TRANSCAT

VDAFS PROCESSOR V 1.10.X

for CATIA® V5

USER MANUAL

VDAFS für CATIA V5

Text version 3-Aug-12

Orientation Symbols Used in the Manual

To give the user a better orientation in the manual the following symbols are used:

Warning Symbol

The warning symbol points out *critical moments*
you should pay attention to.
This helps you to avoid problems during your work or to handle them.

Tip Symbol

The lamp symbol points out a *tip*
that gives you praxis experiences
to make your work easier.

Note Symbol

The hand symbol relates to *notes*,
which you should pay attention to in order to assure
that you can *work without problems*.

Step Symbol

The step symbol signals that a
sequence of work operations
is given.

TRANSCAT PLM in the Internet:	http://www.transcat-plm.com/	
VDAFS in the Internet:	http://www.transcat-plm.com/tcsoft	
VDAFS Hotline:	Phone:	+49 721 970 43 35
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1. VDAFS Processor in General

VDAFS PROCESSOR is a system-neutral CAD interface which permits the bi-directional interchange of 3-D geometries between CATIA and the VDAFS format.

The conversion is possible in both directions—VDAFS PROCESSOR allows importing VDAFS formatted data into CATIA as well as exporting CATIA models to VDAFS standard.

The conversion CATIA to VDAFS and vice versa enables the CAD-data exchange with other CAD systems, supporting the VDAFS standard. Thus the possibilities of CAD data exchange inside firms and between manufacturers and their subcontractors can be broadened substantially.

• VDA Standard

The abbreviation *VDAFS* stands for *VDA Flaechen-Schnittstelle*—VDA Surface Interface, a standard CAD-data exchange format established by VDA, the German Association of the Automotive Industry.

This standard has provided the answer to the difficulties resulting from the circumstance that different CAD systems use quite different mathematical methods to describe complex surface structures (which are met especially in the automobile design, e. g. in bodywork, coverings, seats etc.). As these complex surface structures can not be described by simple analytical formulae, in different CAD systems different methods of mathematical representation were implemented. Consequently there arose the need in a neutral data format to transfer the design data between systems. The *IGES 1.0* and *2.0* standards *(Initial Graphics Exchange Specification)*, edited at the beginning of the 80's, were not sufficient enough so that the German Association of the Automotive Industry *VDA* elaborated the VDAFS 1.0 (1983) and VDAFS 2.0 (1987) standards for the exchange of surface data, which became German Standard DIN 66 301.

2. VDAFS PROCESSOR for CATIA V5

The CAA-based VDAFS Processor for CATIA V5 supports VDAFS Version 2.0. It is used as interface between CATIA and VDAFS, allowing to convert CATIA CATProducts and CATParts into VDAFS files and VDAFS files into CATIA CATParts. Expanding on the VDAFS standard, VDAFS PROCESSOR can transfer not only points, curves, surfaces, but even topologies and bodies via the VDAFS TOP element.

An outstanding feature is its full integration with CATIA V5. Converting CATIA V5 models to VDAFS format is possible by simply using the *Save As* item on the CATIA *File* menu. In the same way, VDAFS files can be opened as CATParts with the *File* > *Open* menu sequence.

In addition to the interactive CATIA integration, the product also includes a graphic user interface (GUI) variant that can be started from within or outside of CATIA and a batch module for integration into automated processing applications.

Main features of the VDAFS PROCESSOR:

- Full integration in CATIA V5
- Available for all CATIA V5 platforms
- Complete bodies can be imported/exported (not only their individual faces).
- Possibility to define the scope of elements to be imported/exported, with several options
- Different operating modes—from within CATIA or outside of CATIA, batch mode
- Simplicity of operation
- Multilingual user interface—English and German available depending on the language selected for the user interface.

TIP:

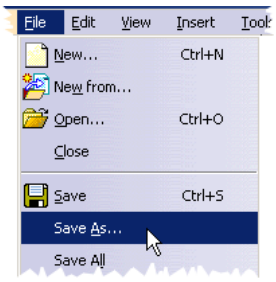
The language can be changed in common with the language for the CATIA user interface (CATIA menu bar item *Tools* > *Customize—Options* tab card – *User Interface Language*).

The language of the dialog boxes (e. g. of the directory boxes) depends on the language setting of the operation system.

2.1 VDAFS PROCESSOR User Interfaces and Operation Modes

To start VDAFS PROCESSOR four different operation modes can be used. The table below gives an overview of these modes.

The details of the operation modes will be described in the following chapters.

Operation mode		
How to be started	Purpose and General description	Detailed description
(1) Direct mode		
• CATIA menu bar item *File > Save as* 	Purpose: **Converting the current CATIA model** • Source model is current CATIA model. • Before starting the conversion, set the conversion parameters in the *Parameter* Window which is opened after selecting the CATIA menu bar item *Tools > Options menu*	▸ See chapter 2.2 Direct operation mode on page 8.
• CATIA menu bar item *File Open* 	Purpose: **Importing one model from VDAFS format as the current CATIA CATPart.** • Target model is a new CATPart. Importing a CATPart into an opened CATPart is not possible with the direct mode—use for this task the dialog mode. • Before starting the conversion, define the conversion parameters in the Parameter Definition panel which is opened after selecting the CATIA menu bar item *Tools > Options* menu. ▸ See sections 2.2.1 *Setting the Transfer Parameters* on page 9 (for general information) and 2.2.2 *Parameter Dialog Panel* on page 10 (for detailed information).	▸ See chapter 2.2 Direct operation mode on page 8.

Operation mode		
How to be started	Purpose and General description	Detailed description
(2) Dialog mode, started from within CATIA		
• Toolbar icon 	Purpose: **Converting *either* the current CATIA-model into VDAFS format** ***or* a VDAFS-formatted model into the current CATIA CATPart.**  Importing a VDAFS file into an opened CATProduct is not possible. When the icon is clicked, a graphic user interface is opened that allows • to define the transfer direction; • to specify the output files; • to set the conversion parameters. (This mode is analog to the dialog mode, started CATIA-independently, but in contrast to this latter it provides restrictions in the model selection.)	▸ See chapter 2.2 Dialog operation mode on page 8.
(3) Dialog mode, started CATIA-independently		
• Desktop icon 	Purpose: **Converting *either* one CATIA MODEL into the VDAFS format** ***or* one VDAFS-formatted model into a CATIA CATPart.** When the icon is clicked, a graphic user interface is opened that allows • to define the transfer direction; • to specify the output files; • to set the conversion parameters. (This mode is analog to the dialog mode, started from within CATIA. This latter, however, is restricted in the model selection.)	▸ See chapter 2.2 Dialog operation mode on page 8.
(4) Batch mode		
• Command at the prompt in the command line	Purpose: **Converting from outside of CATIA with integration into automated processing applications, possibility to process several jobs one after another.** • Before starting the batch conversion run, the parameters for the batch jobs must be set in the `vdafs.in` file (used as input file).	▸ See chapter 2.4 Batch Mode on page PAGEREF _Ref34820700 \h 36.

2.2 Direct Operation Mode

The direct mode is used from within CATIA menu:

- when the current model is to be exported to the VDAFS format,
- or when a VDAFS file is to be imported to become the current CATPart.

STEPS:

(1) Predefine parameters. ▸ See chapter 2.2.1.

(2) Select file name and start conversion. ▸ See chapter 2.2.4.

TIP:

If you want to export an other than the current CATIA model file or import a model file not as current CATPart, use the Dialog operation mode (see page 29) or the Batch Mode (see page 36).

In the *Direct Operation* mode the conversation can be started directly, simply by defining one only file name:

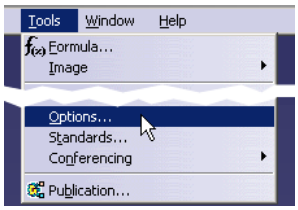
- When importing from VDAFS into CATIA:
  specify source model file name
  (the target file name will be the same, but with the `CATPart` extension added).
- When exporting from CATIA to VDAFS):
  specify the target model file name
  (the source model file being the current CATPart).

Precondition for starting the direct mode is that the parameters must have been predefined (see the following chapter).

2.2.1 Setting the Transfer Parameters

STEPS:

① Select CATIA menu bar item *Tools* > *Options*.
➔ The *Options* dialog panel will be opened.

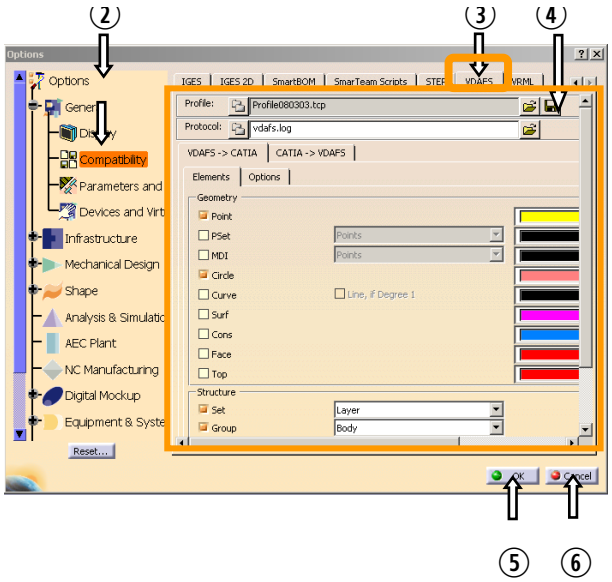


② In the *Options* dialog panel in the tree on the left side select the *Compatibility* item.

③ Select the *VDAFS* tab card.

(This tab of the tab card may be not visible, because it is situated on the right—click the *Move to the Right* button).

④ On the *VDAFS* tab card you can:



- define conversion parameters that will be used for conversion, but are not saved in a profile,
- *or* select an existing conversion profile,
- *or* modify the parameters of an existing profile,
- *or* create a new profile.
- Here also the name and the directory of the log file can be selected, or name and directory for a new log file can be specified.

The elements of the VDAFS tab card will be described in the chapter 2.2.2 *Parameter Dialog Panel* on page 10.

How to use profiles will be described in the Conversion Profiles chapter on page 24.

⑤ When the parameter setting is completed, press the *OK* button.

⑥ If you want to discard the parameter settings of the current session, press the *Cancel* button.

TIP:

If you have defined conversion parameters without saving them in a profile, and you close the options window with the *OK* button, the conversion parameters will be saved in the CATSettings of CATIA. When opening again this window, you will find these last settings maintained.

The parameter settings in the present options window and the parameter settings in the conversion dialog window are stored independently of each other so that in the windows of these different conversion modes different parameters can be kept.

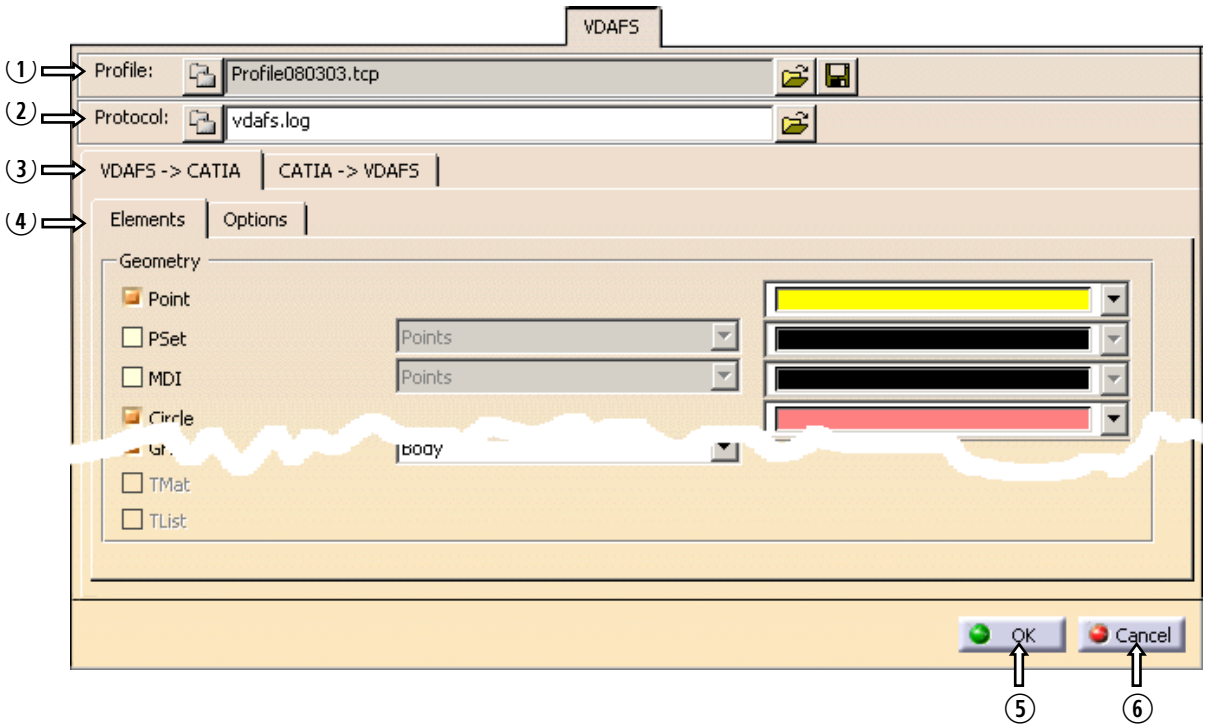
NOTE:

If the *Options* window is closed by pressing the *Cancel* button, the parameter settings of the current session will be discarded.

(This behavior of the *Cancel* button is *different* from that of the *Cancel* button in the VDAFS parameters window—see there.)

2.2.2 Parameter Dialog Panel

- *Parameter* Dialog Panel—General Elements



① *Profile* bar
② *Report* bar

- *Path* buttons


OFF position: The path is not shown in the text box.


ON position: The path is shown in the text box.


- *Open folder dialog box* buttons

When this button is pressed, the directory window is opened, where you can select files.


- *Save Profile* button

When this button is pressed, the profile will be saved.

③ *Conversion Direction* tab cards

Two conversion direction are possible:

- from CATIA to VDAFS (a CATIA CATPart will be converted into a VDAFS model file);
- from VDAFS to CATIA (a VDAFS model file will be converted into a CATIA CATPart or imported into the current CATPart).

Depending on the *Selected Conversion Direction* tab card selected (VDAFS to CATIA *or* CATIA to VDAFS), different *Parameter Groups* tab cards ④ will be available.

④ *Parameter Groups* tab cards

For the CATIA to VDAFS direction, the available tab cards are:

- Elements
- Options
- Header

For the VDAFS to CATIA direction, a *Header* tab card is not available, as in this case no header is created.

⑤ 

OK button

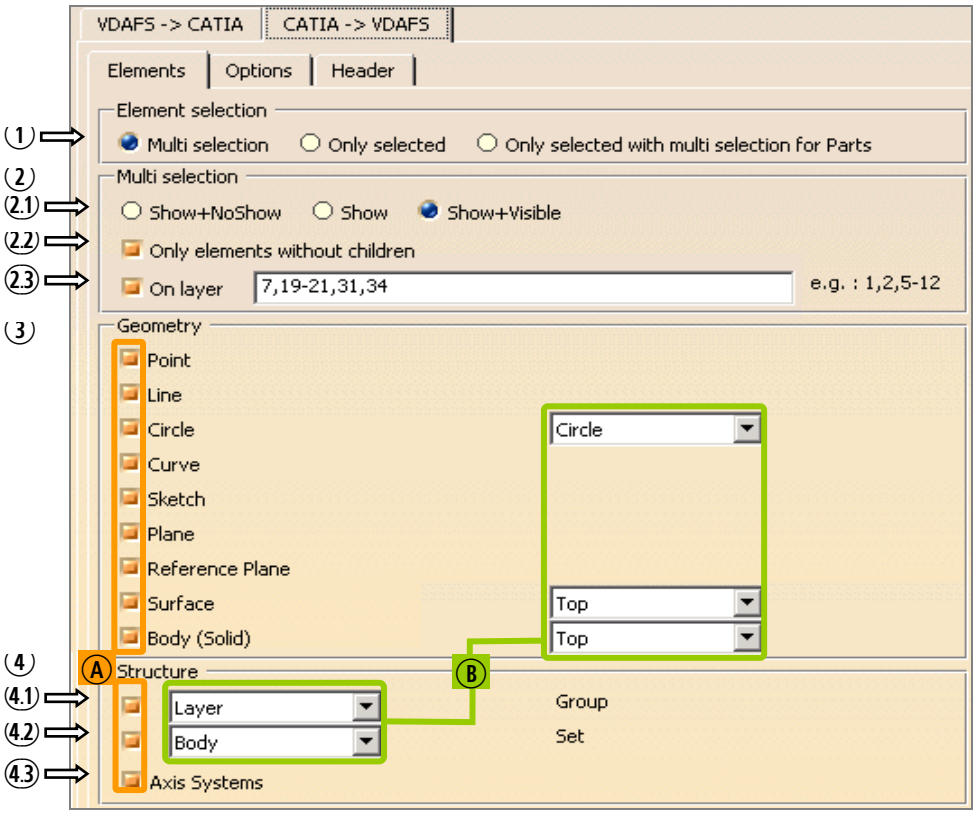
If this button is clicked, the specified conversion parameters will be saved in CATIA, the dialog panel will be closed.

⑥ 

Cancel button

If the dialog panel is closed by pressing this button, the parameter settings of the current session will be discarded.

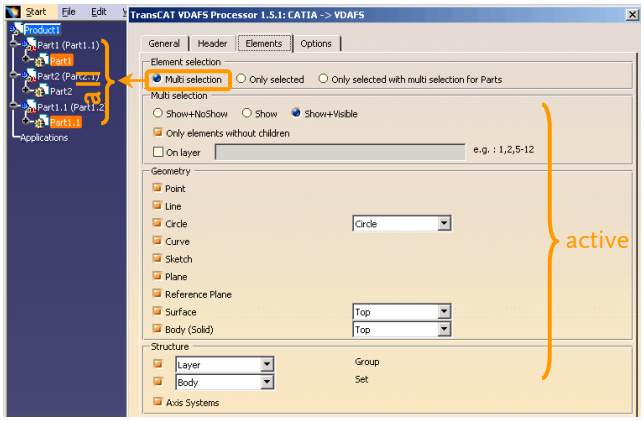
- ***Parameter*** **Dialog Panel—CATIA to VDAFS—Elements**



(1) *Element selection* box

By choosing one of the element selection methods it can be selected what is to be exported:

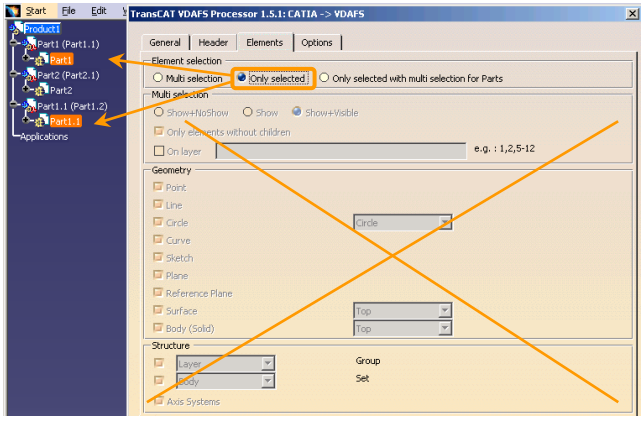
- Multi-selection
  It will be exported all what is contained in the respective product/part. For this option the multi-selection is active allowing to specify/restrict the number and the types of elements to be exported.
  This means:



(1) The element selection in the specification tree is not taken in account; it will be exported all elements—both highlighted and not highlighted elements.

(2) The restrictions for the export, specified in the *Element selection*, *Geometry* and in the *Structure* boxes, will be taken in account.

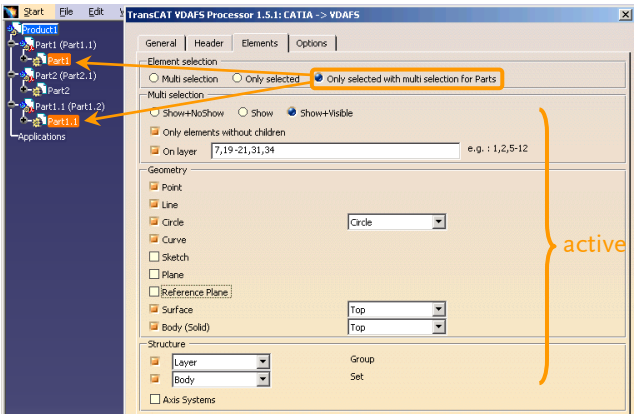
- Only selected:
  It will be exported only the elements that are highlighted in the specification tree, multi-selection is not possible (i.e. the *Element selection*, *Geometry* and *Structure* boxes are deactivated).



NOTE

If in the specification tree no elements are highlighted, nothing will be exported.

- Only selected with multi-selection for Parts:
  It will be exported only the items that are selected in the specification tree (the selected elements of parts and, in case of products, the selected part components and elements of parts). For this option the multi-selection is active (see above).



NOTE

The *Only selected with multi-selection for Parts* option is active only for Products.

② *Multi selection* box

②.① Radio buttons for elements with hidden and show state

With these radio buttons, it can be selected whether the export is to be restricted depending on the visibility state of the elements:

- Show + NoShow: Both visible and invisible elements will be exported.
- Show: Only visible elements will be exported.
- Show + Visible: It will be exported only visible elements that are really visible (i.e. that have no invisible parents).

If the *Show* export option is selected, the elements with *Show* attribute, that are inside OpenBodies with the *NowShow (hidden)* attribute, will be put in a VDAFS SET element with the name *NOSET*. (i.e. one NOSET element for all elements).

(22) *Only Elements without Children* check box

If this option is activated, only elements will be exported that have no child elements.
If this option is deactivated, all elements will be exported—elements having child elements as well as elements having no child elements.

(23) *On Layer* check box with text box

If this option is deactivated, the elements of all layers will be exported as well as elements that are not situated on a layer.

If this option is activated, by entering layer numbers it can be specified elements of which layers are to be exported.

The layer number must be specified comma separated; layer ranges can be specified by their first and last number, separated by hyphen.

Defining layer ranges:

`n-m`	All layers from `n` to `m`
`-n`	All layers from `1` to `m`
`n-`	All layers from `n` to the last layer

Example: `1, 3-10`—There will be exported the layers `1` and `3-10`.

To include in the export elements that are on no layer, specify the number `1000`.

(3) (4) *Geometry* and *Structure* boxes

(A) Elements

If the option box of an element is activated, the respective element will be imported into CATIA.

(B) Options

For some elements, import options are available. The options will be active only, if the respective element is selected for import.

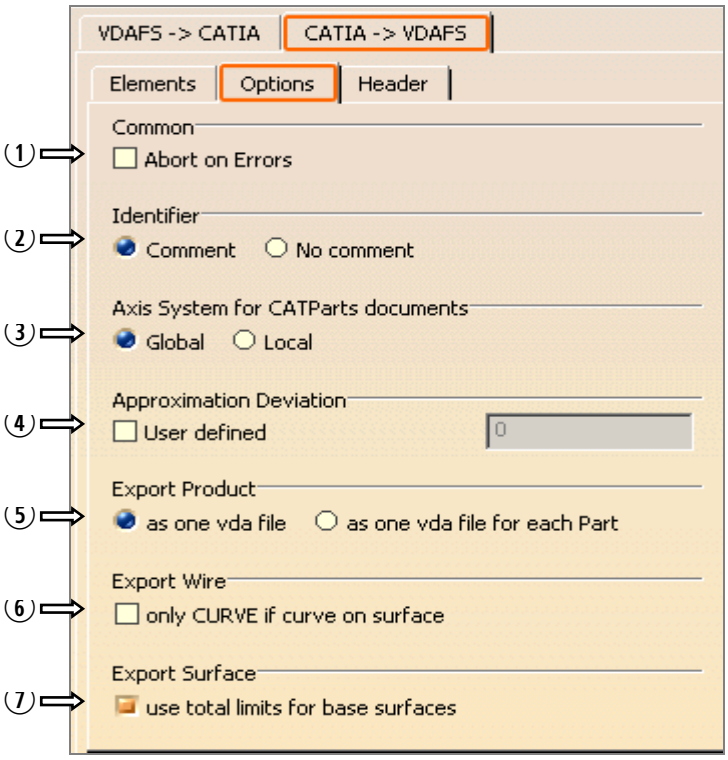
③ Geometric elements

Element	Options	Description
• Point	–	
• Line	–	
• Circle	CIRCLE	
	CURVE	Circle is converted into VDAFS element CURVE (approximated curve).
• Curve	–	
• Sketch	–	
• Plane	–	Plane is converted into a surface
• Reference plane	–	
• Surface • Solid	TOP / FACES	SURFACES/SOLIDS are converted into the VDAFS element TOP or FACE (i. e. faces with topological information or individual faces).

④ Structure elements

	Element	Options	Description
④.1	• Body • Layer	GROUP	Either layers or bodies can be exported into GROUPS.
④.2	• Body • Layer • Part	SET	Either layers or bodies or CATParts can be exported into SETS.
			When exporting both structure elements BODIES and LAYERS, the transferal can be only alternatively: • *either* LAYERS to SETS and BODIES to GROUPS • *or* LAYERS to GROUPS and BODIES to SETS. It is neither possible to transfer both SETS and GROUPS to LAYERS nor to transfer both to BODIES.
④.3	Axis systems	–	Axis systems are converted into VDAFS element TRANSFORMATION MATRIX (TMAT).

- *Parameter* Dialog Panel—CATIA to VDAFS—Options



① *Abort on Errors* check box

If this check box is activated, the conversion will be aborted in case of an error.

② *Identifier* radio buttons

Select one of the options:

- *No comment*
  The CATIA-feature-name will not be written as comment in the VDAFS file.
- *Comment*
  The VDA name and the CATIA feature name will be written as comment in the VDAFS file.
  Example for the notification:

```
$$ VDAFS-NAME "SURF0006" WAS CREATED FOR CATIA-ELEMENT          00000260
$$ " Solid Surface.1"                                           00000270
```

  In case of re-export, the notification would be as follows:
  `nameVdaEntity(nameExportedV5Feature)`
  Example: `SURF0006(Solid Surface.1)`

③ *Axis system for CATParts documents* radio buttons

Depending on the selected option, the geometry will be exported in relation to the global axis system or to the current local axis system.

④ *Approximation Deviation* check box with text box

If this check box is activated, an approximation deviation can be specified.

Default: `0.0001`

NOTE:

The smaller the approximation deviation is,
the longer the computing time will be.

An other than the default value should be used only in case that problems occur.

⑤ *Export Product* radio buttons

Dependent on the selected option, a CATProduct will be exported

- either into one VDAFS file
- or into several VDAFS files—every component is exported into an individual VDAFS file.

In both cases the geometry will be positioned relative to the global axis system of the CATProduct.

To be able to distinguish the VDAFS files when exporting several components into several VDAFS files, to the file names there are appended number suffixes.
(`xxxxx`—serial number, consisting of five figures and starting with `00001`.)
In this case the name of the VDAFS files contains the follow components:

`VDAFS-output-filename_CATPart-filename_xxxxx`

(As CATPart file name the name of the referenced part will be used.)

⑥ Export wire—*Only CURVE if curve on surface* option

This option must be activated if it is intended to export wire geometry only as curve (i.e. without underlying surface).

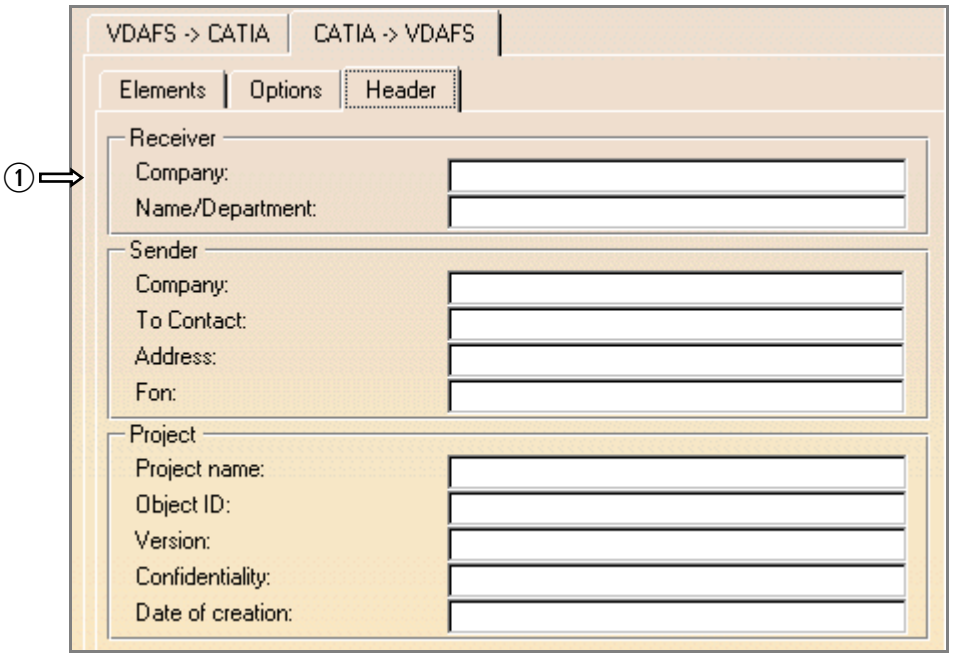
⑦ Export surface—*Use total limits for base surfaces* option

This option must be activated when exporting curves and surfaces together if it is intended to export the complete surface (and not only the segments that are covered by the curve).

NOTE

As a result of activating this option the size of a VDAFS file may increase considerably.

- ***Parameter*** **Dialog Panel—CATIA to VDAFS—Header**



① *Receiver / Sender / Project* text boxes

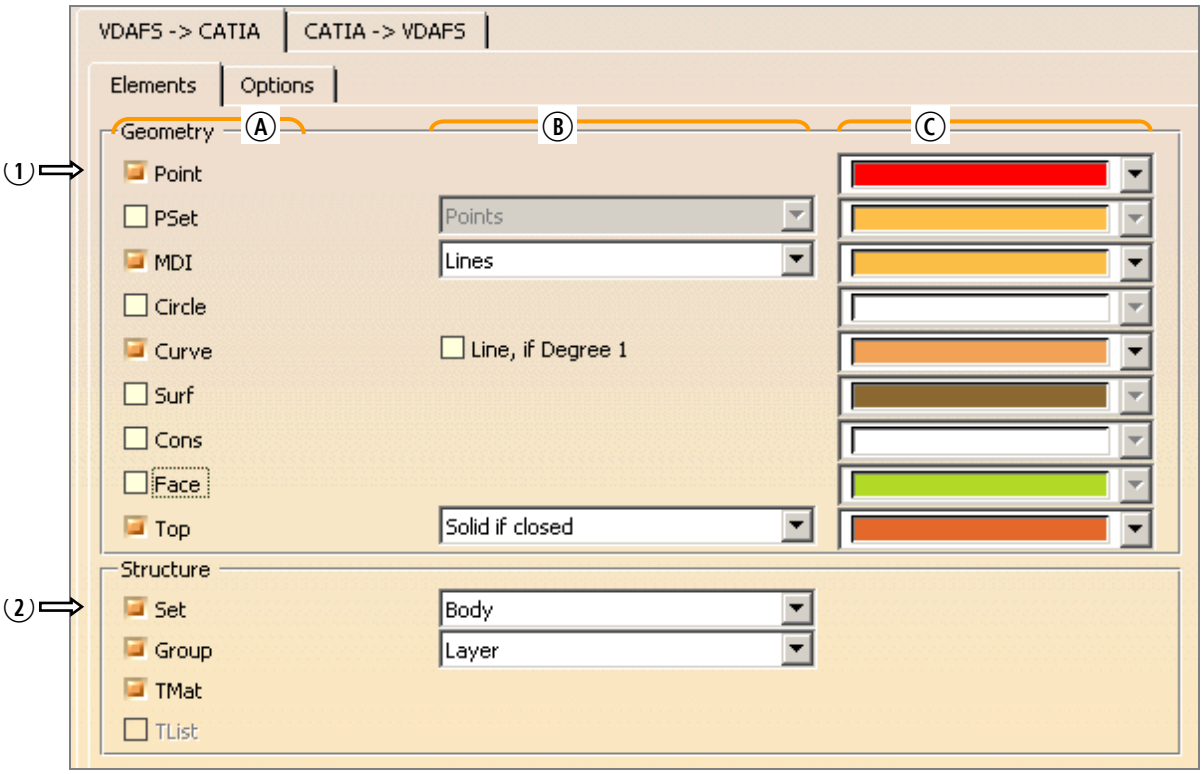
Enter the required information in the text boxes.

According to the VDFAS prescriptions, the following information is mandatory:

- VDAFS version number,
- name of the sender company,
- contact person,
- telephone number,
- address,
- date of creation,
- project name,
- object description number.

However, VDAFS PROCESSOR does not check whether these boxes are filled out or not.

- *Parameter* Dialog Panel—VDAFS to CATIA—Elements



Ⓐ Elements

If the option box of an element is activated, the respective element will be imported into CATIA.

Ⓑ Options

For some elements, import options are available. The options will be active only, when the respective element is selected for import.

Ⓒ Color

With this list box, to geometric elements a color can be assigned.

① Geometric elements

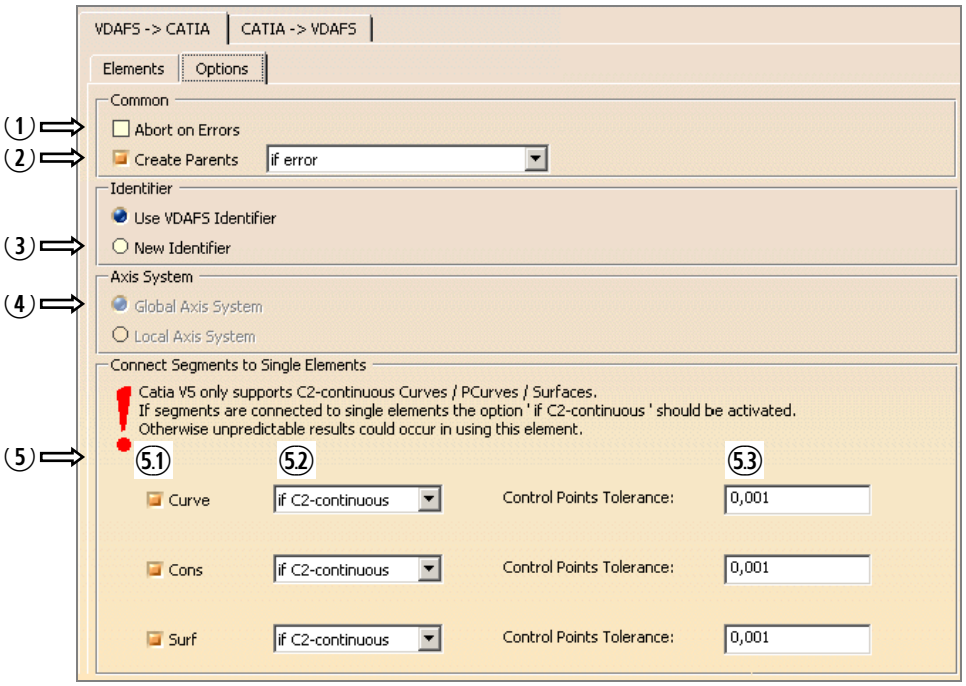
Element	Full Name	Options	Description
• POINT	Point	–	
• PSET	Point Set	• Points	Point sets are exported as points.
		• Polygon	Points are catenated to polygons.
		• Line	The points of the set are transformed to several individual lines.
		• Spline	The points of the set are transformed into a spline, calculated by interpolation.

Element	Full Name	Options	Description
• MDI	Master Dimension (Point Vector Sequence)	• Points	Points with vectors are exported as points.
		• Points+Line	Points with vectors are exported as points with line.
		• Line	Points with vectors are exported as lines.
		• Polygon	Points with vectors are transformed into polygons.
		• Spline	Points with vectors are transformed into splines.
		• Spline+Tangent	Points with vectors are transformed into splines with tangents.
• CIRCLE	Circle or circular arc	–	
• CURVE	Curve	• Line, if Degree 1	When this option is activated, curves with polynomial degree 1 are transformed into lines.
• SURF	Surface	–	
• CONS	Curve on surface	–	
• FACE	Face	–	
• TOP	Topology	• Solid if closed	Depending on which of these options is selected, `closed` topologies will be exported in form of solids or surfaces. `Open` topologies in every will be exported as surfaces irrespective of the selected option.
		• Surface if closed	

② Structure elements

Element	Options	Description
• Set • Group	} Layer } Body	Set/Groups will be transferred to layers or bodies. When transferring to layers, the layers will be numbered consecutively, starting from `0`. When transferring on bodies, the bodies will be named with the set/group names.
		 When exporting both structure elements SETS and GROUPS, the transferal can be only alternatively: • *either* SETS to LAYERS and GROUPS to BODIES • *or* SETS to BODIES and GROUPS to LAYERS. It is neither possible to transfer BOTH sets and GROUPS to layers nor to transfer BOTH on BODIES.
• TMat	Transformation Matrix	The VDAFS Transformation Matrix (TMAT) will be converted into an axis system.
• TList	Transformation List	*Planned*

- *Parameter* Dialog Panel—VDAFS to CATIA—Options



① *Abort on Errors* check box

If this check box is activated, the conversion will be aborted in case of an error.

② *Create Parents* check box

If this check box is activated, in the CATIA specification tree, parent elements will be created:

- For the FACE element SURF and CONS parent elements will be created.
- For the TOP element FACE parent elements will be created.
- For the CONS element CURVE parent elements will be created.

From every VDAFS SET an Open Body is generated, the elements of the SET being included in this body. If the SET contains TOP elements, representing a solid, for each of them an individual body is generated.

In the list box, there is the choice between two alternatives:

- in any case:
  Parents will be created for all elements —not recommended, as it is to time consuming, and unnecessary elements will be created;
- if error:
  Parent elements will be created only in case of error (in this case, a message will be edited and an entry will be made in the log file).

If the check box is deactivated, no parent elements will be created.

② *Create Parent Elements as Feature* check box

If this check box is activated, parent elements are created as feature in the CATIA specification tree.

③ *Identifier* radio buttons

- If the `Use VDAFS Identifier` radio button is selected, the VDAFS identifier is used to name the CATIA feature.
- If the `New Identifier` radio button is activated, CATIA default identifiers are used.

④ *Axis System* radio buttons

Not yet implemented.

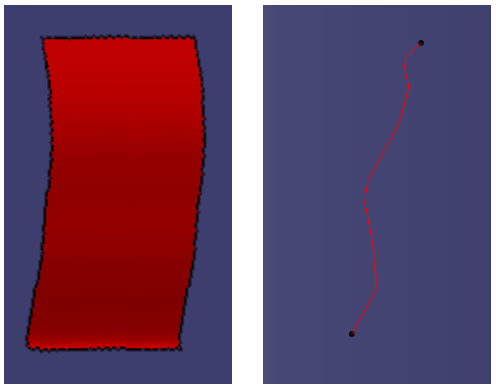
⑤ *Connect segments to individual element* control tools

⑤.1 Elements option buttons

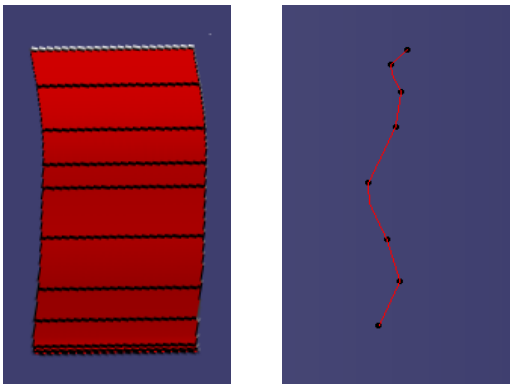
Selecting or not selecting the different element options defines how the segments of the respective elements (curves, curves on surface, surfaces) will be imported.

When an option is selected, the element will be imported by merging its segments into individual elements.

When the options are not selected, the element will be imported as a topology consisting of several pieces (faces in case of SURF, curves in case CURVE or CONS) each piece representing one segment.



Example:
result of the import by merging, consisting of unified segment of surface and curve



Example:
surface and curve, imported by breaking, i.e. as one topology consisting of several pieces

NOTE:

The converting mode by breaking into segments needs more time than merging segments do single elements.

⑫ *Continuity condition* list box

Here a continuity condition can be selected.

Elements that fulfill the selected condition will be imported using merging mode.

Elements that do not fulfill the selected condition will be imported, using breaking mode.

NOTE

Even though VDAFS PROCESSOR offers the option of using several continuity conditions (or no continuity condition at all) for the merge-mode imports, we strongly advise against using any but the C2 continuity condition—C2 continuity is the only one that we can recommend.

The use of other continuity conditions can have unpredictable results for the usability of the imported elements.

VDAFS PROCESSOR provides the administrator the facility to lock the selection of the continuity conditions ⑫ and the tolerance ⑬ so that the user can work only with the values preset by the administrator.

⑬ *Control points tolerance* text box

Specify here the desired tolerance.

2.2.3 Conversion Profiles

What is a Conversion Profile?

A conversion profile is the set of specifications about on

- what elements of a model file are to be converted,
- values for the options of a conversion.

The profile is saved in a text file with the "`tcp`" extension. For export from CATIA to VDAFS, the conversion profile can also contain information about sender, recipient and project.

The advantage of saved profiles is that for different export or import tasks, which are to be done more or less frequently, the settings can be predefined and stored in such profiles. The export or import can then be started speedily, after selecting the required profile instead of setting all parameters again.

Selecting a Profile

STEPS:

(1) Press the *Open Directory Window* button ①.

(2) Select in the *Directory* window the required profile (a file with *".tcp"* extension)

(3) Press the *OK* button ⑤.

Modifying an Existing Profile

STEPS:

(1) Press the *Open Directory Window* button ①.

(2) Select in the *Directory* window the profile that you want to modify (a file with "`.tcp`" extension).

(3) Select the conversion direction that you want to define with the VDAFS to CATIA and CATIA to VDAFS tab cards.

(4) Change the parameters on the *Element, Option* and *Header* tab cards. (Details of this tab cards are described in the chapter REF _Ref353978O4 \r \h 2.2.2 *Parameter Dialog Panel* on page 10 et sqq.).

(5) If you press the *Save* button on the right side of the *Profile* bar ①, the old parameter settings will be `overwritten` with the new settings.

(6) Press the *OK* button ⑤ to close the *Options Dialog* panel.

Creating a New Profile

STEPS:

(1) Press the *Open Directory Window* button ①.

(2) Select in the *Directory* window a profile that you want to use as the base for the new profile (a file with *tcp* extension).

(3) Select the conversion direction that you want to define with the VDAFS to CATIA and CATIA to VDAFS tab cards.

(4) Change the parameters on the *Element, Option* and *Header* tab cards.
(Details of this tab cards are described in the chapter REF _Ref353978O4 \r \h 2.2.2 *Parameter Dialog Panel* on page 10 et sqq.).

(5) Type a new name in the *Name* list box on the *Profile* bar ①.

(6) When you press the *Save* button on the right side of the *Profile* bar ①, the new profile will be saved.

(7) Press the *OK* button ⑤ to close the *Options Dialog* panel.

TIP:

Check profiles always are conversion direction specific, i. e. a given profile is either a CATIA-to-VDAFS import profile or a VDAFS-to-CATIA export profile.

In dialog operation mode, the conversion direction is defined automatically, depending on the Parameter window opened:

- If you have opened the *CATIA-to-VDAFS* parameter window and save your profile, VDAFS PROCESSOR sets the argument of the **DIRECTION_TO* parameter on "VDAFS".
- If you have opened the *VDAFS to-CATIA*-parameter window and you save your profile, VDAFS PROCESSOR sets the argument of the **DIRECTION_TO* parameter on "CATIA".

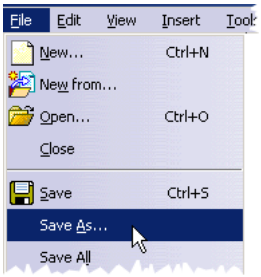
Though the profile contains all parameter for both conversion directions, for processing are taken in account only the parameters of the stated conversion direction.

For example, if the **DIRECTION_TO* parameter is set on "CATIA", only the **VC_* parameters are taken in account (i. e. the parameters for the *VDAFS to-CATIA* direction).

2.2.4 Starting Conversion

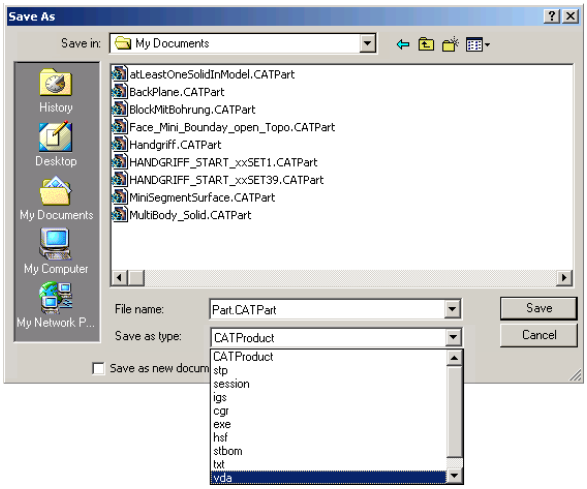
- **CATIA-to-VDAFS Export**

(1) Select CATIA menu bar item is *File* > *Save as.*



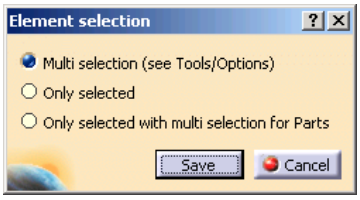
(2) In the *Save As* dialog panel, select the vda model file type.

(3) Press the *Save* button.



(4) Select in the *Element Selection* dialog box the required option.

(The functions of these options are the same as those of the options in the *Element selection* box—see there on page 12.
Displaying this dialog box can be deactivated using the CATIA option settings under *Options* > *General* > *Compatibility* > *VDAFS* tab card > *No dialog for Save As/Open* option.)



(5) Press the *Save* button.

▸ The export will be started.

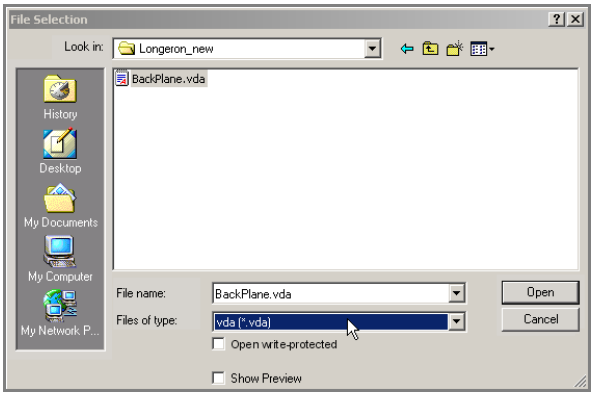
• VDAFS-to-CATIA Import

(1) Select CATIA menu bar item *File* > *Open*

(2) In the *Directory* window open the required directory.

(3) In the *File Type* list box, select `*.vda` type. Then select the file of the `vda` type with the model to be imported.

(4) Click the *Open* button.
The VDAFS file will be imported into the current CATPart.



After completing the import operation a dialog box is opened asking whether the user wants the log file get opened.
Displaying this dialog box can be deactivated using the CATIA option settings under *Options* > *General* > *Compatibility* > *VDAFS* tab card > *No dialog for Save As/Open* option.

2.3 Dialog Operation Mode

This mode can be started in two ways:

- CATIA-independently (outside of CATIA) using VDAFS desktop icon

Export: One arbitrary CATPart or CATProduct can be exported.

Import: One arbitrary VDAFS file can be imported under an arbitrary name.

- from within CATIA using VDAFS toolbar icon

The import and export are restricted as follows.

- Export: The current model CATPart or CATProduct) can be exported
- Import: A VDAFS file is imported into an (empty or not empty) activated CATPart.

Importing a VDAFS file into an opened CATProduct is not possible.

Though the aspect of the user interfaces differs between the VDAFS PROCESSOR window for the dialog conversion started from within CATIA and that one, which is started CATIA-independently, but the offered functions are the same (besides of the above mentioned import/export restriction).

NOTE:

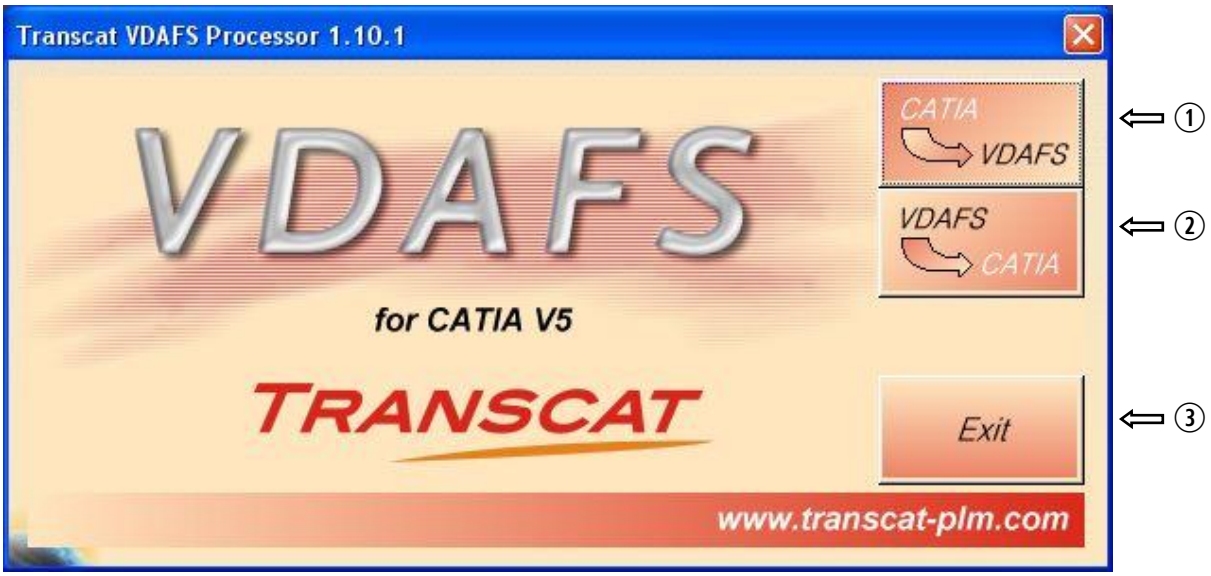
The VDAFS toolbar inside CATIA is available only:
- if a CATPart or a CATProduct is opened.
- and if the VDAFS toolbar is activated.

(The *VDAFS* toolbar can be activated in the same way as all the other CATIA toolbars are activated.)

STEPS:

(1)	Start the user interface	See above.
(2)	Select the transfer direction.	See chapter 2.3.1 *Selecting the Transfer Direction* on page 30.
(3)	Set the transfer parameters.	See chapter 2.3.2 *Setting the Transfer Parameters* on page 31.
(4)	Start the transfer operation.	See chapter 2.3.3 *Starting Conversion* on page 35.

2.3.1 Selecting the Transfer Direction



① *CATIA-to-VDAFS* button

Press this button, if you want to convert a CATIA part into a VDAFS file.

② *VDAFS-to-CATIA* button

Press this button, if you want to convert a VDAFS file into a CATIA part.

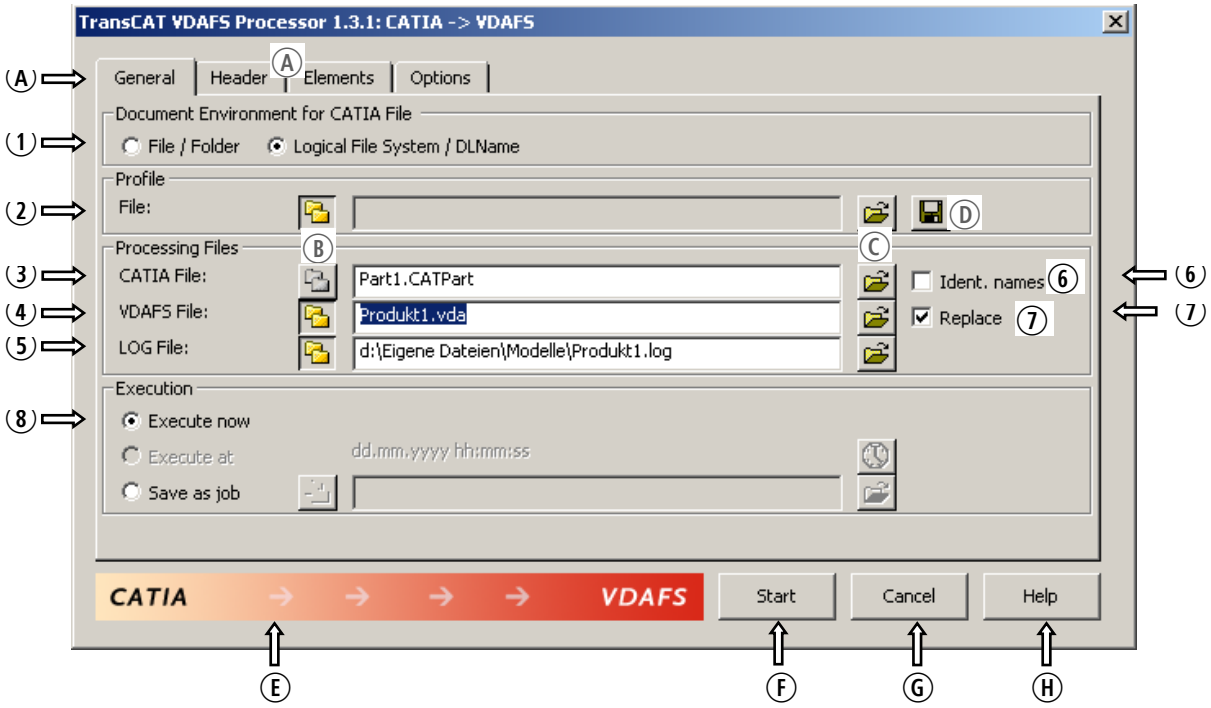
③ *Exit* Button

Press this button if you want to abort VDAFS PROCESSOR.

TIP:
In the *Parameter* Window, you can verify the transfer direction selected by means of the *Conversion Direction* Symbol on the left side of the window's bottom (see *General* Tab Card on page 31).

2.3.2 Setting the Transfer Parameters

- *Parameter* Window—*General* Tab Card



The general tab card is identical for both conversion directions–CATIA to VDAFS and VDAFS to CATIA. The only difference is the sequence of the CATPART file text box and the VDAFS file text box, which corresponds always to the conversion direction.

Standard Elements

Ⓐ Tab Cards

In the tab cards you can find parameter groups. When opening the parameter definition window, the *General* tab card is preselected.

Ⓑ *Path* buttons

OFF-position: The path is not shown in the file name text box.

ON-position: The path is shown in the file name text box.

Ⓒ *Open Directory Window* buttons

When this button is pressed, the directory window is opened, where you can select a file.

If the *Identical Names* check box is activated, after pressing this button, in the directory window the selection of catalogs only is accessible, the file name selection is blocked.

Ⓓ *Save File* button

When this button is pressed, the file will be saved.

Ⓔ Conversion Direction Symbol

Here is shown, whether the *Parameter* Window for the CATIA-to-VDAFS direction is opened or that for the VDAFS-to-CATIA direction.

Ⓕ *Start* button

When this button is pressed, the conversion will be processed.

Ⓖ *Cancel* button

When this button is pressed, the *Parameter* Window will be closed.

TIP:

If you have defined conversion parameters without saving them in a profile, and you close the parameters dialog window with the *Cancel* button or with *Close* button (windows element) the conversion parameters will be saved in the CATSettings of CATIA. When opening again this window, you will find these last settings maintained.

(This behavior of the *Cancel* button is *different* from that of *Cancel* button in the VDAFS Options window—see there.)

The parameter settings in the present parameter dialog window and the parameter settings in the options window are stored independently of each other so that in the windows of these different conversion modes different parameters can be kept.

Ⓗ *Help* button

When this button is clicked, a PDF file is opened containing the VDAFS PROCESSOR manual.

PRECONDITION:

On your computer ADOBE ACROBAT READER must be installed (version 4.0 or higher)

Specific Elements

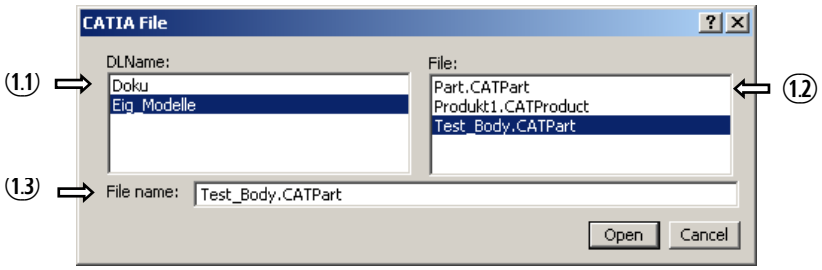
① *Document environment for Catia file* radio button
With these radio buttons, you can select the way in which the CATIA files are selected:

- File/Folder: The files are selected in a file selection dialog box by means of folders.
- Logical File System / DL Name: Instead of folders in a selection dialog box for selection the DL names are offered which the user has defined for the paths. (For details see CATIA help).

NOTE:

This selection is available only in the dialog box of the CATIA-independent dialog mode and allows to select CATIA files only.

When the *Logical File System / DL-Name* option is activated, after pressing the *Open folder dialog box* button, (instead of the usual file selection dialog box) the following dialog box is opened that allows to select files by means of DL names.



⑪ *DL name* list box

Select here a DL name. As soon as a DL name has been selected, in the *File* list box ⑫ the names of the files will be shown that are available in the respective folder.

⑫ *File* list box

Select here a CATIA file.

⑬ *File name* text box

In this text box, the name of the selected file is shown. When the *Open* button is pressed, this file name will be adopted.

NOTE:

If in case of the VDAFS→CATIA conversion direction the *Identical names* option ⑥ is activated, in the DL-name selection dialog box only a folder can be selected, but not a name.

② *Profile* text box

In this text box, the conversion profile selected in the directories is shown. You can also enter a new profile name to save a profile under a new name.

To get detailed information about the use of profiles see chapter 2.2.3 *Conversion Profiles* on page 24.

③④ *Input and Output File Name* text boxes

The upper of these two text boxes is the input (source) file text box, the lower–the output (target) file text box.

The order of the VDAFS and the CATIA file names corresponds with the conversion direction; when the VDAFS-to-CATIA conversion direction is selected, the order of the *VDAFS file* text box ③ and the *CATIA file* text box ② in comparison with the screenshot above is inverted.

In both text boxes, file names can be typed or selected in the directories. (The CATIA file name has the extension `CATPart`; the name of the VDAFS file—the extension `.vda`.)

Note:
If the dialog conversion mode has been started from within CATIA (by clicking on the toolbar icon), the CATPart file selection is inactivated. Thus, when exporting from CATIA to VDAFS, only the current CATPart can be exported. When importing from VDAFS to CATIA, the imported model will be added to the current CATPart.

⑤ *Log file* text box

In this text box, the log file name is shown. The log file name can be selected in the directories or can be typed (this can be the name of an existing log file, which will be overwritten, or a new name).

⑥ *Identical Names* check box

If it is desired to give to the output file and the log file the name identical with the input file name, activate this check box. The file name extensions are added automatically.

⑦ *Replace* check box

If this check box is activated, an existing CATIA or VDAFS file with the same name as the CATIA or VDAFS file to be created will be overwritten.

⑧ *Execution* radio buttons

With these radio buttons, you can select at what time the conversion job is to be started:

- *Execute now* radio button
  The conversion job will be started immediately after clicking the start button.
- *Execute at ...* radio button
  (The "Execute at" feature is not yet implemented).
  Save as Job radio button.
  If this option is selected, in the text box a job file name can be typed (extension "`.job`") or an existing job file can be selected in the directories. To save the settings in the specified job file, the *Start* button must be pressed.
  The job files are destined to be used as input files for batch operations. Job files are similar to conversion profiles, but contain in addition to the conversion parameters also the file names required for a job.

- ***Parameter* Window—Other Tab Cards**

The content of the other tab cards, i. e. the *Elements*, *Options* and *Header* tab cards for the CATIA-to-VDAFS conversion direction, and the *Elements* and *Options* tab cards for the VDAFS-to-CATIA conversion direction, is identical with the content of the tab cards in the Direct Operation mode, described above. For the detailed description of the tab cards see chapter 2.2.2 Parameter Dialog Panel on page 10 et sqq.

2.3.3 Starting Conversion

The conversion will be started by clicking on the *Start* button on the *Parameter* window. The execution time depends on the *Execution* setting (see *Execution* radio buttons on page 35).

2.4 Batch Mode

In the batch mode, VDAFS PROCESSOR is started without graphic user interface.

To start the batch run, the batch command is to be typed in the UNIX or WINDOWS command line. (Alternatively, the batch command can be written in a batch file, e. g. `*.bat`, or can be linked at an icon.)

The batch mode offers the following advantages:

- The VDAFS conversion can be integrated into company-own environments.
- Several conversion jobs can be processed one after another, no user interactions and no-restart being necessary.
- The VDAFS processing can also be started at a predefined time (using UNIX-command "`at`" or WINDOWS Scheduler).

Command:

```
TCAVdaBatch –env <name> -direnv <dir> -b[ -in <job>][ -out <log>]
```

or

```
TCAVdaPureBatch –env <name> -direnv <dir> -b[ -in <job>][ -out <log>]
```

The `TCAVdaPureBatch` command is to be entered when working on a computer with a display that is not a graphic display.

Option/argument	Explication
`–env <name>`	Name of the CATIA environment for VDAFS run
`-direnv <dir>`	Directory of the aforementioned CATIA environment
`-b`	Parameter, calling VDAFS PROCESSOR without graphical user interface
`-in <job>`	VDAFS job file (default: `vdafs.in` in current directory)
`-out <log>`	Processor log file (default: `vdafs.out` in current directory)

2.5 Log Files

Every conversion job is reported in a log file (having the `.log` name extension). The log file language (English or German) is determined by the CATIA language setting (for details see the language setting paragraph on page 5). For each of the conversion directions—VDAFS→CATIA and CATIA→VDAFS—separate log files are created. The log file contains:

- the parameter setting, used for the conversion job,
- the VDAFS header section
- the listing of the elements transferred and possibly not transferred, and
- possibly a listing of the errors that arose in the conversion job.

NOTE:

For the log file generally a file name must be specified. If no name has been specified, no log file can be generated, the operation system will edit an error message.

TIP:

To get a correct representation of the log file, the font selected should be a monospace font (e.g. Courier, CourierNew).

Elements of the Log Files – Export to VDFAS

Title

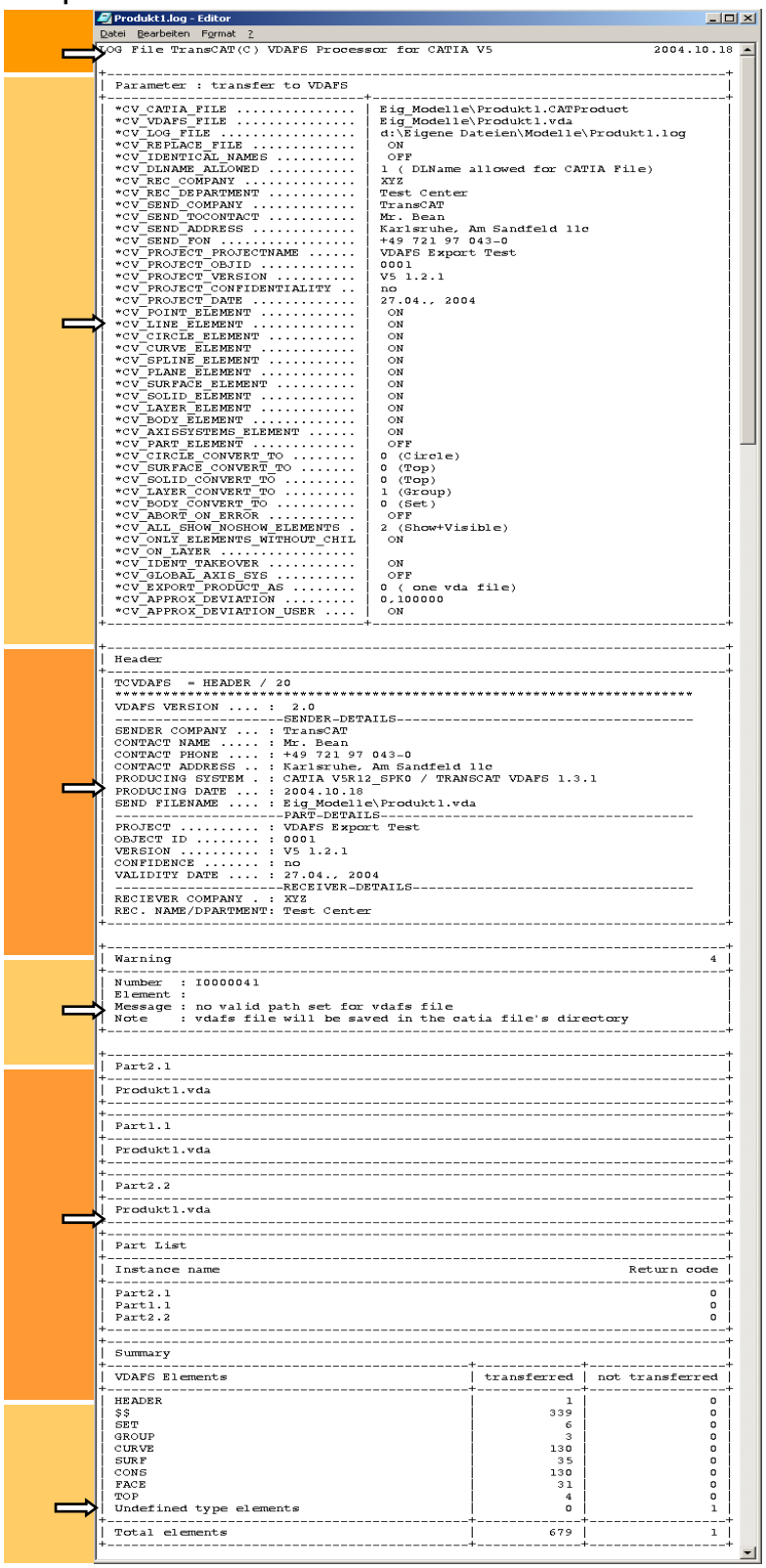
Parameter Section

VDAFS Header Section

Warning message
(edited if the need arises)

Names of the exported CATParts, if need be with error report
(Here: example for the export of a CATProduct)
Return code:
0—OK
4;8;16—errors.
Here the highest error of all found errors is displayed.)

Element Summary



Produkt1.log - Editor

Datei Bearbeiten Format ?

```
LOG File TransCAT(C) VDAFS Processor for CATIA V5                    2004.10.18

+-------------------------------------------------------------------------------+
| Parameter : transfer to VDAFS                                                 |
+-------------------------------+-----------------------------------------------+
| *CV_CATIA_FILE ............   | Eig_Modelle\Produkt1.CATProduct               |
| *CV_VDAFS_FILE ............   | Eig_Modelle\Produkt1.vda                      |
| *CV_LOG_FILE ..............   | d:\Eigene Dateien\Modelle\Produkt1.log        |
| *CV_REPLACE_FILE ..........   |  ON                                           |
| *CV_IDENTICAL_NAMES .......   |  OFF                                          |
| *CV_DLNAME_ALLOWED ........   | 1 ( DLName allowed for CATIA File)            |
| *CV_REC_COMPANY ...........   | XYZ                                           |
| *CV_REC_DEPARTMENT ........   | Test Center                                   |
| *CV_SEND_COMPANY ..........   | TransCAT                                      |
| *CV_SEND_TOCONTACT ........   | Mr. Bean                                      |
| *CV_SEND_ADDRESS ..........   | Karlsruhe, Am Sandfeld 11c                    |
| *CV_SEND_FON ..............   | +49 721 97 043-0                              |
| *CV_PROJECT_PROJECTNAME ...   | VDAFS Export Test                             |
| *CV_PROJECT_OBJID .........   | 0001                                          |
| *CV_PROJECT_VERSION .......   | V5 1.2.1                                      |
| *CV_PROJECT_CONFIDENTIALITY   | no                                            |
| *CV_PROJECT_DATE ..........   | 27.04., 2004                                  |
| *CV_POINT_ELEMENT .........   |  ON                                           |
| *CV_LINE_ELEMENT ..........   |  ON                                           |
| *CV_CIRCLE_ELEMENT ........   |  ON                                           |
| *CV_CURVE_ELEMENT .........   |  ON                                           |
| *CV_SPLINE_ELEMENT ........   |  ON                                           |
| *CV_PLANE_ELEMENT .........   |  ON                                           |
| *CV_SURFACE_ELEMENT .......   |  ON                                           |
| *CV_SOLID_ELEMENT .........   |  ON                                           |
| *CV_LAYER_ELEMENT .........   |  ON                                           |
| *CV_BODY_ELEMENT ..........   |  ON                                           |
| *CV_AXISSYSTEMS_ELEMENT ...   |  ON                                           |
| *CV_PART_ELEMENT ..........   |  OFF                                          |
| *CV_CIRCLE_CONVERT_TO .....   | 0 (Circle)                                    |
| *CV_SURFACE_CONVERT_TO ....   | 0 (Top)                                       |
| *CV_SOLID_CONVERT_TO ......   | 0 (Top)                                       |
| *CV_LAYER_CONVERT_TO ......   | 1 (Group)                                     |
| *CV_BODY_CONVERT_TO .......   | 0 (Set)                                       |
| *CV_ABORT_ON_ERROR ........   |  OFF                                          |
| *CV_ALL_SHOW_NOSHOW_ELEMENTS  | 2 (Show+Visible)                              |
| *CV_ONLY_ELEMENTS_WITHOUT_CHIL|  ON                                           |
| *CV_ON_LAYER ..............   |                                               |
| *CV_IDENT_TAKEOVER ........   |  ON                                           |
| *CV_GLOBAL_AXIS_SYS .......   |  OFF                                          |
| *CV_EXPORT_PRODUCT_AS .....   | 0 ( one vda file)                             |
| *CV_APPROX_DEVIATION ......   | 0.100000                                      |
| *CV_APPROX_DEVIATION_USER ..  |  ON                                           |
+-------------------------------+-----------------------------------------------+

+-------------------------------------------------------------------------------+
| Header                                                                        |
+-------------------------------------------------------------------------------+
| TCVDAFS  = HEADER / 20                                                        |
| ******************************************************************************|
| VDAFS VERSION .... :  2.0                                                     |
| ----------------------SENDER-DETAILS-------------------------------------     |
| SENDER COMPANY ... : TransCAT                                                 |
| CONTACT NAME ..... : Mr. Bean                                                 |
| CONTACT PHONE .... : +49 721 97 043-0                                         |
| CONTACT ADDRESS .. : Karlsruhe, Am Sandfeld 11c                               |
| PRODUCING SYSTEM . : CATIA V5R12_SPK0 / TRANSCAT VDAFS 1.3.1                  |
| PRODUCING DATE ... : 2004.10.18                                               |
| SEND FILENAME .... : Eig_Modelle\Produkt1.vda                                 |
| ----------------------PART-DETAILS----------------------------------------   |
| PROJECT .......... : VDAFS Export Test                                        |
| OBJECT ID ........ : 0001                                                     |
| VERSION .......... : V5 1.2.1                                                 |
| CONFIDENCE ....... : no                                                       |
| VALIDITY DATE .... : 27.04., 2004                                             |
| ----------------------RECEIVER-DETAILS-------------------------------------  |
| RECIEVER COMPANY . : XYZ                                                      |
| REC. NAME/DPARTMENT: Test Center                                              |
+-------------------------------------------------------------------------------+

+-------------------------------------------------------------------------------+
| Warning                                                                   4   |
+-------------------------------------------------------------------------------+
| Number  : I0000041                                                            |
| Element :                                                                     |
| Message : no valid path set for vdafs file                                    |
| Note    : vdafs file will be saved in the catia file's directory              |
+-------------------------------------------------------------------------------+

+-------------------------------------------------------------------------------+
| Part2.1                                                                       |
+-------------------------------------------------------------------------------+
| Produkt1.vda                                                                  |
+-------------------------------------------------------------------------------+
| Part1.1                                                                       |
+-------------------------------------------------------------------------------+
| Produkt1.vda                                                                  |
+-------------------------------------------------------------------------------+
| Part2.2                                                                       |
+-------------------------------------------------------------------------------+
| Produkt1.vda                                                                  |
+-------------------------------------------------------------------------------+
| Part List                                                                     |
+-------------------------------------------------------------------------------+
| Instance name                                                  Return code    |
+-------------------------------------------------------------------------------+
| Part2.1                                                                    0  |
| Part1.1                                                                    0  |
| Part2.2                                                                    0  |
+-------------------------------------------------------------------------------+
| Summary                                                                       |
+-------------------------------------+-------------+-------------------------+
| VDAFS Elements                      | transferred | not transferred         |
+-------------------------------------+-------------+-------------------------+
| HEADER                              |           1 |                       0 |
| $$                                  |         339 |                       0 |
| SET                                 |           6 |                       0 |
| GROUP                               |           3 |                       0 |
| CURVE                               |         130 |                       0 |
| SURF                                |          35 |                       0 |
| CONS                                |         130 |                       0 |
| FACE                                |          31 |                       0 |
| TOP                                 |           4 |                       0 |
| Undefined type elements             |           0 |                       1 |
+-------------------------------------+-------------+-------------------------+
| Total elements                      |         679 |                       1 |
+-------------------------------------+-------------+-------------------------+
```

Elements of the Log Files – Import from VDFAS

Title

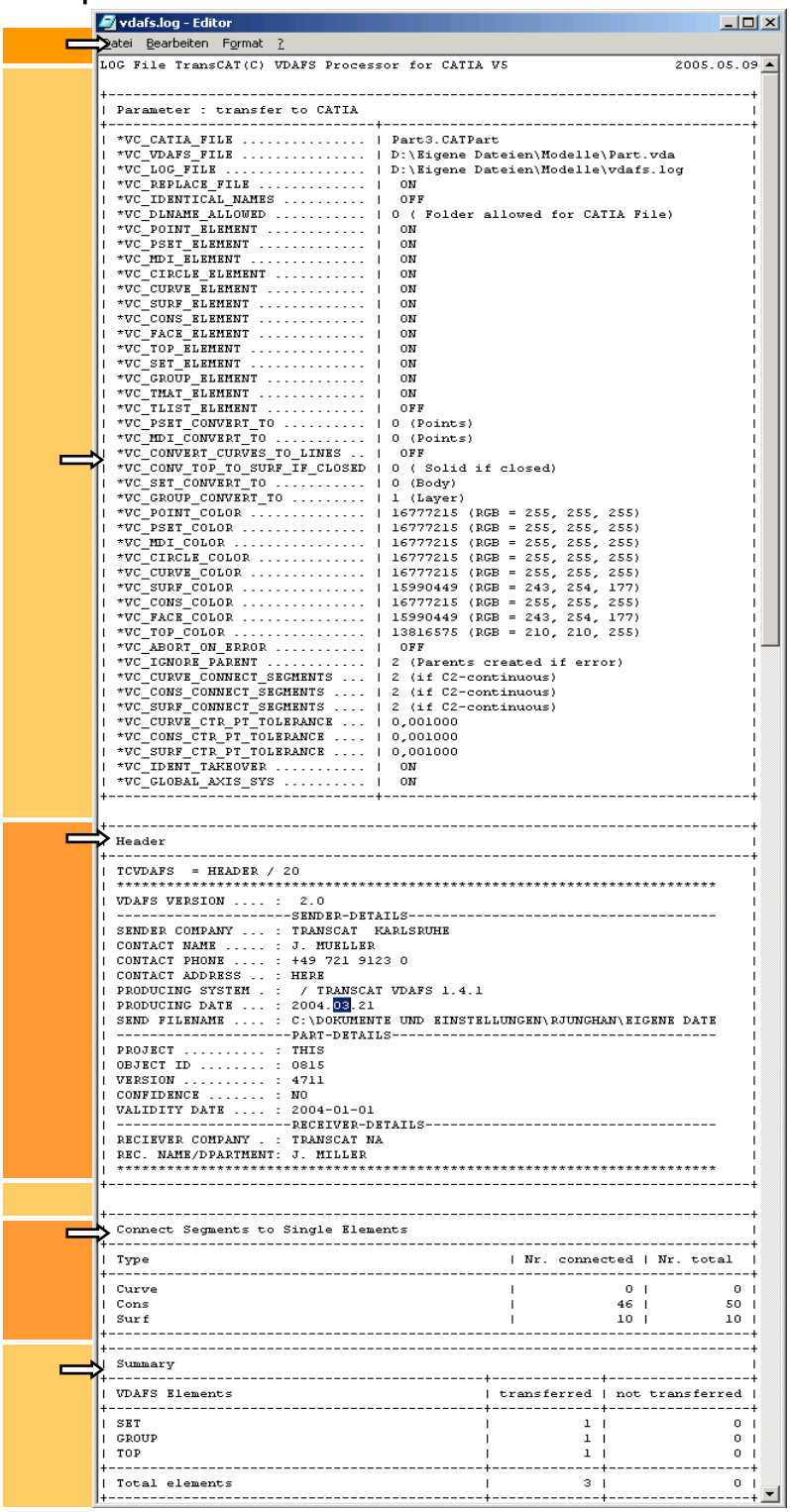
Parameter Section

VDAFS Header Section (the data is taken from the imported VDAFS file)

(These example log file does not contain a warning message.)

Number of segments connected/not connected to individual elements

Element Summary



vdafs.log - Editor

Datei Bearbeiten Format ?

```
LOG File TransCAT(C) VDAFS Processor for CATIA V5                    2005.05.09

+-------------------------------------------------------------------------------+
| Parameter : transfer to CATIA                                                 |
+-------------------------------+-----------------------------------------------+
| *VC_CATIA_FILE ............. | Part3.CATPart                                 |
| *VC_VDAFS_FILE ............. | D:\Eigene Dateien\Modelle\Part.vda            |
| *VC_LOG_FILE ............... | D:\Eigene Dateien\Modelle\vdafs.log           |
| *VC_REPLACE_FILE ........... |  ON                                           |
| *VC_IDENTICAL_NAMES ........ |  OFF                                          |
| *VC_DLNAME_ALLOWED ......... | 0 ( Folder allowed for CATIA File)            |
| *VC_POINT_ELEMENT .......... |  ON                                           |
| *VC_PSET_ELEMENT ........... |  ON                                           |
| *VC_MDI_ELEMENT ............ |  ON                                           |
| *VC_CIRCLE_ELEMENT ......... |  ON                                           |
| *VC_CURVE_ELEMENT .......... |  ON                                           |
| *VC_SURF_ELEMENT ........... |  ON                                           |
| *VC_CONS_ELEMENT ........... |  ON                                           |
| *VC_FACE_ELEMENT ........... |  ON                                           |
| *VC_TOP_ELEMENT ............ |  ON                                           |
| *VC_SET_ELEMENT ............ |  ON                                           |
| *VC_GROUP_ELEMENT .......... |  ON                                           |
| *VC_TMAT_ELEMENT ........... |  ON                                           |
| *VC_TLIST_ELEMENT .......... |  OFF                                          |
| *VC_PSET_CONVERT_TO ........ | 0 (Points)                                    |
| *VC_MDI_CONVERT_TO ......... | 0 (Points)                                    |
| *VC_CONVERT_CURVES_TO_LINES .. |  OFF                                        |
| *VC_CONV_TOP_TO_SURF_IF_CLOSED | 0 ( Solid if closed)                       |
| *VC_SET_CONVERT_TO ......... | 0 (Body)                                      |
| *VC_GROUP_CONVERT_TO ....... | 1 (Layer)                                     |
| *VC_POINT_COLOR ............ | 16777215 (RGB = 255, 255, 255)                |
| *VC_PSET_COLOR ............. | 16777215 (RGB = 255, 255, 255)                |
| *VC_MDI_COLOR .............. | 16777215 (RGB = 255, 255, 255)                |
| *VC_CIRCLE_COLOR ........... | 16777215 (RGB = 255, 255, 255)                |
| *VC_CURVE_COLOR ............ | 16777215 (RGB = 255, 255, 255)                |
| *VC_SURF_COLOR ............. | 15990449 (RGB = 243, 254, 177)                |
| *VC_CONS_COLOR ............. | 16777215 (RGB = 255, 255, 255)                |
| *VC_FACE_COLOR ............. | 15990449 (RGB = 243, 254, 177)                |
| *VC_TOP_COLOR .............. | 13816575 (RGB = 210, 210, 255)                |
| *VC_ABORT_ON_ERROR ......... |  OFF                                          |
| *VC_IGNORE_PARENT .......... | 2 (Parents created if error)                  |
| *VC_CURVE_CONNECT_SEGMENTS ... | 2 (if C2-continuous)                       |
| *VC_CONS_CONNECT_SEGMENTS .... | 2 (if C2-continuous)                       |
| *VC_SURF_CONNECT_SEGMENTS .... | 2 (if C2-continuous)                       |
| *VC_CURVE_CTR_PT_TOLERANCE ... | 0,001000                                   |
| *VC_CONS_CTR_PT_TOLERANCE .... | 0,001000                                   |
| *VC_SURF_CTR_PT_TOLERANCE .... | 0,001000                                   |
| *VC_IDENT_TAKEOVER ......... |  ON                                           |
| *VC_GLOBAL_AXIS_SYS ........ |  ON                                           |
+-------------------------------+-----------------------------------------------+

+-------------------------------------------------------------------------------+
| Header                                                                        |
+-------------------------------------------------------------------------------+
| TCVDAFS  = HEADER / 20                                                        |
| ***************************************************************************** |
| VDAFS VERSION .... :  2.0                                                     |
| ----------------------SENDER-DETAILS---------------------------------------- |
| SENDER COMPANY ... : TRANSCAT  KARLSRUHE                                      |
| CONTACT NAME ..... : J. MUELLER                                               |
| CONTACT PHONE .... : +49 721 9123 0                                           |
| CONTACT ADDRESS .. : HERE                                                     |
| PRODUCING SYSTEM . :  / TRANSCAT VDAFS 1.4.1                                  |
| PRODUCING DATE ... : 2004.03.21                                               |
| SEND FILENAME .... : C:\DOKUMENTE UND EINSTELLUNGEN\RJUNGHAN\EIGENE DATE      |
| ----------------------PART-DETAILS------------------------------------------ |
| PROJECT ........... : THIS                                                    |
| OBJECT ID ......... : 0815                                                    |
| VERSION ........... : 4711                                                    |
| CONFIDENCE ........ : NO                                                      |
| VALIDITY DATE ..... : 2004-01-01                                              |
| ----------------------RECEIVER-DETAILS--------------------------------------- |
| RECIEVER COMPANY . : TRANSCAT NA                                              |
| REC. NAME/DPARTMENT: J. MILLER                                                |
| ***************************************************************************** |
+-------------------------------------------------------------------------------+

+-------------------------------------------------------------------------------+
| Connect Segments to Single Elements                                           |
+-------------------------------------------------------------------------------+
| Type                                          | Nr. connected | Nr. total     |
+-------------------------------------------------------------------------------+
| Curve                                         |             0 |             0 |
| Cons                                          |            46 |            50 |
| Surf                                          |            10 |            10 |
+-------------------------------------------------------------------------------+

+-------------------------------------------------------------------------------+
| Summary                                                                       |
+-----------------------------------------------+-------------+-----------------+
| VDAFS Elements                                | transferred | not transferred |
+-----------------------------------------------+-------------+-----------------+
| SET                                           |           1 |               0 |
| GROUP                                         |           1 |               0 |
| TOP                                           |           1 |               0 |
+-----------------------------------------------+-------------+-----------------+
| Total elements                                |           3 |               0 |
+-----------------------------------------------+-------------+-----------------+
```

2.6 Conversion Errors

In case that errors occur, error messages are displayed—as far as possible at an early stage—in order to help the user to prevent early enough the emergence of errors.

For the following errors for technical reasons no error messages can be displayed; they are stated only in the conversion report.

Error	When the error occurs?	Reason	Elimination
A component not has been exported	When exporting CATProducts to VDAFS	A component is not loaded and not visible.	Load the component.
		Broken link—the component is not in the directory which is indicated in the reference link.	Reestablish the link (consistence between the location of the component and the link).

TIP:

To make the error elimination easier, the following tools can be used:

- CATIA function “Desk” (menu bar item *File* > *Desk*)
- Preventive checking (before converting) of the CATProduct with the TRANSCAT checking tool Q-CHECKER—criterion “Product Component with Broken Link to Part/Product”.

3. Appendix

3.1 Description of VDAFS Database

VDAFS Files consist of lines, each with 80 characters. The columns 73–80 of each line contain an increasing, but not necessarily continuous sequence number. Leading numeration spaces are zero filled.

The file contains geometrical elements and non-geometrical elements (header, comments, structural elements, transformation data, trailer).

The first text lines (at least 20) of a VDFAS-file contain the header, used to identify the file automatically. These lines must at least contain the following information:

```
VDAFS Version (at present 1.0 or 2.0)
Company (Sending)
Name (Sending)
Phone
Address
Creation Date
Project
Object Code
Company (Receiving)
Name/Department (Receiving)
```

The next section of the VDAFS file contains the description of the geometrical elements following an exact syntax.

The non-geometrical element group of elements *GROUP* is provided to combine several elements in order to form a group.

Comment lines can be inserted as many as required.

The VDAFS file is closed by the trailer, standing as the last line of the file.

3.2 Syntax of VDAFS Format

Element description: The description of all elements starts with the element name (max. 8 characters), followed by an equals sign and the element type:

```
name = <elementtype>/[parameter, parameter, … parameter]
```

Element names: The element names may be written only in capital letters (A to Z) or digits (0 to 9). The first character of a name must be a letter.

Parameters: If an element has more than one parameter, the parameters are comma separated. Depending on the element definition, parameters can be written either as integer or as real numbers. If the number is a real number, the decimal point (.) always must be stated. If the decimal point is not stated, an error will occur because the parameter will be interpreted as integer. The whole parameter set of an element can take several lines. An individual parameter is to be started in a new line. Logically the parameter separator is considered as belonging to the number.

In the following, there will be given an overview of the geometrical elements, defined by the VDAFS exchange format (version 2.1).

Example VDAFS file

```
TCVDAFS  = HEADER / 20                                                    00000010
**************************************************************************00000020
VDAFS VERSION .... :  2.0                                                 00000030
--------------------SENDER-DETAILS-------------------------------------00000040
SENDER COMPANY ... : TRANSCAT  KARLSRUHE                                  00000050
CONTACT NAME ..... : J. KRAUT                                             00000060
CONTACT PHONE .... : +49 721 9123 0                                       00000070
CONTACT ADDRESS .. : STREET+NUMBER                                        00000080
PRODUCING SYSTEM . :  / TRANSCAT VDAFS 0.0.2                              00000090
PRODUCING DATE ... : 2003.03.21                                           00000100
SEND FILENAME .... : C:\DOKUMENTE UND EINSTELLUNGEN\RJUNGHAN\EIGENE DATE00000110
--------------------PART-DETAILS--------------------------------------00000120
PROJECT .......... : THIS                                                 00000130
OBJECT ID ........ : 0815                                                 00000140
VERSION .......... : 4711                                                 00000150
CONFIDENTIALITY .. : NO                                                   00000160
VALIDITY DATE .... : 2004-01-01                                           00000170
--------------------RECEIVER-DETAILS-----------------------------------00000180
RECIEVER COMPANY . : TRANSCAT NA                                          00000190
REC. NAME/DPARTMENT: U. SAM                                               00000200
**************************************************************************00000210
$$ Layer nr 1000                                                          00000220
SET00000 = BEGINSET                                                       00000230
$$  Solid Surface.1                                                       00000240
SURF0000 = SURF / 1,1,-3.440000000E+00,+3.784000000E+01,                  00000250
           -2.000000000E+00,+2.200000000E+01,                             00000260
           2,2,                                                           00000270
           -5.000000000E+01,+0.000000000E+00,+0.000000000E+00,            00000280
           +0.000000000E+00,+2.160000000E+00,+4.128000000E+01,            00000290
           +0.000000000E+00,-1.776356839E-15,-2.000000000E+00,            00000300
           +0.000000000E+00,+2.400000000E+01,+0.000000000E+00             00000310
$$ PartBody                                                               00000320
CURVE000 = CURVE / 1,                                                     00000330
           +0.000000000E+00,+1.000000000E+00,                             00000340
           2,-5.000000000E+01,+0.000000000E+00,+4.000000000E+01,          00000350
           +0.000000000E+00,+0.000000000E+00,+2.000000000E+01             00000360
$$ PartBody                                                               00000370
CONS0000 = CONS / SURF0000,CURVE000,+0.000000000E+00,+1.000000000E+00,    00000380
           1,+0.000000000E+00,+1.000000000E+00,                           00000390
           2,+3.440000000E+01,+0.000000000E+00,+0.000000000E+00,          00000400
           +2.000000000E+01                                               00000410
              :          :                                                    :
$$  Solid Face.1                                                          00000720
FACE0000 = FACE / SURF0000,1,                                             00000730
           4,CONS0000,+0.000000000E+00,+1.000000000E+00,                  00000740
           CONS0001,+1.000000000E+00,+0.000000000E+00,                    00000750
           CONS0002,+1.000000000E+00,+0.000000000E+00,                    00000760
           CONS0003,+0.000000000E+00,+1.000000000E+00                     00000770
            :        :                                    :
$$ PartBody                                                               00012580
TOP00000 = TOP / 25,                                                      00012590
           FACE0000,1,CONS0000,0,1,                                       00012600
           FACE0001,1,CONS0006,0,1,0,                                     00012610
           FACE0000,1,CONS0001,0,1,                                       00012620
           FACE0002,1,CONS0010,0,1,0,                                     00012630
               :          :                                                  :
           FACE0008,1,CONS0039,0,1,0,                                     00013070
           FACE0009,1,CONS0044,0,1,                                       00013080
           FACE0010,1,CONS0047,0,1,0                                      00013090
SET00000 = ENDSET                                                         00013100
$$ No Identifier                                                          00013110
GROUP000 = GROUP / 1,                                                     00013120
           TOP00000                                                       00013130
TCVDAFS  = END                                                            00013140
        SUR19   , SUR22   , SUR15                                         00007840
TCVDAFS = END                                                             00007850
```

• Geometrical Elements

Point name = POINT/x,y,z	
• name	Name of the Point
• x,y,z	Real coordinates of the point
• Example	P001=POINT/10.5,-10.,12.5

Set of Points name = PSET/n,(n)*[x,y,z]	
• name	Name of the Set of Points
• n	Number of points (n = integer value)
• (n)*[x,y,z]	For n points exactly n coordinates are to be specified.
• Example	PF001=PSET/2,5.,3.,0.,2.5,0.55,10.

Point and Vector name = MDI/n,(n)*[x,y,z,vx,vy,vz]	
• name	Name of the Point-Vector Set
• n	Number of sextuples (integer value)
• (n)* [x, y, z, vx, vy, vz]	For the n points exactly 3 n-times 3 coordinates and 3 vector-components are to be specified
• Example	DI1=MDI/2,5.,3.,0.,1.3,9.2,1.,2.5,.5,1.,.9,1.2,1.

Circle name = CIRCLE / x,y,z,r,vx,vy,vz,wx,wy,wz,a,b	
• name	Name of the Circle
• x,y,z	Co ordinates of the circle center
• vx,vy,vz	Components of the orthogonal vector
• wx,wy,wz	Definition of circle level
• a,b	Start/end angle in degree
• Example	CIR1 = CIRCLE /1.0,1.0,1.4,1.0,-0.5, -0.5,0.7,0.7,-0.7,0.0,30.0,138.0

Curve

```
name = CURVE/n,(n+1)*[par],(n)*[iord,(iord)*[ax], (iord)*[ay], [iord)*[az]]
```

• name	Name of the Curve
• n	Number of segments which form the curve
• iord	Relevant polynomial order of curve segments
• par	Global parameter values at start/end points of the segment
• ax,ay,az	Co efficient of current curve segment
• Example	See Example VDAFS File

Surface

```
name = SURF/nps,npt,((nps+1))*[pars],((npt+1))*[part]
       ((nps*npt))*[iordu,iordv,((iordu*iordv))*[ax],
       ((iordu*iordv))*[ay],((iordu*iordv))*[ax]]
```

• name	Name of the Surface
• nps,npt	Number of surface segments in u- and v-direction
• iordu,iordv	Polynomial order of the current surface segment in u- and v-direction.
• pars,part	Definition of surface segments in s- and t-direction
• ax,ay,az	Co efficient of the current surface segment
• Example	See Example VDAFS File

Curve on Surface

```
name = CONS / SURFNAME,CURVENAME,S1,S2,NP, (np=1))*[parp], (np)*[iordp,
       (iordp0*[as],(iordp)*[at]]
```

• name	Name of the Curve on Surface
• surfname	Element name SURF
• curvename	Element name CURVE
• s1,s2	Global parameter values of the curve
• np	Number of curve segments for the two dimensional curve
• iordp	Relevant polynomial of curve segments
• as,at	Relevant co efficient of curve segments
• parp	Global parameter values of the two dimensional curve at the relevant start or end points of the segments
• Example	See Example VDAFS File

Limited Surface name = FACE / surfname,m,(m) * [n,(n)*[consname,w1,w2]]	
• name	Name of the Limited Surface
• surfname	Element name SURF
• consname	Element name CONS
• m	Number of closed surface curve chains
• n	Number of CONS elements of a surface curve chain
• w1,w2	Global parameter values of the surface curves which determine start and end value of a part of a CONS-element.
• as,at	Relevant to efficient of curve segments
• parp	Global parameter values of the two dimensional curve at the relevant start or finishing points of the segments
• Example	See Example VDAFS File

Surface Union name = TOP/m,(m)*[(2)*[fsname,n,(n)* [consname,w1,w2]], icont]	
• name	Name of the Surface union
• fsname	Name of an element SURF or an element FACE
• consname	Name of an element CONS
• m	Number of pairs of touching surfaces (pieces) (SURF/FACE)
• n	Number of CONS-elements of a surface curve chain
• w1,w2	Global parameter values of the surface curves which determine start and end value of a part of a CONS-element.
• icont	Transition type (0=constant, 1-tangential constant, 2=tangential and curvature constant)
• Example	See Example VDAFS File

• Non-Geometrical Elements

The following non-geometrical elements are supplied by the VDAFS exchange format.

Header `name = HEADER /n`	
Mandatory entry at the beginning of the VDAFS file	
• `name`	Name of the header
• `n` `(n > 19)`	Number of text lines which follow the initial line. Within the header no comment lines are allowed.

Comment `$$text`	
• `text`	Arbitrary text Each line that is to be used as comment line has to be marked by $$ in the first two columns. No comment lines are allowed within the begin code. Otherwise comments can be added anywhere.

Structure `name = BEGINSET; name = ENDSET`	
• `name`	Name of the Structure. The structure element is used to combine several elements to groups. This makes it possible to process individual data selectively. The assignment of one element to a group must be clearly possible. The names in BEGINSET and ENDSET must be identical. Each BEGINSET has to be followed by ENDSET as next structure order. The in boxing or overlapping of groups is not allowed.

Group `name = GROUP / n,(n)*[elementname]`	
• `name`	Name of the group
• `n`	Number of elements in the group
• `elementname`	Names of elements; allowed are: POINT, PSET, MDI, CIRCLE, CURVE, SURF, CONS, FACE, TOP, GROUP

Transformation matrix `name = TMAT / c11,c12,c13,c21,c22,c23,c31,c32,c33,c41, c42,c43`	
• `name`	Name of the Transformation Matrix
• `c11-c43`	Coefficient of transformation matrix for rotation, shearing, scaling and translation.

Transformation list `name = TLIST / tmatname,n,(n)*[elementname]`	
• `name`	Name of the Transformation List
• `n`	Number of elements in the transformation list
• `tmatname`	Name of the Transformation Matrix
• `elementname`	Names of elements Allowed elements are: `POINT, PSET, MDI, CIRCLE, CURVE, SURF, CONS, FACE, TOP, GROUP`

End code `name = END`	
Mandatory entry, last line of the VDAFS file	
• `name`	Name of the End Code; must correspond with name of the Begin Code.

3.3 VDAFS PROCESSOR Parameters for CATIA V5

3.3.1 General Parameters

***DIRECTION_TO**	
Signification:	Transfer direction
• CATIA	Transfer direction VDAFS to CATIA
• VDAFS	Transfer direction CATIA to VDAFS

3.3.2 CATIA-to-VDAFS Export

3.3.2.1 General

***CV_DLNAME_ALLOWED**	
Signification:	Selection of the document environment for selecting CATIA model files
• 0 (default)	As document environment paths are used.
• 1	As document environment DL names are used.

***CV_CATIA_FILE**	
Signification:	Path, name and extension of the CATPart to be converted to VDAFS
• <name>	Path, name and extension of the CATPart

***CV_VDAFS_FILE**	
Signification:	Path, name and name extension of the target VDAFS file to be created from the specified CATPart. If the path name is not specified the file will be written in the current directory.
• <name>	Path, name and extension of the VDAFS file to be created

***CV_LOG_FILE**	
Signification:	Path, name and extension of the log file
• Default:	.\vdafs.log in the current directory

***CV_REPLACE_FILE**	
Signification:	Allow / not allow file replacing.

• OFF (default)	If a file with the same name exists, it will not be replaced. An error message will be displayed.
• ON	An existing file with the same name will be replaced.

***CV_IDENTICAL_NAMES**	
Signification:	Adopt the name of the source file as name for the target file and the log file
• OFF (default)	The name will be adopted.
• ON	The name will be not adopted.

3.3.2.2 Header

***CV_REC_COMPANY**	***CV_SEND_ADDRESS**	***CV_SEND_VERSION**
***CV_REC_DEPARTMENT**	***CV_SEND_FON**	***CV_SEND_CONFIDENTIALITY**
***CV_SEND_COMPANY**	***CV_SEND_PROJECTNAME**	***CV_SEND_DATE**
***CV_SEND_TOCONTACT**	***CV_SEND_OBJID**	

Signification:	Data for the VDAFS file header: Receiving company's name, receiver's name/department, sender's company name, contact person in sender's company, sender's company address, sender telephone number, project name, object description number, variants, confidentiality, validity period.
• <text>	Respective text

3.3.2.3 Elements

***CV_POINT_ELEMENT**	***CV_SKETCH_ELEMENT**	***CV_SOLID_ELEMENT**
***CV_LINE_ELEMENT**	***CV_PLANE_ELEMENT**	***CV_LAYER_ELEMENT**
***CV_CIRCLE_ELEMENT**	***CV_REF_PLANE_ELEMENT**	***CV_BODY_ELEMENT**
***CV_CURVE_ELEMENT**	***CV_SURFACE_ELEMENT**	

Signification:	Allow to convert the elements (point, line, circle, curve, spline, plane, surface, solid, layer, body).
• ON (default)	The respective CATIA elements will be converted.
• OFF	The respective CATIA elements are not converted. However, essential basis-elements will be created.

***CV_PART_ELEMENT**	
Signification:	Export of CATParts, situated inside a CATProduct
• ON	CATParts will be converted.
• OFF (default)	CATParts will not be converted.

***CV_AXISSYSTEMS_ELEMENT**	
Signification:	Export of user defined axis systems
• ON (default)	User defined axis systems will be converted
• OFF (default)	User defined axis systems will be not converted

***CV_CIRCLE_CONVERT_TO**	
Signification:	Form of the conversion of CIRCLE to VDAFS
• 0 (default)	CIRCLE remains CIRCLE
• 1	Convert CIRCLE to CURVE

***CV_SURFACE_CONVERT_TO**	
Signification:	Form of the conversion of SURFACE to VDAFS
• 0 (default)	Convert to TOP
• 1	Convert to FACES

***CV_SOLID_CONVERT_TO**	
Signification:	Form of the conversion of SOLID to VDAFS
• 0 (default)	Convert to TOP
• 1	Convert to FACES

***CV_LAYER_CONVERT_TO**	
Signification:	Form of the conversion of LAYER to VDAFS
• 0 (default)	Convert to SET
• 1	Convert to GROUP

*CV_BODY_CONVERT_TO	
Signification:	Form of the conversion of BODY to VDAFS
• 0 (default)	Convert to SET
• 1	Convert to GROUP

3.3.2.4 Options

*CV_ABORT_ON_ERROR	
Signification:	Error Reaction
• OFF (default)	If an error occurs, the VDAFS processing will be continued.
• ON	If an error occurs, the VDAFS processing will be interrupted.

*CV_ALL_SHOW_NOSHOW_ELEMENTS	
Signification:	Export of elements according to their visibility state
• 0	All elements will be exported—elements with shown as well as with hidden state.
• 1	Only the elements with shown state will be exported.
• 2 (default)	Only the elements with shown state, that are really visible, will be exported.

*CV_ONLY_ELEMENTS_WITHOUT_CHILDREN	
Signification:	Export of elements according to the existence of child elements
• OFF	All elements will be exported—elements with child elements as well as elements that have no child elements.
• ON (default)	Only elements without child elements check box will be exported.

*CV_ON_LAYER	
Signification:	Export of elements according to their layer attribution
• <string>	If no layer is specified, all layers will be included in the export. If layers are specified, the export then will be restricted on the specified layers. (In the <string> will be included the layer numbers entered in the text box.)

***CV_IDENT_TAKEOVER**	
Signification:	Using CATIA identifiers as comments in the VDAFS-file
• OFF	CATIA identifiers are not written as comments in the VDAFS-file.
• ON (default)	CATIA identifiers are written as comments in the VDAFS-file.

***CV_GLOBAL_AXIS_SYS**	
Signification:	Selection of a reference axis system for the export
• OFF	The coordinates will be indicated relating to the local axis system
• ON (default)	The coordinates will be indicated relating to the global axis system

***CV_APPROX_DEVIATION**	
Signification:	User defined approximation deviation. (This value is applied if the CV_APPROX_DEVIATION_USER parameter is set on ON.)
• <double>	Value of user defined approximation deviation.

***CV_APPROX_DEVIATION_USER**	
Signification:	Using or not using user defined approximation deviation
• OFF	The user defined approximation deviation is not used.
• ON (default)	The user defined approximation deviation is used.

***CV_EXPORT_PRODUCT_US**	
Signification:	Export of a CATProduct into one or several VDAFS files
• 0 (default)	A CATProduct will be exported with all its components into one only VDAFS file.
• 1	Every component of a CATProduct will be exported into an individual VDAFS file.

3.3.3 VDAFS-to-CATIA Import

3.3.3.1 General

***VC_DLNAME_ALLOWED**	
Signification:	Selection of the document environment for saving imported models into CATIA model files
• `0` (default)	As document environment paths are used.
• `1`	As document environment DL names are used.

***VC_VDAFS_FILE**	
Signification:	File name of the VDAFS file to be converted in a CATPart. If the path name is not specified, the file is created in the current directory.
• `<name>`	Name of the source VDAFS file

***VC_CATIA_FILE**	
Signification:	Name and path of the CATPart to be created from the VDAFS file. If the path name is not specified, the file is created in the current directory.
• `<name>`	File name and path of the CATPart

***VC_LOG_FILE**	
Signification:	Path, name and extension of the log file
• `Default:`	`.\vdafs.log` in the current directory

***VC_REPLACE_FILE**	
Signification:	Allow / not allow file replacing.
• `OFF` (default)	If a CATIA-file with the same name already exists, it will not be replaced. An error message will be displayed.
• `ON`	An existing CATIA-file with the same name will be replaced.

***VC_IDENTICAL_NAMES**	
Signification:	Adopt the name of the source file as name for the target file and the log file
• `OFF`(default)	The name will be `not` adopted.
• `ON`	The name will be `adopted`.

3.3.3.2 Elements

***VC_POINT_ELEMENT**	***VC_SURF_ELEMENT**	***VC_SET_ELEMENT**
***VC_PSET_ELEMENT**	***VC_CONS_ELEMENT**	***VC_GROUP_ELEMENT**
***VC_MDI_ELEMENT**	***VC_FACE_ELEMENT**	***VC_TMAT_ELEMENT**
***VC_CIRCLE_ELEMENT**	***VC_TOP_ELEMENT**	***VC_TLIST_ELEMENT**[1]
***VC_CURVE_ELEMENT**		

Signification:	Allow/not allow the conversion of elements (POINT, PSET, MDI, CIRCLE, CURVE, SURF, CONS, FACE, TOP, SET, GROUP; TMAT, *TLIST*[1]).
• ON (default)	The respective VDAFS elements will be converted.
• OFF	The respective VDAFS elements will be not converted. However essential basis-elements will be created.

[1] *These elements at present can not be activated, as these functions are not yet implemented— these elements can not yet be imported into* CATIA.

***VC_PSET_CONVERT_TO**	
Signification:	Form of the conversion of VDAFS-PSET (set of points)
• 0 (default)	All PSET elements from the VDAFS file will be converted to CATIA into points.
• 1	All PSET elements from the VDAFS file will be converted to CATIA into polygons.
• 2	All PSET elements from the VDAFS file will be converted to CATIA into lines, the lines being drawn from point to point.
• 3	All PSET elements from the VDAFS file will be converted to CATIA into splines.

***VC_MDI_CONVERT_TO**		
Signification:	Form of the conversion of VDAFS-MDI – Point and Vector	
• 0 (default)	Points	All MDI elements from the VDAFS file will be converted to CATIA into points.
• 1	Points+Lines	All MDI elements from the VDAFS file will be converted to CATIA into lines with their end points, the lines being drawn from point to point.
• 2	Lines	All MDI elements from the VDAFS file will be converted to CATIA into lines, the lines being drawn from point to point.
• 3	Polygon	All MDI elements from the VDAFS file will be converted to CATIA into polygons.
• 4	Spline	All MDI elements from the VDAFS file will be converted to CATIA into splines.
• 5	Spline+Tangent	All MDI elements from the VDAFS file will be converted to CATIA into splines, the vectors being used as tangents.

***VC_CONVERT_CURVES_TO_LINES**	
Signification:	Form of the conversion of VDAFS-Curve
• OFF (default)	Degree 1 curves in CATIA will remain curves.
• ON	Degree 1 curves in CATIA will be converted into lines.

***VC_CONV_TOP_TO_SURF_IF_CLOSED**		
Signification:	Form of the conversion of TOP to VDAFS	
• 0 (default)	• Solid if closed	Depending on which of these options is selected, closed topologies will be exported in form of solids or surfaces. Open topologies in every case—irrespective of the selected option—will be exported as surfaces.
• 1	• Surface if closed	

***VC_SET_CONVERT_TO**		
Signification:	Form of the conversion of VDAFS-SET	
• 0 (default)	Body	From every VDAFS SET a body is generated, the elements of the SET being included in this body.
• 1	Layer	All elements of a VDAFS SET will be transferred on an individual CATIA layer (elements of SET 1 on layer 0, elements of SET 2 on layer 2, and so on).

***VC_GROUP_CONVERT_TO**		
Signification:	Form of the conversion of VDAFS-GROUP	
• 0	Body	From every VDAFS GROUP, a body is generated, the elements of the GROUP being included in this body.
• 1 (default)	Layer	All elements of a VDAFS GROUP will be transferred on an individual CATIA layer (elements of GROUP 1 on layer 0, elements of GROUP 2 on layer 2, and so on).

***VC_POINT_COLOR**	***VC_CIRCLE_COLOR**	***VC_CONS_COLOR**
***VC_PSET_COLOR**	***VC_CURVE_COLOR**	***VC_FACE_COLOR**
***VC_MDI_COLOR**	***VC_SURF_COLOR**	***VC_TOP_COLOR**
Signification:	Element colors	
• <integer>	The color of each element is defined by an 4 bytes integer (red—bits 16-23, green—bits 8-15, blue—bits 0-7).	

3.3.3.3 Options

***VC_ABORT_ON_ERROR**	
Signification:	Error reaction
• OFF (default)	If an error occurs, the VDAFS conversion will be continued.
• ON	If an error occurs, the VDAFS conversion will be aborted.

***VC_IGNORE_PARENT**	
Signification:	Conversion of parent elements
• 0	Parent elements which were used to create other geometrical elements and which are no more needed will be not converted.
• 1	... will be converted in every case.
• 2 (default)	... will be converted only in error case.

***VC_IDENT_TAKEOVER**	
Signification:	Use or not use VDAFS identifiers comments as CATIA feature names.
• OFF	New identifiers will be created
• ON (default)	VDAFS identifiers comments will be adopted as CATIA feature names.

***VC_GLOBAL_AXIS_SYS**	
Signification:	Selection of a reference axis system for the export—*not yet implemented.*
• OFF	The coordinates will be indicated relating to the local axis system—*option not yet implemented.*
• ON (default)	The coordinates will be indicated relating to the global axis system—*this option at present is the only available.*

***VC_CURVE_CONNECT_SEGMENTS**	
Description:	Importing VDAFS-CURVE elements to CATIA with *Merge* or *Break* import mode
lockable	This parameter can be locked by the administrator to prevent value modification by the user.
• `-1`	*Break* import mode for all elements (option deactivated)
• `0`	*Merge* import mode—if curve is `C0`–continuous; otherwise *Break* import mode
• `1`	*Merge* import mode—if curve is `C1`–continuous; otherwise *Break* import mode
• `2` (default)	*Merge* import mode—if curve is `C2`–continuous; otherwise *Break* import mode
• `3`	*Merge* import mode—independently of continuity

***VC_CONS_CONNECT_SEGMENTS**	
Description:	Importing VDAFS-CONS elements to CATIA with *Merge* or *Break* import mode
lockable	This parameter can be locked by the administrator to prevent value modification by the user.
• `-1`	*Break* import mode for all elements (option deactivated)
• `0`	*Merge* import mode—if curve is `C0`–continuous; otherwise *Break* import mode
• `1`	*Merge* import mode—if curve is `C1`–continuous; otherwise *Break* import mode
• `2` (default)	*Merge* import mode—if curve is `C2`–continuous; otherwise *Break* import mode
• `3`	*Merge* import mode—independently of continuity

***VC_SURF_CONNECT_SEGMENTS**	
Description:	Importing VDAFS-SURF elements to CATIA with *Merge* or *Break* import mode
lockable	This parameter can be locked by the administrator to prevent value modification by the user.
• `-1`	*Break* import mode for all elements (option deactivated)
• `0`	*Merge* import mode—if surface is `C0`–continuous; otherwise *Break* import mode
• `1`	*Merge* import mode—if surface is `C1`–continuous; otherwise *Break* import mode
• `2` (default)	*Merge* import mode—if surface is `C2`–continuous; otherwise *Break* import mode
• `3`	*Merge* import mode—independently of continuity

***VC_CURVE_CTR_PT_TOLERANCE**	
Description:	Tolerance of the control points for the continuity examination of the VDAFS-CURVE elements to be imported to CATIA
lockable	This parameter can be locked by the administrator to prevent value modification by the user.
• <double>	Default value: 0,001

***VC_CONS_CTR_PT_TOLERANCE**	
Description:	Tolerance of the control points for the continuity examination of the VDAFS-CONS elements to be imported to CATIA
lockable	This parameter can be locked by the administrator to prevent value modification by the user.
• <double>	Default value: 0,001

***VC_SURF_CTR_PT_TOLERANCE**	
Description:	Tolerance of the control points for the continuity examination of the VDAFS-SURF elements to be imported to CATIA
lockable	This parameter can be locked by the administrator to prevent value modification by the user.
• <double>	Default value: 0,001

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