DFM Studio Parameter Settings Tool

Administrator's Manual

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Elysium Co. Ltd.

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1. About This Document

This document provides information about how to edit parameter values (enable/disable check criteria, and tolerances) using Parameter Settings Tool, save parameter settings as a parameter file (*.ini) to use for DFM check in DFM Studio, etc.

This manual is intended for administrators responsible for setting up DFM check parameters.

Parameter Settings Tool is available for DFM check on plastic models and sheet metal models.

Parameter Settings Tool (For Admin / Plastic)

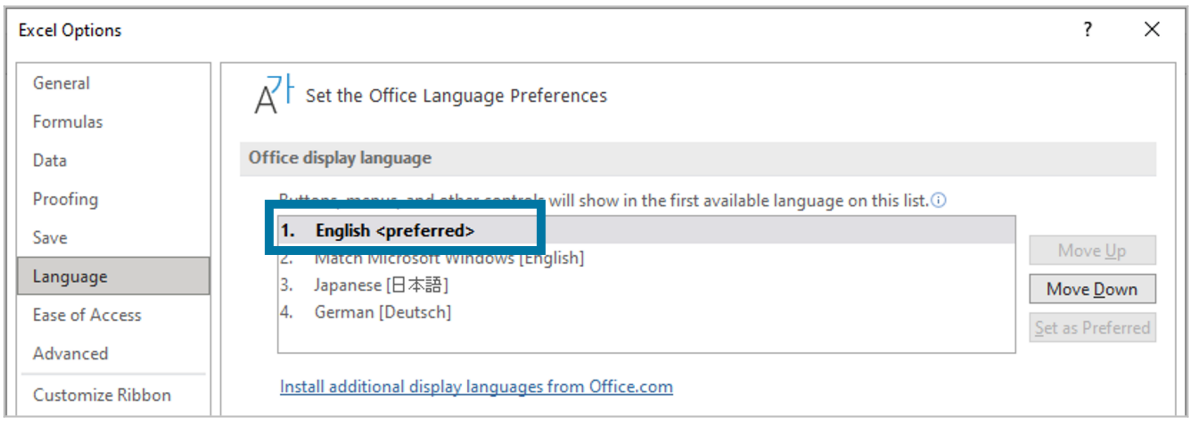
```
dfms_param_set_plastic_admin_en.xlsm
```

Parameter Settings Tool (For Admin / Sheet Metal)

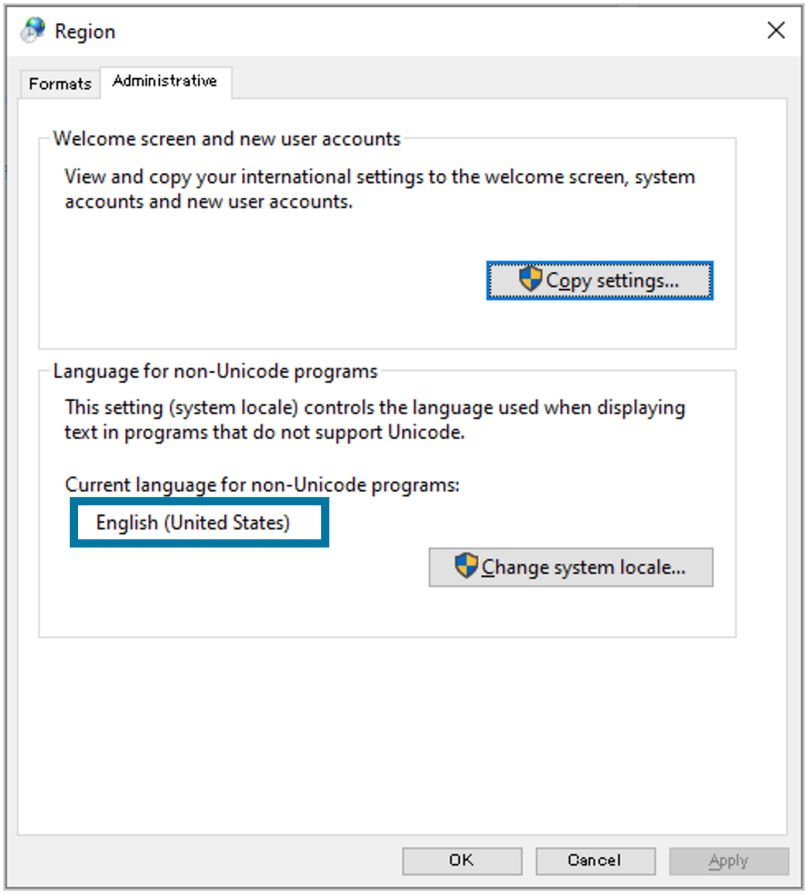
```
dfms_param_set_sheet-metal_admin_en.xlsm
```

2. System Requirements

- Environment capable of running Excel 2016 equivalent (Microsoft 365)
  - Allowed to use macros.
  - English is preferred at [File] > [Options] > [Language] > [Office display language] in Microsoft Excel.



- English is selected at [Control Panel] > [Clock and Region] > [Region] > [Administrative] tab > [Language for non-Unicode programs].



3. Worksheet Structure

3.1. For Plastic

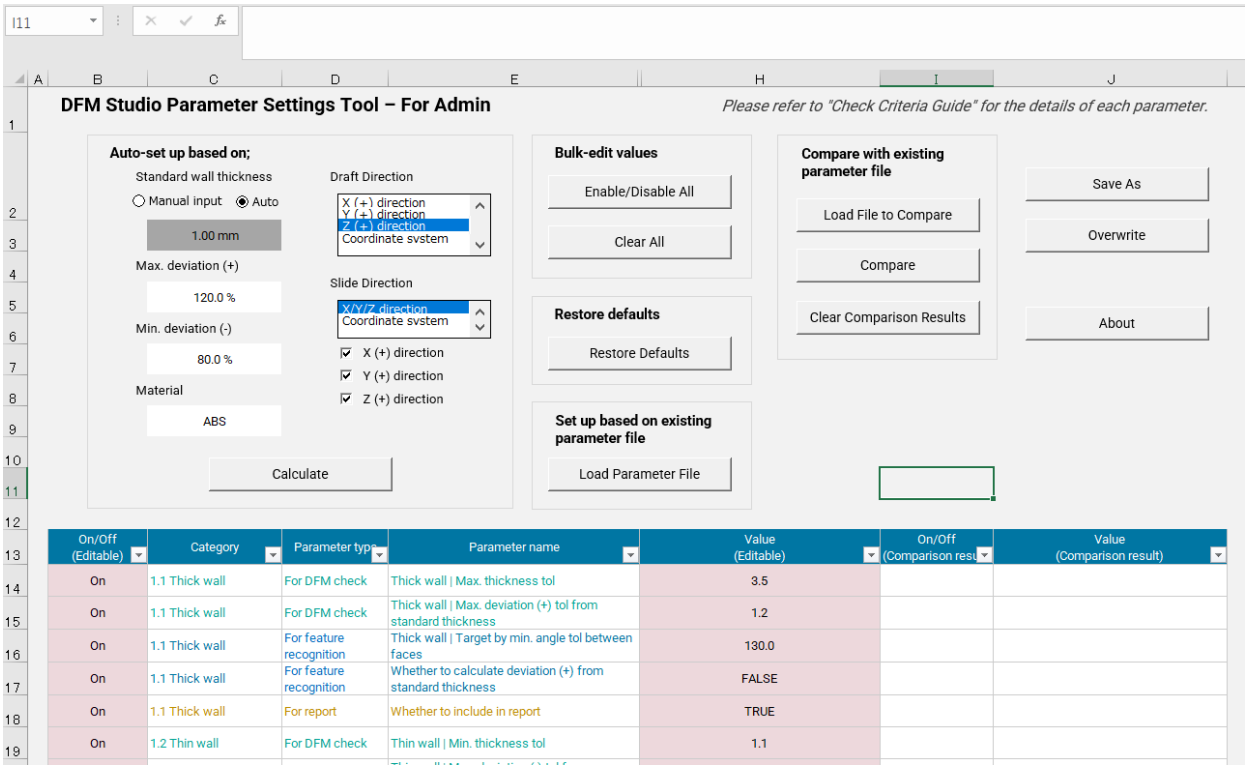
Parameter Settings Tool (For Admin / Plastic) consists of following four worksheets.

Table 1. List of worksheets

No	Worksheet name	Content
1	[AdminOperation_Plastic_en]	To set parameters for the check on plastic models
2	[Template_Plastic_Ch_en]	To define the template of the parameter settings for the check on plastic models
3	[Material_Plastic_en]	To define a table of plastic materials along with the recommended minimum/maximum wall thickness and the draft angle
4	[ScrewHoleTable_en]	To define a table of pilot hole standards

[AdminOperation_Plastic_en] worksheet

This is a worksheet for administrators to enter the basic data, customize the parameter settings, and save as a parameter file (*.ini).



[Template_Plastic_Ch_en] worksheet

This is a worksheet to define the template of the parameter settings for the check on plastic models.
It contains following data beginning at line 5.

	A	B	C	D	E	F	G
1	Go back to parameter settings						
2	DFM Studio Parameter – Template	For Plastic					
3	2021.9.22.1						
4	Category	Parameter type	Parameter name	Section key	Parameter key	Default value	Set value
5	1.1 Thick wall	On/Off	Whether to run this check	DFMS.THICK.PORTION	Enable	TRUE	TRUE
6	1.1 Thick wall	For DFM check	Thick wall | Max. thickness tol	DFMS.THICK.PORTION	Thickness.Max	3.5	3.5
7	1.1 Thick wall	For DFM check	Thick wall | Max. deviation (+) tol from standard thickness	DFMS.THICK.PORTION	StdThicknessRatio.Max	1.2	1.2
8	1.1 Thick wall	For feature recognition	Thick wall | Target by min. angle tol between faces	DFMS.THICK.PORTION	ThickPortionNormalAngleDiff.Min	130.0	130.0
9	1.1 Thick wall	For feature recognition	Whether to calculate deviation (+) from standard thickness	DFMS.THICK.PORTION	CheckStdThicknessRatio.Flag	FALSE	FALSE
10	1.1 Thick wall	For report	Whether to include in report	DFMS.THICK.PORTION	Report	TRUE	TRUE
11	1.2 Thin wall	On/Off	Whether to run this check	DFMS.THIN.PORTION	Enable	TRUE	TRUE
12	1.2 Thin wall	For DFM check	Thin wall | Min. thickness tol	DFMS.THIN.PORTION	Thickness.Min	1.1	1.1
13	1.2 Thin wall	For DFM check	Thin wall | Max. deviation (-) tol from standard thickness	DFMS.THIN.PORTION	StdThicknessRatio.Min	0.8	0.8
14	1.2 Thin wall	For feature recognition	Thin wall | Target by min. angle tol between faces	DFMS.THIN.PORTION	ThinPortionNormalAngleDiff.Min	130.0	130.0
15	1.2 Thin wall	For feature recognition	Thin wall | Whether to exclude tips	DFMS.THIN.PORTION	AvoidTipThickness.Flag	FALSE	FALSE
16	1.2 Thin wall	For feature recognition	Exclude tip | Max. creepage distance tol by ratio to wall thickness	DFMS.THIN.PORTION	GeodesicDistRatio.Max	3.0	3.0
17	1.2 Thin wall	For feature recognition	Whether to calculate deviation (-) from standard thickness	DFMS.THIN.PORTION	CheckStdThicknessRatio.Flag	FALSE	FALSE
18	1.2 Thin wall	For report	Whether to include in report	DFMS.THIN.PORTION	Report	TRUE	TRUE
19	2.1 Boss	On/Off	Whether to run this check	DFMS.BOSS	Enable	TRUE	TRUE

- Column A: Category
- Column B: Parameter type
- Column C: Parameter name
- Column D: Section key
  - Square brackets are omitted.
- Column E: Parameter key
- Column F: Default value
- Column G: Set value
  - Either a value equivalent to the default value set in column F, or a value calculated based on the basic data is set to this column.

- Click [Load Parameter File] in [AdminOperation_Plastic_en] worksheet, and parameters specified in the parameter file will be loaded to [AdminOperation_Plastic_en] worksheet based on the template in [Template_Plastic_Ch_en] worksheet.

[Material_Plastic_en] worksheet

This is a worksheet to define a table of plastic materials along with the recommended minimum/maximum wall thickness and the draft angle.

	A	D	E	F
1	Material	Min. thickness	Max. thickness	Draft Angle
2	ABS	1.1	3.5	0.5
3	ABS+GF	1.1	3.5	1
4	HDPE	0.7	5	0.5
5	HDPE+GF	0.7	5	1
6	PP	0.6	3.8	0.5
7	PP+GF	0.6	3.8	1
8	PMMA	0.6	3.8	0.5
9	PS	0.8	3.8	0.5
10	PA	0.7	2.9	0.5
11	PA+GF	0.7	2.9	1
12	POM	0.7	3	0.5
13	POM+GF	0.7	3	1
14	PC	1	3.1	0.5
15	PC+GF	1	3.1	1
16	PET	0.5	4.5	0.5
17	PET+GF	0.5	4.5	1
18	PBT	1	3	0.5

- Column A: Material
- Column D: Min. thickness
  - This will be used as the minimum thickness tolerance to check whether the value set for "Standard wall thickness" field in [AdminOperation_Plastic_en] worksheet is within the recommended wall thickness range.
    The check will run when running [Calculate] in [AdminOperation_Plastic_en] worksheet with "Manual input" option enabled.
- Column E: Max. thickness
  - This will be used as the maximum thickness tolerance to check whether the value set for "Standard wall thickness" field in [AdminOperation_Plastic_en] worksheet is within the recommended wall thickness range.
    The check will run when running [Calculate] in [AdminOperation_Plastic_en] worksheet with "Manual input" option enabled.
- Column F: Draft angle
  - This will be used as the minimum draft angle tolerance for the following parameters.
    - Boss | Min. draft angle tol
    - Rib | Min. draft angle tol

How to Add Materials

Specify the material and its recommended thickness range as follows.

- Column A (Material): A material
- Column D (Min. thickness): The min. recommended wall thickness
- Column E (Max. thickness): The max. recommended wall thickness
- Column F (Draft angle): The draft angle You can add up to 50 materials.

[ScrewHoleTable_en] worksheet

This is a worksheet to define a table of pilot hole standards.

	A	B
1	Hole label	Diameter
2	M1 x 0.25	0.75
3	M1.1 × 0.25	0.85
4	M1.2 × 0.25	0.95
5	M1.4 × 0.3	1.10
6	M1.6 × 0.35	1.25
7	M1.8 × 0.35	1.45
8	M2 × 0.4	1.60
9	M2.2 × 0.45	1.75
10	M2.5 × 0.45	2.05
11	M3 × 0.5	2.50
12	M3.5 × 0.6	2.90
13	M4 × 0.7	3.30
14	M4.5 × 0.75	3.75
15	M5 × 0.8	4.20
16	M6 × 1	5.00
17	M7 × 1	6.00
18	M8 × 1.25	6.75

- Column A: Hole label
- Column B: Diameter

- Insert a hyperlink to this worksheet ([ScrewHoleTable_en] worksheet) to the cell of "Default value" of "Check pilot hole diameter | Standard diameters by table" parameter in [Template_Plastic_Ch_en] worksheet to use values in this worksheet.

75	8.1 Hole: Pilot hole diameter	On/Off	Whether to run this check	DFMS.PREPARED.HOLE.DIAM	Enable	TRUE	TRUE
76	8.1 Hole: Pilot hole diameter	For DFM check	Pilot hole diameter | Standard diameters by table	DFMS.PREPARED.HOLE.DIAM	PreparedHoleDiam.Table	ScrewHoleTable_En	ScrewHoleTable_En
77	8.1 Hole: Pilot hole diameter	For report	Whether to include in report	DFMS.PREPARED.HOLE.DIAM	Report	TRUE	TRUE

3.2. For Sheet Metal

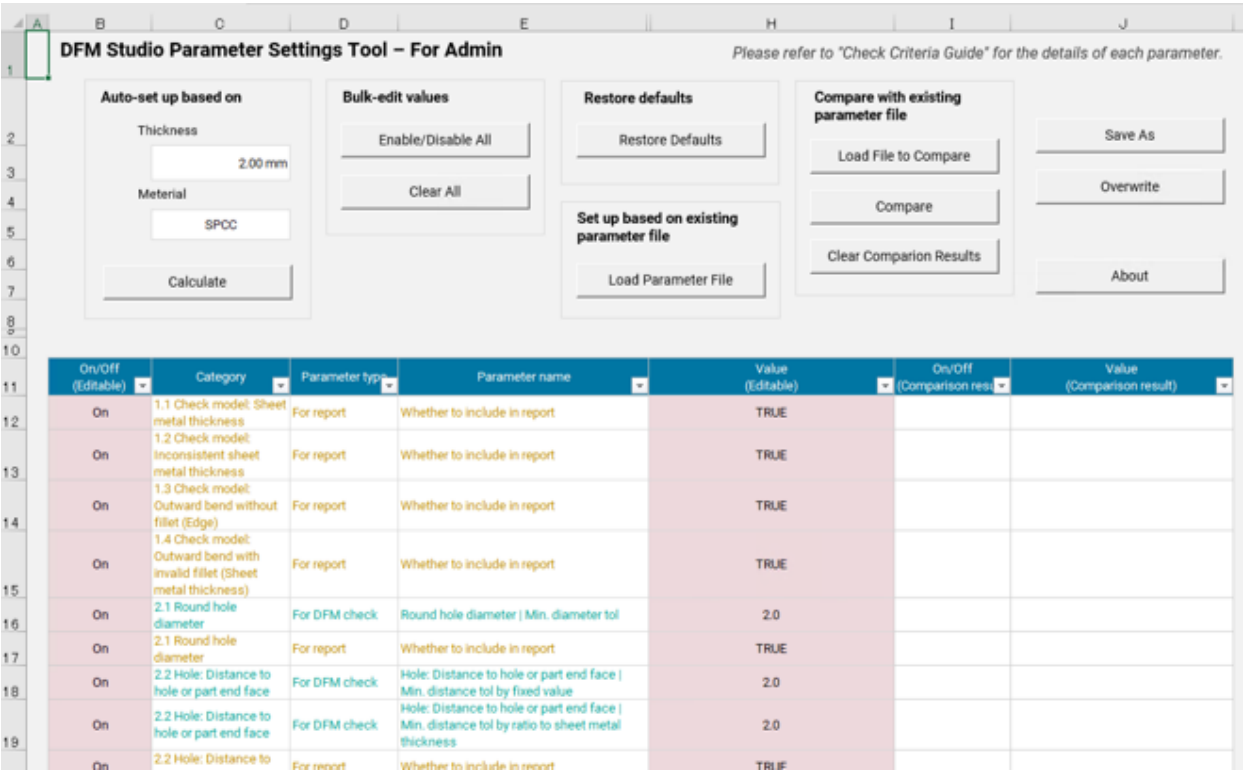
Parameter Settings Tool (For Admin / Sheet Metal) consists of following five worksheets.

Table 2. List of worksheets

No	Worksheet name	Content
1	[AdminOperation_SheetMetal_en]	To set parameters for the check on sheet metal models
2	[Template_SheetMetal_Ch_en]	To define the template of the parameter settings for the check on sheet metal models
3	[Material_SheetMetal_en]	To define a table of sheet metal materials along with the recommended minimum/maximum sheet metal thickness and the minimum hole diameter factor
4	[BurringTable_en]	To define a table of burring standards
5	[DowelTable_en]	To define a table of dowel standards

[AdminOperation_SheetMetal_en] worksheet

This is a worksheet for administrators to enter the basic data, customize the parameter settings, and save as a parameter file.



[Template_SheetMetal_Ch_en] worksheet

This is a worksheet to define the template of the parameter settings for the check on sheet metal models.
It contains following data beginning at line 5.

	A	B	C	D	E	F	G
1	Go back to parameter settings						
2	DFM Studio Parameter – Template	For Sheet Metal					
3	2021.9.13.2						
4	Category	Parameter type	Parameter name	Section key	Parameter key	Default value	Set value
5	1.1 Check model: Sheet metal thickness	On/Off	Whether to run this check	DFMS.THICKNESS	Enable	TRUE	TRUE
6	1.1 Check model: Sheet metal thickness	For report	Whether to include in report	DFMS.THICKNESS	Report	TRUE	TRUE
7	1.2 Check model: Inconsistent sheet metal thickness	On/Off	Whether to run this check	DFMS.THICKNESS.UNEVEN	Enable	TRUE	TRUE
8	1.2 Check model: Inconsistent sheet metal thickness	For report	Whether to include in report	DFMS.THICKNESS.UNEVEN	Report	TRUE	TRUE
9	1.3 Check model: Outward bend without fillet (Edge)	On/Off	Whether to run this check	DFMS.SHARP.BENDING	Enable	TRUE	TRUE
10	1.3 Check model: Outward bend without fillet (Edge)	For report	Whether to include in report	DFMS.SHARP.BENDING	Report	TRUE	TRUE
11	1.4 Check model: Outward bend with invalid fillet (Sheet metal thickness)	On/Off	Whether to run this check	DFMS.CONVEX.BENDING.FILLET.ERROR	Enable	TRUE	TRUE
12	1.4 Check model: Outward bend with invalid fillet (Sheet metal thickness)	For report	Whether to include in report	DFMS.CONVEX.BENDING.FILLET.ERROR	Report	TRUE	TRUE
13	2.1 Round hole diameter	On/Off	Whether to run this check	DFMS.HOLE.DIAMETER	Enable	TRUE	TRUE
14	2.1 Round hole diameter	For DFM check	Round hole diameter | Min. diameter tol	DFMS.HOLE.DIAMETER	PunchHoleDiam.Min	2.0	2.0
15	2.1 Round hole diameter	For report	Whether to include in report	DFMS.HOLE.DIAMETER	Report	TRUE	TRUE
16	2.2 Hole: Distance to hole or part end face	On/Off	Whether to run this check	DFMS.ROUND.HOLE.DISTANCE	Enable	TRUE	TRUE
17	2.2 Hole: Distance to hole or part end face	For DFM check	Hole: Distance to hole or part end face | Min. distance tol by fixed value	DFMS.ROUND.HOLE.DISTANCE	HoleAndHoleDistance.Min	2.0	2.0
18	2.2 Hole: Distance to hole or part end face	For DFM check	Hole: Distance to hole or part end face | Min. distance tol by ratio to sheet metal thickness	DFMS.ROUND.HOLE.DISTANCE	HoleAndHoleDistance.Min.Ratio	2.0	2.0

- Column A: Category
- Column B: Parameter type
- Column C: Parameter name
- Column D: Section key
  - Square brackets are omitted.
- Column E: Parameter key
- Column F: Default value
- Column G: Set value
  - Either a value equivalent to the default value set in column F, or a value calculated based on the basic data is set to this column.

- Click [Load Parameter File] in [AdminOperation_SheetMetal_en] worksheet, and parameters specified in the parameter file will be loaded to [AdminOperation_SheetMetal_en] worksheet based on the template in [Template_SheetMetal_Ch_en] worksheet.

[Material_SheetMetal_en] worksheet

This is a worksheet to define a table of sheet metal materials along with the recommended minimum/maximum sheet metal thickness and the minimum hole diameter factor.

	A	D	E	F
1	Material	Min. thickness	Max. thickness	Min. hole diameter factor
2	SUS304	0.3	6.0	1.5
3	SUS430	0.3	6.0	1.5
4	A5052	0.5	6.0	0.8
5	SPCC	0.5	9.0	1.0
6	SPHC	0.5	9.0	1.0
7	SECC	0.5	9.0	1.0
8	SGCC	0.5	9.0	1.0
9	SS400	0.5	9.0	1.0
10	C1100P	0.3	2.0	0.8
11	C2801P	0.3	2.0	0.8
12	C3801P	0.3	2.0	0.8
13	C4801P	0.3	2.0	0.8
14	C5801P	0.3	2.0	0.8

- Column A: Material
- Column D: Min. thickness
  - This will be used as the minimum thickness tolerance to check whether the value set for "Standard thickness" field in [AdminOperation_SheetMetal_en] worksheet is within the recommended sheet metal thickness range.
    The check will run when running [Calculate] in [AdminOperation_SheetMetal_en] worksheet.
- Column E: Max. thickness
  - This will be used as the maximum thickness tolerance to check whether the value set for "Standard thickness" field in [AdminOperation_SheetMetal_en] worksheet is within the recommended wall thickness range.
    The check will run when running [Calculate] in [AdminOperation_SheetMetal_en] worksheet.
- Column F: Min. hole diameter factor
  - This will be used as the minimum hole diameter tolerance for the following parameter.
    - Round hole diameter | Min. diameter tol

How to Add Materials

Specify the material and its recommended thickness range as follows.

- Column A (Material): A material
- Column D (Min. thickness): The min. recommended sheet metal thickness
- Column E (Max. thickness): The max. recommended sheet metal thickness
- Column F (Min. hole diameter factor): The min. hole diameter factor

You can add up to 50 materials.

[BurringTable_en] worksheet

This is a worksheet to define a table of burring standards.

	A	B	C	D	E
1	Diameter	Min. height	Max. height	Min. thickness	Max. thickness
2	2.4	1.3	1.6	0.6	0.8
3	2.5	1.3	1.6	0.6	0.8
4	3.0	1.4	1.8	0.6	1.0
5	3.1	1.4	1.8	0.6	1.0
6	3.6	1.8	2.1	0.8	1.2
7	3.7	1.8	2.2	0.8	1.2
8	4.7	2.2	3.3	1.0	2.0

- Column A: Diameter
- Column B: Min. height
- Column C: Max. height
- Column D: Min. thickness
- Column E: Max. thickness

- Insert a hyperlink to this worksheet ([BurringTable_en] worksheet) to the cell of "Default value" of "Burring diameter and height | Standard diameter and height sets by table" parameter in [Template_SheetMetal_Ch_en] worksheet to use values in this worksheet.

24	3.1 Burring diameter and height	On/Off	Whether to run this check	DFMS.BURRING.HEIGHT	Enable	TRUE	TRUE
25	1 Burring diameter and height	For DFM check	Burring diameter and height | Standard diameter and height sets by table	DFMS.BURRING.HEIGHT	BurringHeight.Table.String	BurringTable_En	BurringTable_En
26	3.1 Burring diameter and height	For report	Whether to include in report	DFMS.BURRING.HEIGHT	Report	TRUE	TRUE

[DowelTable_en] worksheet

This is a worksheet to define a table of dowel standards.

	A	B	C	D	E
1	Diameter	Min. height	Min. height	Min. thickness	Max. thickness
2	2.0	0.2	1.4	0.5	1.2
3	3.0	0.2	1.4	0.5	1.2
4	4.0	0.2	3.7	0.5	3.2
5	5.0	0.6	3.7	1.6	3.2

- Column A: Diameter
- Column B: Min. height
- Column C: Max. height
- Column D: Min. thickness
- Column E: Max. thickness

- Insert a hyperlink to this worksheet ([DowelTable_en] worksheet) to the cell of "Default value" of "Dowel outer diameter and height | Standard outer diameter and height sets by table" parameter in [Template_SheetMetal_Ch_en] worksheet to use values in this worksheet.

74	5.4 Bend relief cut width	For report	Whether to include in report	DFMS.BENDING.RELIEF.WIDTH	Report	TRUE	TRUE
75	6.1 Dowel outer diameter and height	On/Off	Whether to run this check	DFMS.DOWEL.HEIGHT	Enable	TRUE	TRUE
76	1 Dowel outer diameter and height	For DFM check	Dowel outer diameter and height | Standard outer diameter and height sets by table	DFMS.DOWEL.HEIGHT	DowelHeight.Table.String	DowelTable_En	DowelTable_En
77	6.1 Dowel outer diameter and height	For report	Whether to include in report	DFMS.DOWEL.HEIGHT	Report	TRUE	TRUE

4. Edit Template

This chapter explains about the customization of default values and set values of parameters by editing the template worksheet ([Template_Plastic_Ch_en] worksheet for plastic models, and [Template_SheetMetal_Ch_en] worksheet for sheet metal models).

4.1. For Plastic

Column F: Default value

This will be used when running [Restore Defaults] in [AdminOperation_Plastic_en] worksheet.

- Edit the value (tolerances, etc.) in the cells in this column as required.
- Double-click the cells in this column to enable/disable "On/Off" and "For report" type parameters.

Column G: Set value

This will be used when running [Calculate] in [AdminOperation_Plastic_en] worksheet.

- Edit the formula (use the default value in column F, calculate based on the basic data and/or table worksheets, etc.) in the cells in this column as required.

> Please ensure not to modify values in other columns.

4.2. For Sheet Metal

Column F: Default value

This will be used when running [Restore Defaults] in [AdminOperation_SheetMetal_en] worksheet.

- Edit the value (tolerances, etc.) in the cells in this column as required.
- Double-click the cells in this column to enable/disable "On/Off" and "For report" type parameters.

Column G: Set value

This will be used when running [Calculate] in [AdminOperation_SheetMetal_en] worksheet.

- Edit the formula (use the default value in column F, calculate based on the basic data and/or table worksheets, etc.) in the cells in this column as required.

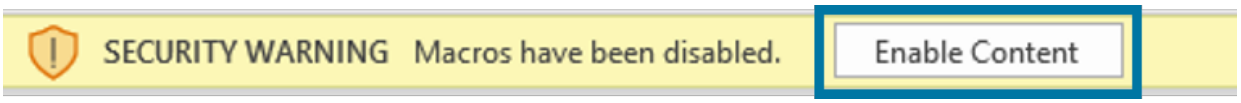
Please ensure not to modify values in other columns.

5. Set up Parameter Settings - For Plastic

This section explains about the operation in [AdminOperation_Plastic_en] worksheet to set up parameter settings for plastic models. Please refer to *7, Set up Parameter Settings - Common* for the operations common for Parameter Settings Tool for plastic models and that for sheet metal models.

5.1. Run Parameter Settings Tool

1. Run Parameter Settings Tool (For Admin / Plastic) "dfms_param_set_plastic_admin_en.xlsm".
2. Click [Enable Content] in the message bar to enable macros in case a security warning message appears.

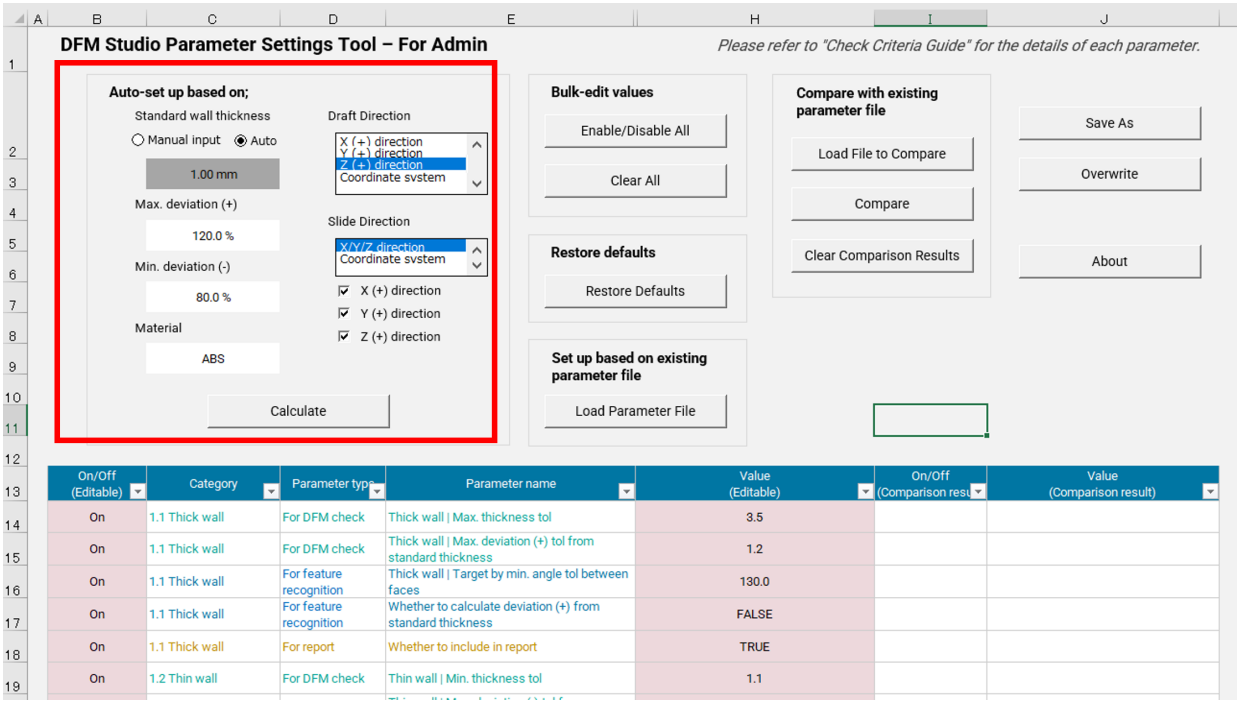
   

   The file will open as a trusted document, and macros will be enabled in [AdminOperation_Plastic_en] worksheet.

5.2. Operate on [AdminOperation_Plastic_en] Worksheet

5.2.1. Set up Based on Basic Data

1. Set basic data in the following fields, and then click [Calculate] to set up parameter settings based on that.



A: Standard wall thickness

i. Select either "Manual input" or "Auto" option.

- "Manual input" option: Select this option to specify the standard wall thickness by a fixed value.
- "Auto" option: Select this option to auto-calculate the standard wall thickness from the CAD model.

> - When selecting "Auto" option, this field (C3 cell) will be grayed out and uneditable.

ii. Enter a positive real number in C3 cell to specify the standard wall thickness when selecting "Manual input" option.

- The value entered in C3 cell will be used as the value for "Check wall thickness | Standard thickness" parameter.
  Also, C3 cell will be updated when editing a value for "Wall thickness | Standard thickness" parameter in column H (Value (Editable)).
- When loading an existing parameter file with [Load Parameter File], it will be set to:
  - "Manual input" option when a positive real number is set to "Wall thickness | Standard thickness" parameter.
  - "Auto" option when a negative real number is set to "Check wall thickness | Standard thickness" parameter.

B: Max. deviation (+)

i. Enter a positive real number (100 or greater) in C5 cell to specify the max. allowed wall thickness by the max. deviation (+) from the standard thickness. (Unit: %)

- The value entered in C5 cell will be used as the value for "Detect thick wall | Max. deviation (+) tol from standard thickness" parameter.
  Also, C5 cell will be updated when editing a value for "Thick wall | Max. deviation (+) tol from standard thickness" parameter in column H (Value (Editable)).

C: Max. deviation (-)

i. Enter a positive real number between 0 to 100 in C7 cell to specify the min. allowed wall thickness by the max. deviation (-) from the standard thickness. (Unit: %)

- The value entered in C7 cell will be used as the value for "Thin wall | Max. deviation (-) tol from standard thickness" parameter.
  Also, C7 cell will be updated when editing a value for "Thin wall | Max. deviation (-) tol from standard thickness" parameter in column H (Value (Editable)).

D: Material

i. Select a material from the pull-down list in C9 cell.

- Materials listed in the table in [Material_Plastic_en] worksheet will be available in the pull-down list.

E: Draft direction

i. Specify the draft direction from one of the followings:
   - X (+) direction: Select this option to use X (+) direction of the system coordinate system.
   - Y (+) direction: Select this option to use Y (+) direction of the system coordinate system.
   - Z (+) direction: Select this option to use Z (+) direction of the system coordinate system.
   - Coordinate system: Select this option to use Z (+) direction of the coordinate system whose name matches the regular expression name set for "Recognize draft direction | Coordinate system for cavity direction calculation by regular expression name" parameter.

ii. A dialog will appear when selecting "Coordinate system". Specify the coordinate system to use by a regular expression name with "Coordinate system for cavity direction calculation by regex name" parameter.

F: Slide direction

i. Specify the slide direction(s) from either of the followings.
   - X/Y/Z direction: Select this option to use the selected axes' (+) direction of the system coordinate system.
   - Coordinate system: Select this option to use Z (+) direction of the coordinate system(s) whose name matches the regular expression name set for "Coordinate system for slide direction calculation by regex name" parameter.

   - Please ensure not to specify the same direction as the draft direction.

ii. When selecting "X/Y/Z direction", specify X/Y/Z axes to use in the checkbox below. When selecting "Coordinate system", a dialog will appear. Specify the coordinate system to use by a regular expression name with "Coordinate system for slide direction calculation by regex name" parameter.

2. Click [Calculate], and the parameters will be set to column B (On/Off (Editable)) and column H (Value (Editable)) in [AdminOperation_Plastic_en] worksheet based on the formula set in column G (Set value) in [Template_Plastic_Ch_en] worksheet.

- Click [Calculate], and a dialog will appear to inform you whether the specified standard wall thickness is within the recommended range for the specified material set in [Material_Plastic_en] worksheet.

5.2.2. Other Functions

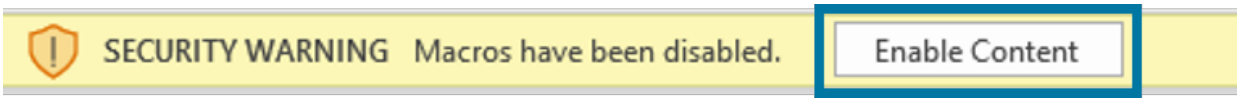
Please refer to 7, *Set up Parameter Settings - Common* for the operations common for Parameter Settings Tool for plastic models and that for sheet metal models.

6. Set up Parameter Settings - For Sheet Metal

This section explains about the operation in [AdminOperation_SheetMetal_en] worksheet to set up parameter settings for sheet metal models. Please refer to *7, Set up Parameter Settings - Common* for the operations common for Parameter Settings Tool for plastic models and that for sheet metal models.

6.1. Run Parameter Settings Tool

1. Run Parameter Settings Tool (For Admin / Sheet Metal) "dfms_param_set_sheet-metal_admin_en.xlsm".
2. Click [Enable Content] in the message bar to enable macros in case a security warning message appears.

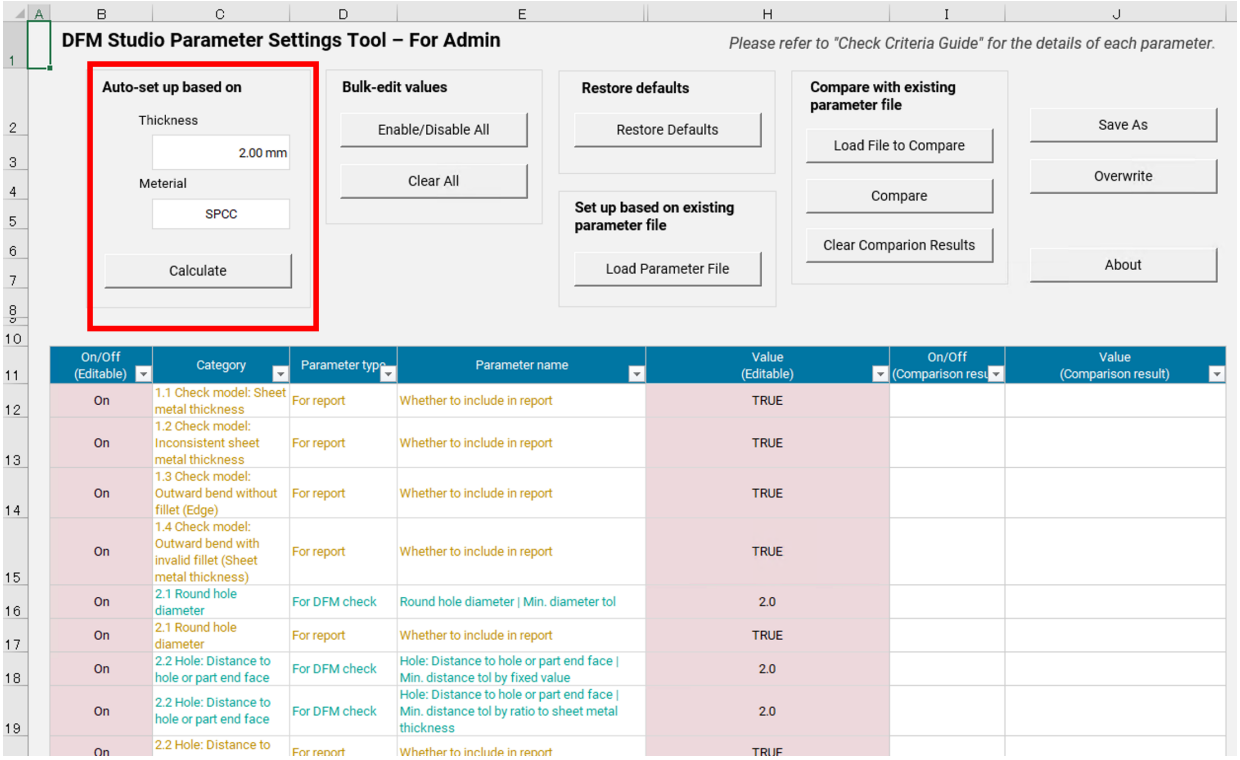
   

   The file will open as a trusted document, and macros will be enabled in [AdminOperation_SheetMetal_en] worksheet.

6.2. Operate on [AdminOperation_SheetMetal_en] Worksheet

6.2.1. Set up Based on Basic Data

1. Set basic data in the following fields, and then click [Calculate] to set up parameter settings based on that.



A: Standard thickness

i. Enter a positive real number in C3 cell to specify the standard sheet metal thickness.

B: Material

i. Select a material from the pull-down list in C5 cell.

> ▪ Materials listed in the table in [Material_SheetMetal_en] worksheet will be available in the pull-down list.

2. Click [Calculate], and the parameters will be set to column B (On/Off (Editable)) and column H (Value (Editable)) in [AdminOperation_SheetMetal_en] worksheet based on the formula set in column G (Set value) in [Template_SheetMetal_Ch_en] worksheet.

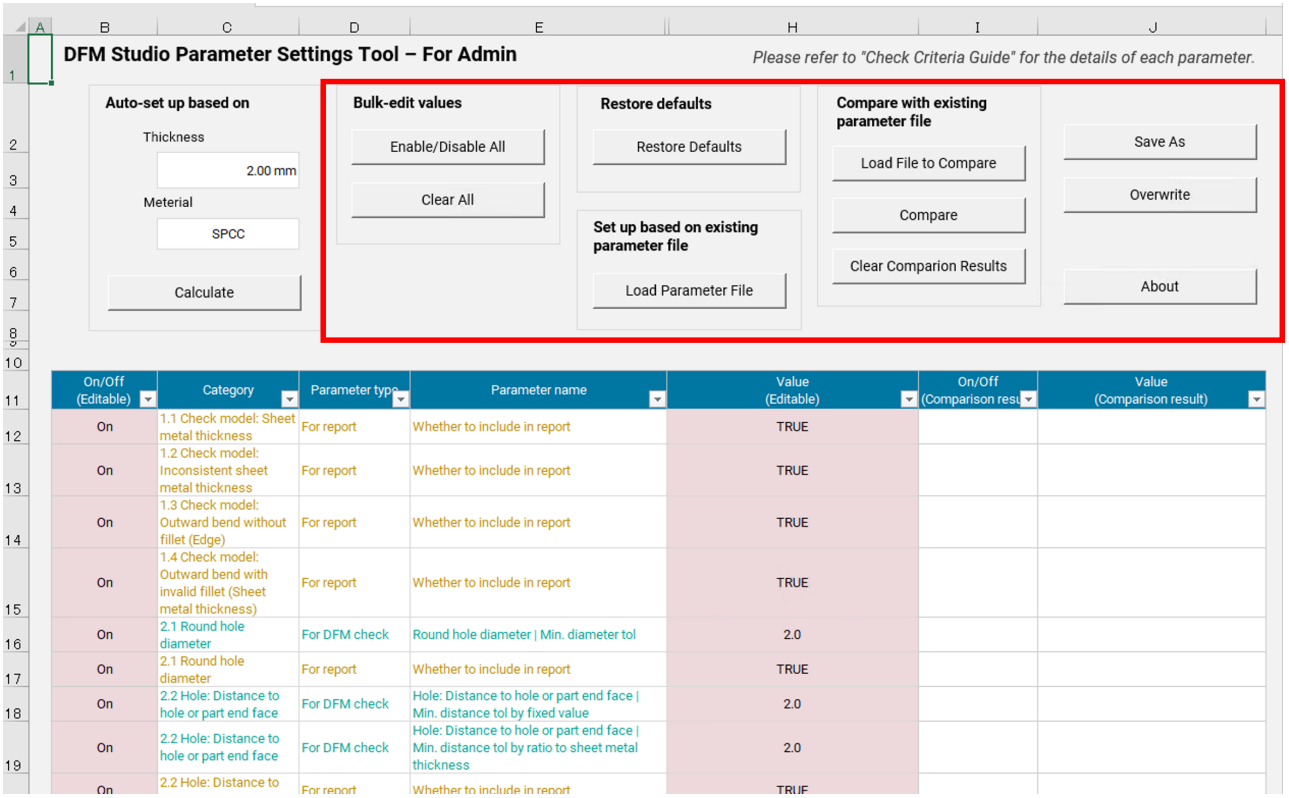
- Click [Calculate], and a dialog will appear to inform you whether the specified standard sheet metal thickness is within the recommended range for the specified material set in [Material_SheetMetal_en] worksheet.
- "Burring diameter and height | Standard diameter and height sets by table" parameter
  - Click [Calculate], and the burring standard diameter and minimum / maximum height sets for the specified sheet metal thickness range will be set to this parameter based on the table in [BurringTable_en] worksheet.
- "Dowel outer diameter and height | Standard outer diameter and height sets by table" parameter
  - Click [Calculate], and the dowel standard diameter and minimum / maximum height sets for the specified sheet metal thickness range will be set to this parameter based on the table in [DowelTable_en] worksheet.

6.2.2. Other Functions

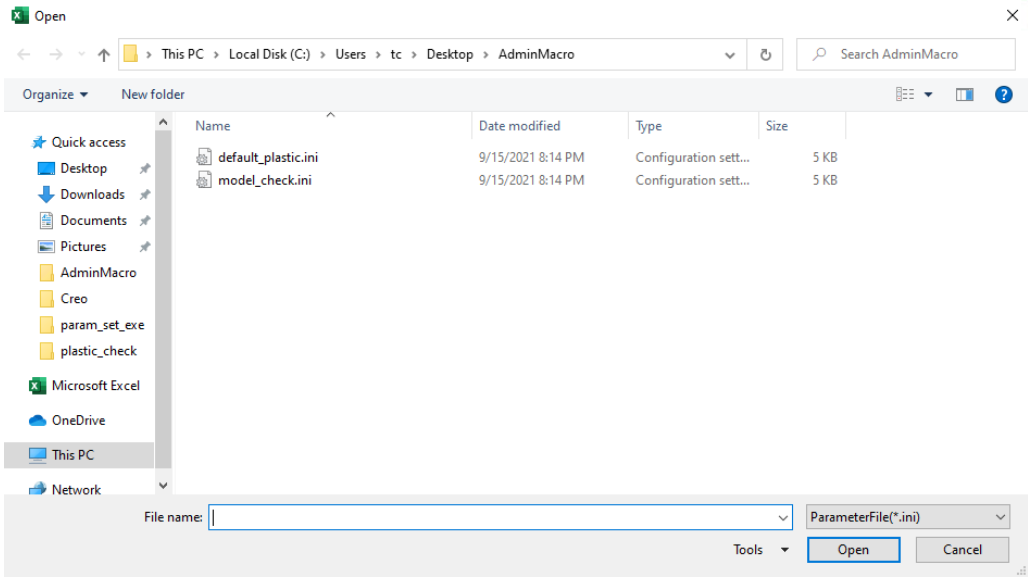
Please refer to 7, *Set up Parameter Settings - Common* for the operations common for Parameter Settings Tool for plastic models and that for sheet metal models.

7. Set up Parameter Settings - Common

This section explains about the operation on the admin operation worksheet ([AdminOperation_Plastic_en] / [AdminOperation_SheetMetal_en]) common for Parameter Settings Tool for plastic models and that for sheet metal models.



7.1. Customize Based on Existing Parameter File



1. Click [Load Parameter File].
2. Select a parameter file (*.ini), and then click [Open] in the dialog.

The specified parameter file will be loaded to Parameter Settings Tool as editable.

- Parameter values will be set to column B (On/Off (Editable)) and column H (Value (Editable)).

> - Please ensure that the parameter file is encoded in UTF-8 without BOM.
> - Please note that you cannot load parameter files that contain section(s) and/or parameter(s) which do not exist in the template worksheet ([Template_Plastic_Ch_en] / [Template_SheetMetal_Ch_en]).
> - Parameter files will be loaded with blank cells when the parameter file does not contain all sections and parameters set in the template worksheet ([Template_Plastic_Ch_en] / [Template_SheetMetal_Ch_en]).
> - Please note that you can load parameter files prepared for DFM Studio v2.0 or later only.

7.2. Restore Default Value

1. Click [Restore Defaults] to restore default values set in the template worksheet ([Template_Plastic_Ch_en] / [Template_SheetMetal_Ch_en]) to column B (On/Off (Editable)) and column H (Value (Editable)).

> - Please edit the values in column F (Default value) in the template worksheet ([Template_Plastic_Ch_en] / [Template_SheetMetal_Ch_en]) to customize the default values.

7.3. Edit Parameter Value

7.3.1. Enable/Disable Check Criterion

1. Double-click a cell in column B (On/Off (Editable)) to enable/disable the corresponding parameter.

- Cells in column B (On/Off (Editable)) and column H (Value (Editable)) will turn pink when enabled, and be grayed out when disabled.
- Please note that that will also enable/disable parameters that belong to the same category shown in column C (Category).
- Please note that "For feature recognition" parameters are mandatory to DFM check, and are always enabled.

7.3.2. Edit Tolerance

1. Double-click a cell in column H (Value (Editable)), and edit the value.

7.4. Bulk-edit Parameter Values

7.4.1. Enable/Disable All Check Criteria

1. Click [Enable/Disable All] to enable/disable all check criteria.

- All cells in column B (On/Off (Editable)) and column H (Value (Editable)) will turn pink when enabled, and be grayed out when disabled.

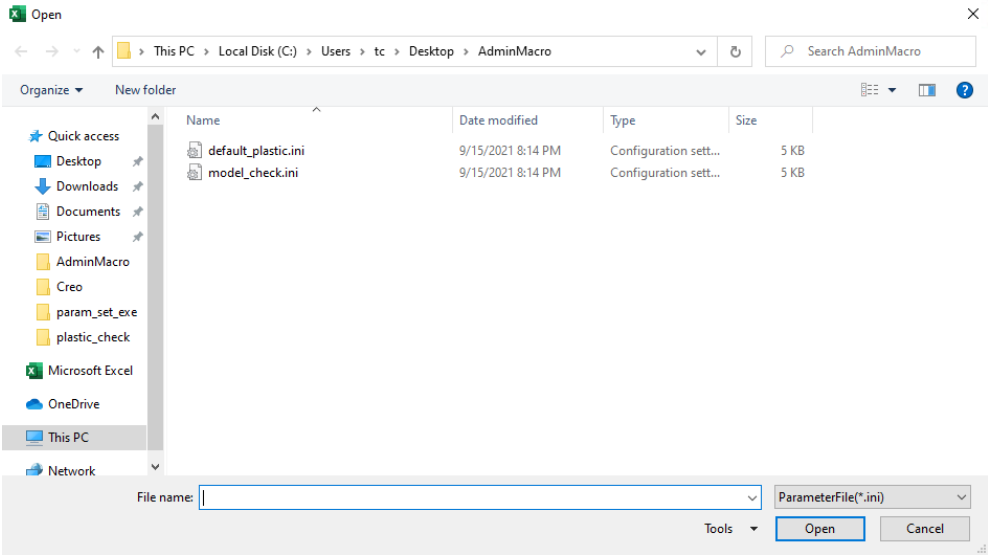
7.5. Clear All Parameter Settings

1. Click [Clear All] to clear all values in cells in column B (On/Off (Editable)), column H (Value (Editable)), column I (On/Off (Comparison result)), and column J (Value (Comparison result)).

7.6. Compare Parameter Settings

7.6.1. Load Parameter File to Compare

1. Click [Load File to Compare] to load an existing parameter file and compare the current parameter settings against existing parameter settings.
2. Select a parameter file (*.ini), and then click [Open] in the dialog.
   The specified parameter file will be loaded to Parameter Settings Tool as values to compare with.



- Parameter values will be set to column I (On/Off (Comparison result)) and column J (Value (Comparison result)).

On/Off (Editable)	Category	Parameter type	Parameter name	Value (Editable)	On/Off (Comparison result)	Value (Comparison result)
On	1.1 Thick wall	For DFM check	Thick wall | Max. thickness tol	3.5	On	3.5
On	1.1 Thick wall	For DFM check	Thick wall | Max. deviation (+) tol from standard thickness	1.2	On	1.2
On	1.1 Thick wall	For feature recognition	Thick wall | Target by min. angle tol between faces	130.0	On	130.0
On	1.1 Thick wall	For feature recognition	Whether to calculate deviation (+) from standard thickness	FALSE	On	FALSE
On	1.1 Thick wall	For report	Whether to include in report	TRUE	On	TRUE
Off	1.2 Thin wall	For DFM check	Thin wall | Min. thickness tol	1.2	On	1.1
Off	1.2 Thin wall	For DFM check	Thin wall | Max. deviation (-) tol from standard thickness	0.8	On	0.8
Off	1.2 Thin wall	For feature recognition	Thin wall | Target by min. angle tol between faces	130.0	On	130.0
Off	1.2 Thin wall	For feature recognition	Thin wall | Whether to exclude tips	FALSE	On	FALSE
Off	1.2 Thin wall	For feature recognition	Exclude tip | Max. creepage distance tol by ratio to wall thickness	3.0	On	3.0
Off	1.2 Thin wall	For feature recognition	Whether to calculate deviation (-) from standard thickness	FALSE	On	FALSE
Off	1.2 Thin wall	For report	Whether to include in report	TRUE	On	TRUE
On	2.1 Boss	For DFM check	Boss | Min. draft angle tol	0.5	On	0.5

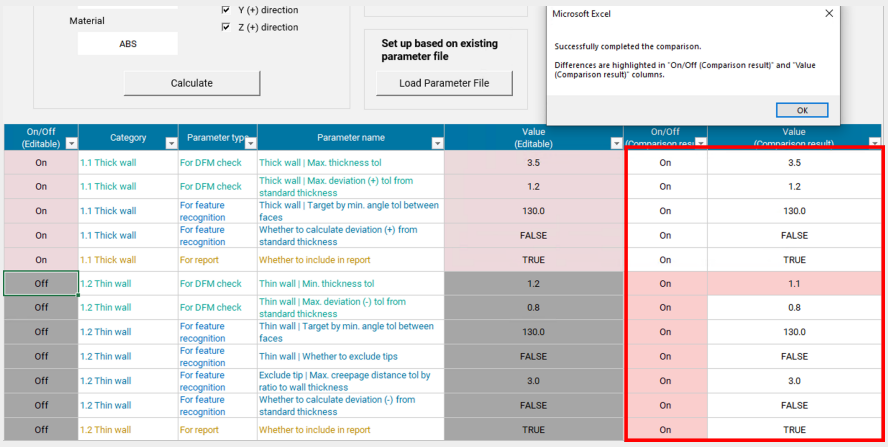
- This functions only when parameter values are set to column B (On/Off (Editable)) and column H (Value (Editable)).

- Please ensure that the parameter file is encoded in UTF-8 without BOM.

7.6.2. Run Comparison

1. Click [Compare] to compare values in column B (On/Off (Editable)) against column I (On/Off (Comparison result)), and column H (Value (Editable)) against column J (Value (Comparison result)).

- Cells in column I (On/Off (Comparison result)) / column J (Value (Comparison result)) will turn pink when it differs from the value in column B (On/Off (Editable)) / column H (Value (Editable)).



On/Off (Editable)	Category	Parameter type	Parameter name	Value (Editable)	On/Off (Comparison result)	Value (Comparison result)
On	1.1 Thick wall	For DFM check	Thick wall | Max. thickness tol	3.5	On	3.5
On	1.1 Thick wall	For DFM check	Thick wall | Max. deviation (+) tol from standard thickness	1.2	On	1.2
On	1.1 Thick wall	For feature recognition	Thick wall | Target by min. angle tol between faces	130.0	On	130.0
On	1.1 Thick wall	For feature recognition	Whether to calculate deviation (+) from standard thickness	FALSE	On	FALSE
On	1.1 Thick wall	For report	Whether to include in report	TRUE	On	TRUE
Off	1.2 Thin wall	For DFM check	Thin wall | Min. thickness tol	1.2	On	1.1
Off	1.2 Thin wall	For DFM check	Thin wall | Max. deviation (-) tol from standard thickness	0.8	On	0.8
Off	1.2 Thin wall	For feature recognition	Thin wall | Target by min. angle tol between faces	130.0	On	130.0
Off	1.2 Thin wall	For feature recognition	Thin wall | Whether to exclude tips	FALSE	On	FALSE
Off	1.2 Thin wall	For feature recognition	Exclude tip | Max. creepage distance tol by ratio to wall thickness	3.0	On	3.0
Off	1.2 Thin wall	For feature recognition	Whether to calculate deviation (-) from standard thickness	FALSE	On	FALSE
Off	1.2 Thin wall	For report	Whether to include in report	TRUE	On	TRUE

- A message will appear to inform you that no difference was detected when all values match.

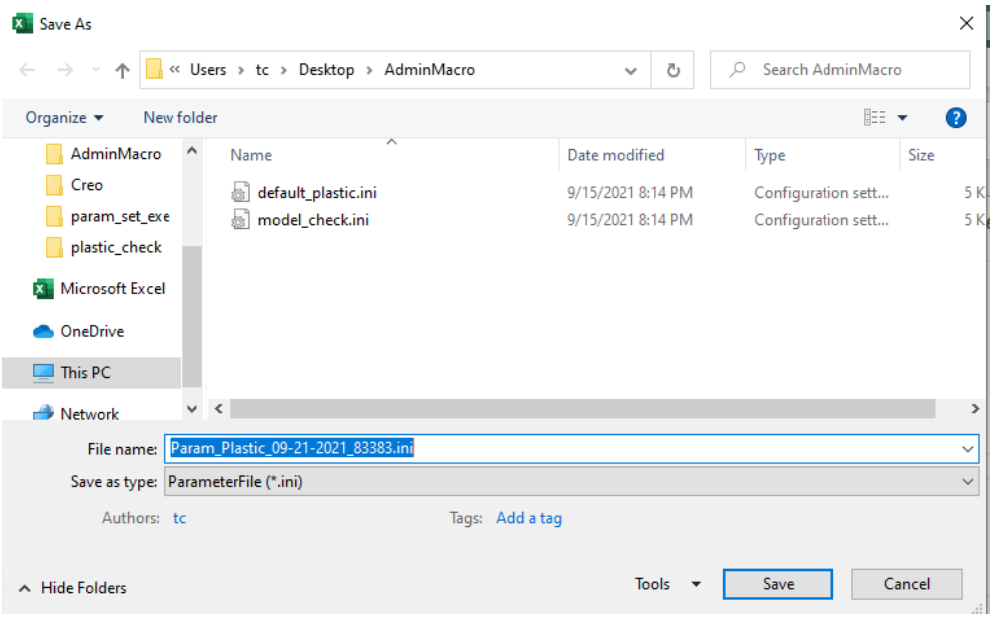
7.6.3. Clear Comparison Result

1. Click [Clear Comparison Result] to clear the highlight in column I (On/Off (Comparison result)) and column J (Value (Comparison result)).

7.7. Save Parameter Settings

7.7.1. Save as New Parameter File

1. Click [Save As] to save the parameter settings set in column B (On/Off (Editable)) and column H (Value (Editable)) as a new parameter file.
2. Specify the folder and the filename to save as, and then click [Save] in the dialog.



- The parameter file will be saved in UTF-8 without BOM encoding.

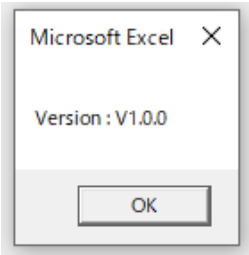
7.7.2. Overwrite Existing Parameter File

1. Click [Overwrite] to overwrite an existing parameter file by values in column B (On/Off (Editable)) and column H (Value (Editable)).

- Please note that the dialog will open to save as a new parameter file when clicking [Overwrite] without using [Load Parameter File] and/or [Save As].

7.8. View Version Information

1. Click [About] to view the version information of Parameter Settings Tool.



8. FAQ

Q1. Is it possible to remove/add check criteria?

As the out-of-the-box solution, instead of removing check criteria, you can disable them to check using desired check criteria only.
If you wish to add new check criteria on top of those listed in Check Criteria Guide (another document), it requires customization. Please contact to Elysium or its authorized resellers.

Q2. Is it possible to prepare parameter files separately for design parts, and components?

Yes, you can do so.
Please create sub-folders under the following folder, and place customized parameter files appropriately.

```
%PUBLIC%\Documents\Elysium\ASFALIS SmartLauncher\scenario\shared_param\
```

It is recommended to limit the ones who are authorized to place parameter files to administrators only.

Q3. Why is it better not to allow users to place parameter files?

Parameter files are defined in conformity to your company/organization design standards. Therefore, it is not recommended to allow users to modify casually.

Q4. How can users disable unnecessary check criteria, and/or modify the parameter values to meet their needs when they run DFM check while they design?

They can modify based on parameter files provided by the administrator, and then save as a new file using Parameter Settings Tool (For User).

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