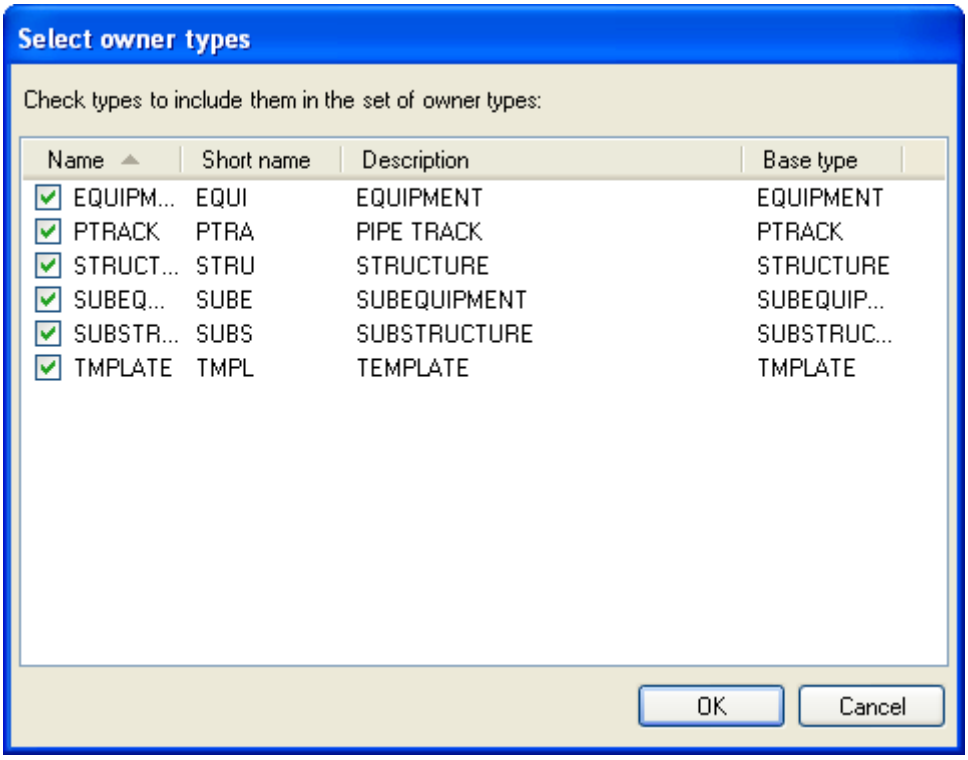
Click **OK** to close the form and pass the selected base type back to the Current Element Editor.

- ### Select Owner Types Form

  The **Select Owner Type** form is opened via the **Owner Types** field of a UDET in the **Current Element Editor**.

  When a UDET has been assigned a Base Type it will automatically inherit all of the owner types of that base type.

  The Select Owner Type form allows the user to selectively pick which base types are owners of the UDET.



To disassociate an owner uncheck the relevant check box to the left of the base type which you do not want to be an owner of the UDET.

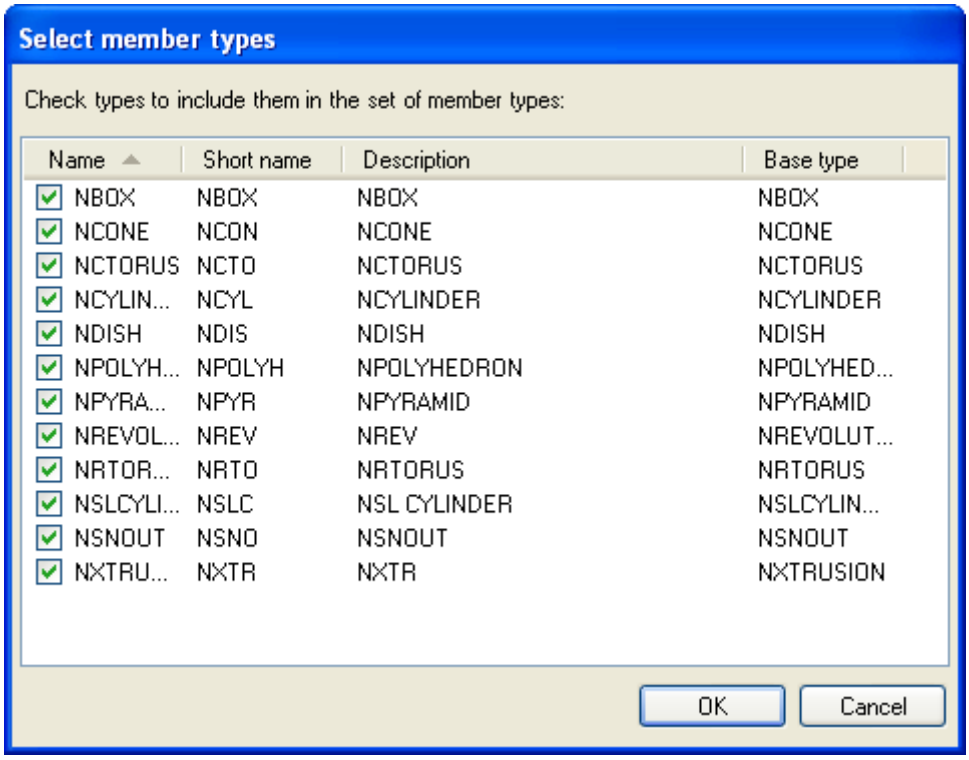
Click **OK** to close the form and return the values to the appropriate field in the Current Element Editor.

- **Select Member Types Form**

  The **Select Member Type** form is opened via the **Member Types** field of a UDET in the **Current Element Editor**.

  When a UDET has been assigned a Base Type it will automatically inherit all of the member types of that base type.

  The Select Member Type form allows the user to selectively pick which base types are members of the UDET.



To disassociate an member uncheck the relevant check box to the left of the base type which you do not want to be an member of the UDET.

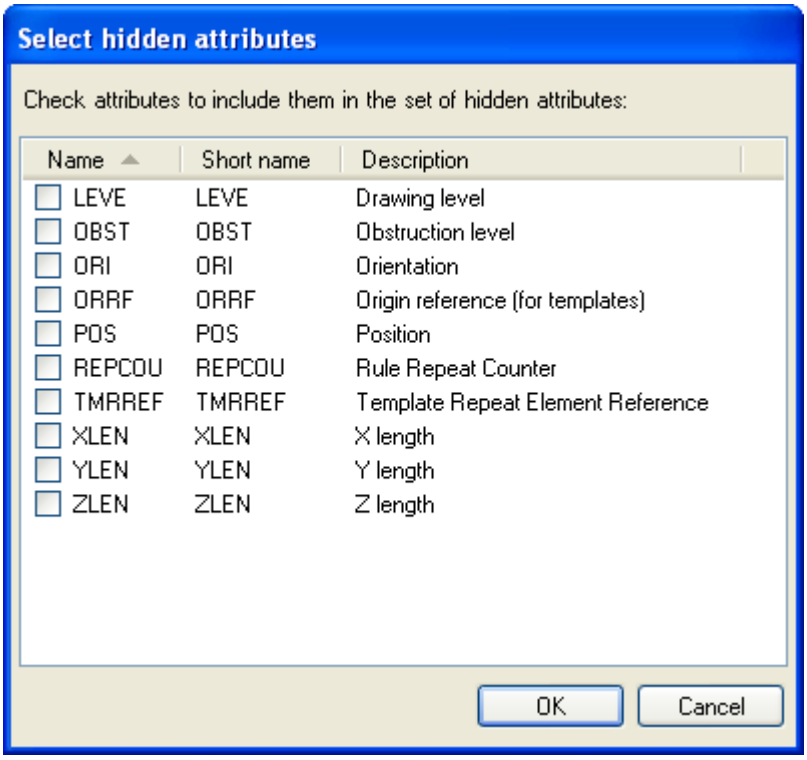
Click **OK** to close the form and return the values to the appropriate field in the Current Element Editor.

- **Select Hidden Attributes Form**

  The **Select Hidden Type** form is opened via the **Hidden Attributes** field of a UDET in the **Current Element Editor**.

  When a UDET has been assigned a Base Type it will automatically inherit all of the attributes of that base type.

  The Select Hidden Attributes form allows the user to selectively pick which attributes are to be hidden when using the UDET.



To hide an attribute check the relevant check box to the left of the attribute which you do not want to be visible when using the UDET.

Click **OK** to close the form and return the values to the appropriate field in the Current Element Editor.