



DFM Studio

Before Using DFM Studio

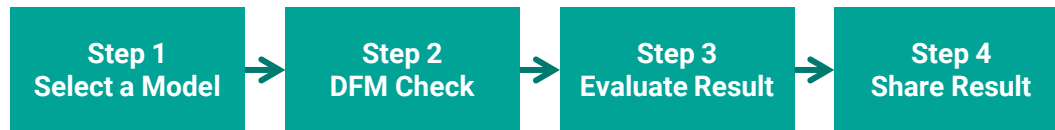
January 2022
Elysium Co. Ltd.

Introduction

DFM Studio is a tool to check the manufacturability of design CAD models (plastic product / sheet metal mold) against the design standards set as check criteria, analyze, evaluate, and share among related persons.

This document shows the overview of each step, and manuals to refer to.

DFM check on design CAD models flows as follows;



- Step 1: Select an input model (plastic product or sheet metal mold), and the DFM check settings (Scenario and parameters).
- Step 2: Run DFM check either on the client computer with ASFALIS SmartLauncher, or on the server with ASFALIS TransServer.
- Step 3: Analyze the check result (*.far) in DFM Studio Inspector, and update the result with evaluation and comments as required.
- Step 4: Save the updated result (*.far), export it as a report, and share the updated result (*.far or report).

Terminology

Scenario

Scenario is a series of processes. Users can select a scenario to specify an input CAD format, plastic or sheet metal requirement check, and whether to export a check report.

ASFALIS SmartLauncher (ASL)

Elysium solution to run DFM check on the client computer. Installation of ASL and pre-set Scenarios is a prerequisite to this.

ASFALIS TransServer (ATS)

Elysium solution to run DFM check on the server. Users can instruct check settings and execution from the web browser in the client PC and download the check result.

Check Result File (*.far)

Check result file. Other than the model information, the check result as well as added evaluations and comments will also be saved.

DFM Studio Inspector

Elysium solution to list the check result. The specified area can be viewed within the 3D view of Model Viewer. Add evaluations, comments for each check result and export report and/or save FAR in Inspector.

DFM Studio Documents

Below are DFM Studio related documents.

Utilize this document as a guide for an overview and environment setting for DFM Studio.

#	File Name	Document Overview	For Admin	For User
0	DFM_Studio_Abstract_en.pdf	Introduction (this document)	✓	✓
1	DFM_Studio_Installation_Guide_en.pdf	Installation guide for DFM Studio related tools	✓	
2	DFM_Studio_Parameter_Settings_Tool_Admin_Manual_en.pdf	Operation manual for Parameter Settings Tool (for administrator)	✓	
3	DFM_Studio_Quick_Start_Guide_ja.pdf	Quick start guide for using DFM Studio	✓	✓
4	DFM_Studio_Inspector_Manual_en.pdf	Operation manual for DFM Studio Inspector		✓
5	DFM_Studio_Tutorial_en.pdf	Tutorial for DFM Studio		✓
6	DFM_Studio_Parameter_Settings_Tool_User_Manual_en.pdf	Operation manual for Parameter Settings Tool (for user)		✓
7	DFM_Studio_CheckItem_Guide_Plastic_en.pdf	Check criteria guide for plastic model	✓	✓
8	DFM_Studio_CheckItem_Guide_Sheetmetal_en.pdf	Check criteria guide for sheet metal model	✓	✓

[How to utilize documents for admin]

Refer to the installation guide and install DFM Studio related tools accordingly to your company environment.

If you would like to use your company checking standards, a parameter file will need to be prepared beforehand.

Refer to "DFM Studio Parameter Settings Tool (Administrator' Manual)" and "Check Criteria Guide" to create the parameter file.

[How to utilize documents for users]

Refer to "DFM Studio Quick Start Guide" or "DFM Studio Tutorial" to learn the series of operation to use DFM Studio.

Refer to "Check Criteria Guide" and "DFM Studio Inspector Manual" for each check items detail and each functionality.

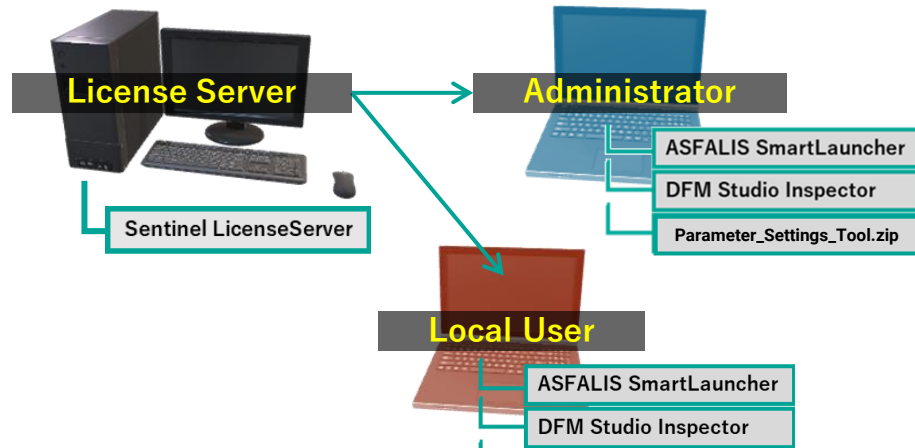
How to Use DFM Studio with ASL

1. DFM Studio environment settings when using with ASL
2. How to use DFM Studio with ASL

1. DFM Studio environment settings when using with ASL

<DFM Studio system overview when using with ASL>

Reference document: DFM_Studio_Installation_Guide_en.pdf



<Tool to install in license server machine>

- Sentinel License Server: Manages DFM Studio licenses

<Tools to install in the admin PC>

- ASFALIS SmartLauncher: Used to execute the check
- DFM Studio Inspector: Used to check and evaluate the result
- Parameter_Settings_Tool.zip: ZIP file that includes parameter settings tool files

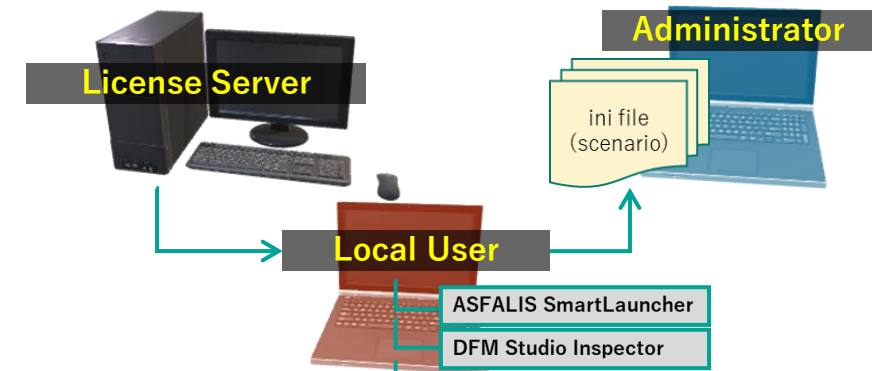
<Tools to install in the user PC>

- ASFALIS SmartLauncher: Used to execute the check
- DFM Studio Inspector: Used to check and evaluate the result

<Initial settings>

Reference document: DFM_Studio_Parameter_Settings_Tool_Admin_Manual_en.pdf

DFM_Studio_Quick_Start_Guide_en.pdf

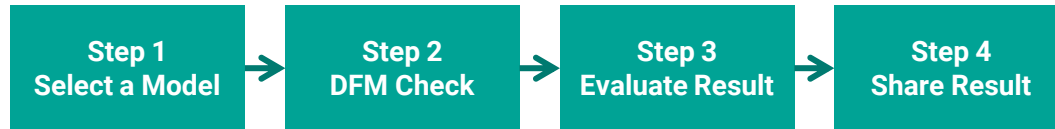


Initial settings for admin and each user (1-3 for admin and 4 for users)

1. Create parameter files for plastic and sheet metal models using each parameter settings tool (dfms_param_set_xxx_admin.xlsm)
2. Place the created parameter files below
<scenario folder>%shared_param%plastic_check
3. Share the scenario folder with users to utilize the initial parameter settings.
4. Users will install ASL and DFM Studio Inspector and specify the initial settings file shared by the admin in the ASL preference dialog.

2. How to use DFM Studio with ASL

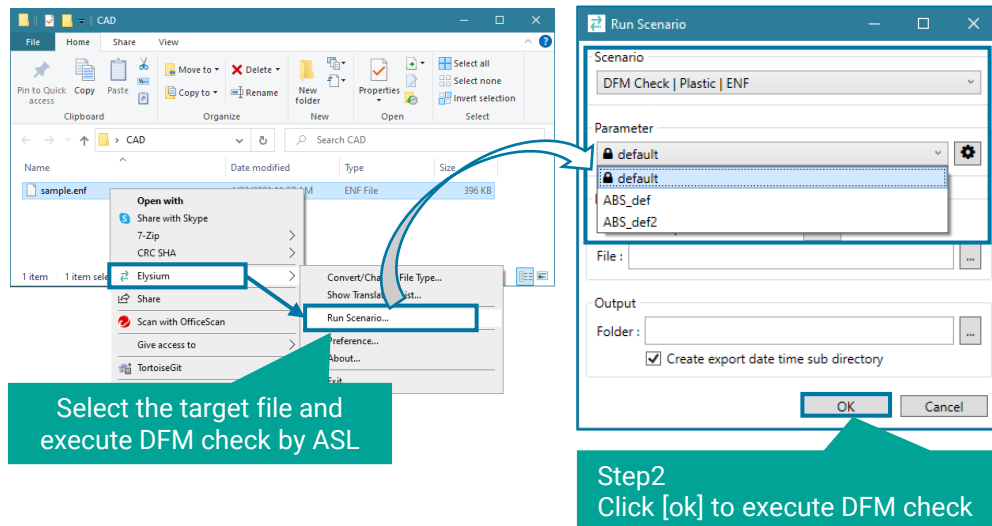
Users will use ASL to execute the check and use DFM Studio Inspector to confirm, evaluate and share the check result.



<Step1 Select a Model>

Reference document: [DFM_Studio_Quick_Start_Guide_en.pdf](#)

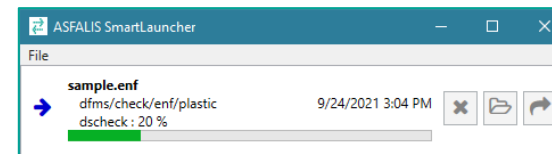
Right-click on the target model in the within file explorer in the user PC to launch ASL. Select the scenario and parameter file in the “Run Scenario” dialog.



<Step2 DFM Check>

Reference document: [DFM_Studio_Quick_Start_Guide_en.pdf](#)

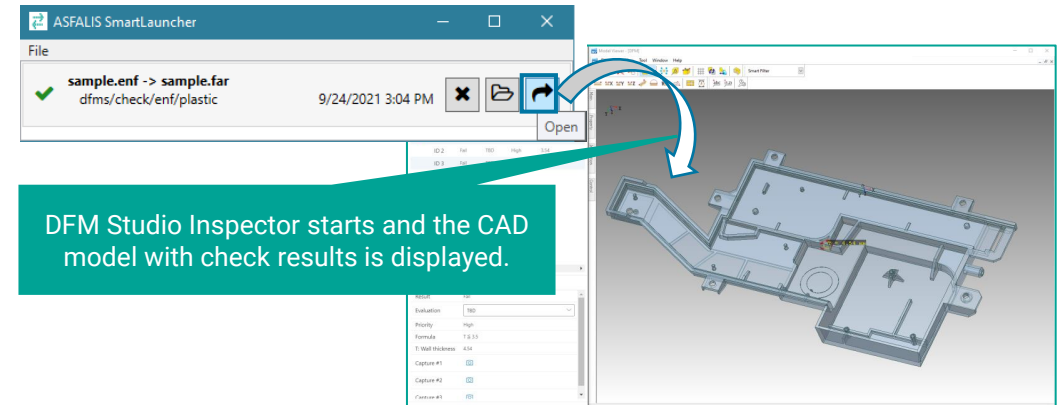
Specify the output folder and click “OK” in the “Run Scenario” dialog to execute the check. The status will show in the ASL translation list.



<Step3 Evaluate Result>

Reference document: [DFM_Studio_Inspector_Manual_en.pdf](#)

When the check is completed, the check result file (.far) will be saved in the specified output folder. Also, select the “Open” icon in the ASL translation list to open the result in DFM Studio Inspector.



2. How to use DFM Studio with ASL

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<Step3 Evaluate Result (Cont.) >

Evaluate each check result automatically created by DFM Studio (select “Pass” or “Fail”) and insert the evaluation reason in the Comments. After confirming and evaluating all check results, save the check result file.

Step3
Save far file after setting all evaluations

Step3
Set evaluation for each results

Name	Result	Evalu...	Priority	T: Wall...	Comm
ID 1	Fail	TBD	High	4.54	
ID 2	Fail	TBD	High	3.54	
ID 3	Fail	TBD	High	3.52	

Property	Comment
Result	Fail
Evaluation	TBD
Priority	High
Formula	$T \leq 3.5$
T: Wall thickness	4.54

<Step4 Share Result>

Reference document: DFM_Studio_Inspector_Manual_en.pdf

Share the check result in the following methods.

- Share the check result file (.far) saved in Step3.
- Export and share a check report from DFM Studio Inspector.

Export report

Step4
Report will be created as an excel file

The report has images and evaluation results for each check items

No.	Check criterion	Total	TBD	Fail	Pass
1	1.1 Thick wall	3	0	3	0
2	2 Thin wall	14	0	14	0
3	3.1 Boss	11	0	11	0
4	4.1 Rib	66	0	66	0
5	5.1 Convex sharp edges (Prod	1	0	1	0
6	6.2 Concave sharp edges (Mol	5	0	5	0
7	7.1 Tiny convex fillet (Prod	11	0	4	7
8	8.2 Tiny concave fillet (Mol	20	0	8	12
9	9.1 Undercut	1	0	1	0
10	10.2 Slide stroke length	2	0	0	2
11	11 Thin wall (Mold)	11	0	1	10
12	12.1 Hole Pilot hole diameter	11	0	10	1
13	13.2 Hole Chamfer width	11	0	7	4
14	14.3 Hole Through or blind	11	0	0	11
15	15.4 Hole Depth to pilot hole	11	0	0	11
16	16.5 Hole Distance between h	1	0	1	0
17	17.6 Hole Hole information	15	0	0	15
18	18.1 Draft angle	6	0	6	0
19	19.1 Bounding box size	1	0	0	1
20	20.2 Volume	1	0	0	1
21	21.3 Projection area size	1	0	0	1

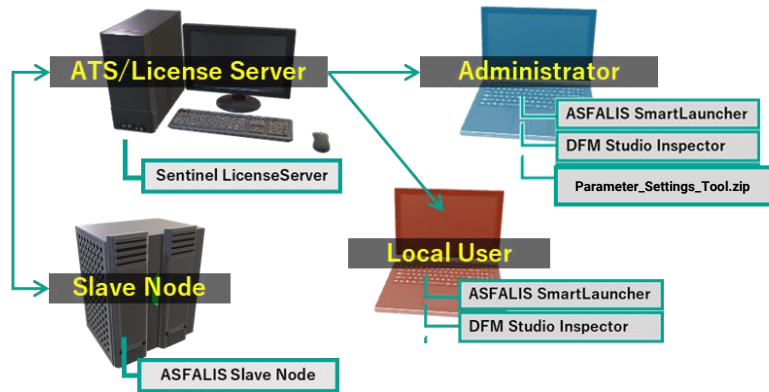
How to use DFM Studio with ATS

- 3. DFM Studio environment settings when using with ATS**
- 4. How to use DFM Studio with ATS**

3. DFM Studio environment settings when using with ATS

<System overview>

Reference document: DFM_Studio_Installation_Guide_en.pdf



<Tools to install in license server machine>

- Sentinel RMS License Manager: Manages DFM Studio licenses
- ASFALIS TransServer: Manages check jobs requested by the user
- ASFALIS Slave Node: Executes the check job

<Tools to install in the admin PC>

- ASFALIS SmartLauncher: Used to execute the check
- DFM Studio Inspector: Used to check and evaluate the result
- Parameter_Settings_Tool.zip: ZIP file that includes parameter settings tool files

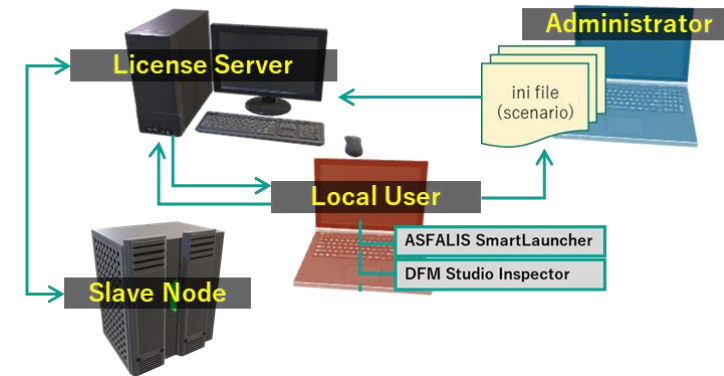
<Tools to install in the user PC>

- ASFALIS SmartLauncher: Used to execute the check
- DFM Studio Inspector: Used to check and evaluate the result
- Parameter_Settings_Tool.zip: ZIP file that includes parameter settings tool files

<Initial settings>

Reference document: DFM_Studio_Parameter_Settings_Tool_Admin_Manual_en.pdf

DFM_Studio_Quick_Start_Guide_en.pdf



Initial settings for admin and each user (1-3 for admin and 4-6 for users)

1. Refer to P5 of this document to create and share initial check setting files.
2. Specify the parameter file placed in the scenario folder (xxx.ini) in ATS.
3. The admin confirms that the registered check job can be executed.
4. The user logs into ATS from a web browser and select a check scenario from "New Job". Confirm that the check job is executed in ATS.
5. As a re-check setting, specify the initial setting file that the admin shared from the preference dialog of ASL installed onto the user PC.
6. Open the check result file in DFM Studio Inspector and confirm that re-check and report export can be performed.

4. How to use DFM Studio with ATS

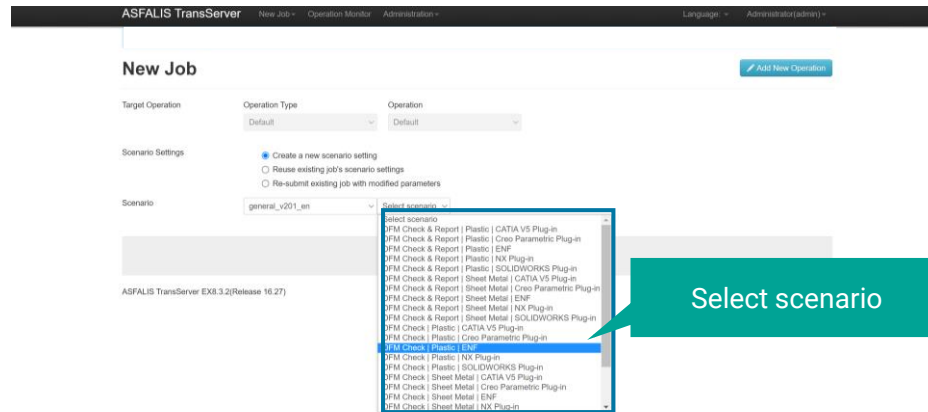
Users will execute the check using ATS and use DFM Studio Inspector to confirm, evaluate and share the check result.



<Step1 Select a Model>

Reference document: [DFM_Studio_Quick_Start_Guide_en.pdf](#)

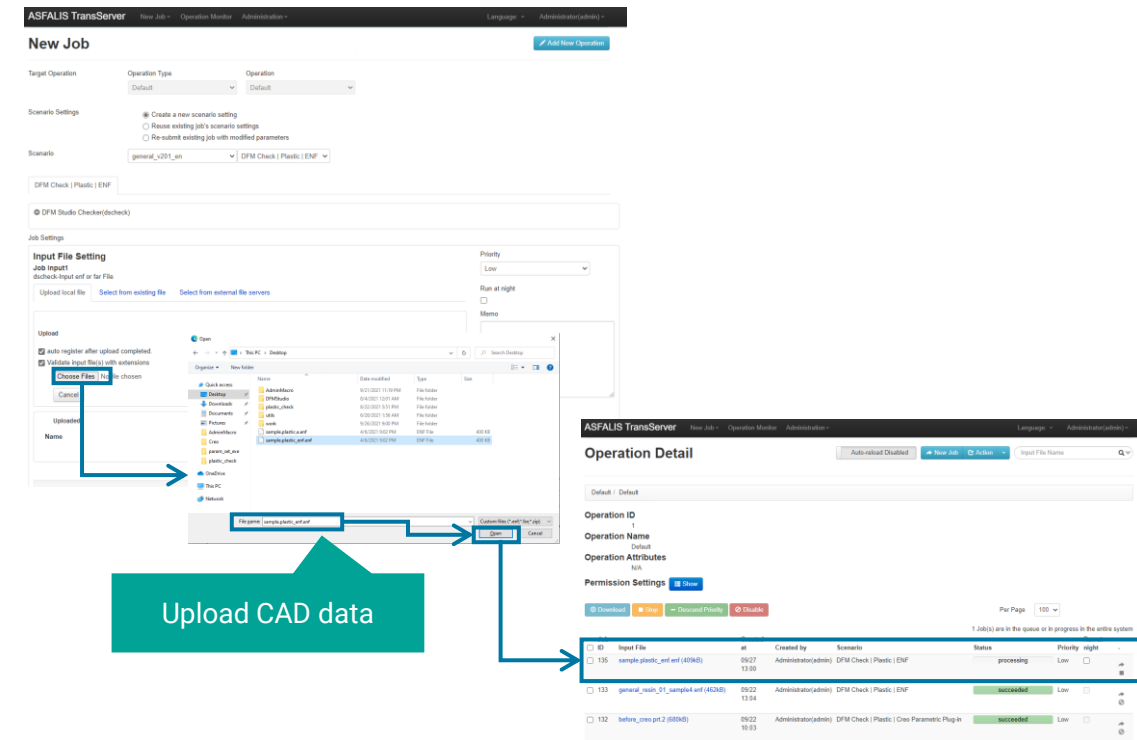
Each user will login to ATS from a web browser. Select a scenario from “New Job”



<Step2 DFM Check (Data Upload)>

Reference document: [DFM_Studio_Quick_Start_Guide_en.pdf](#)

Upload the target model in ATS by selecting [Input file setting] > [Select file] > select target model > [Open]. When the check starts, the operation screen appears, and the process status can be confirmed.



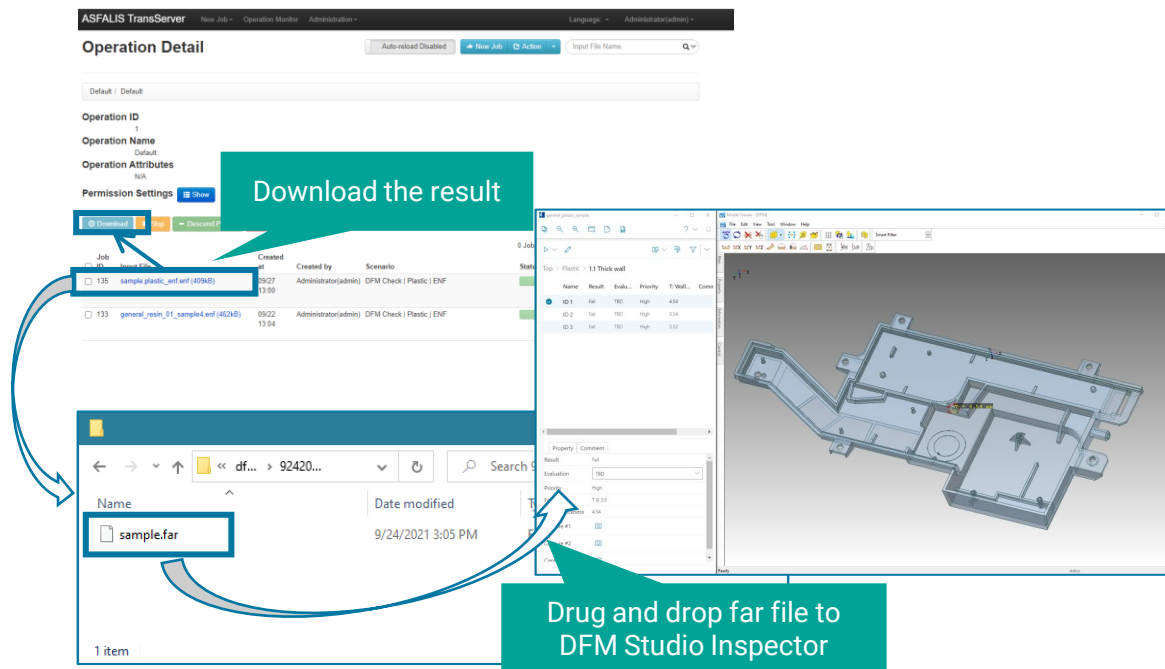
4. How to use DFM Studio with ATS

<Step3 Evaluate Result (Download Result) >

Reference document: DFM_Studio_Inspector_Manual_en.pdf

After the job status changes to “Succeeded”, check the job ID and select “Download”.

Open the check result file (.far) that is downloaded in DFM Studio Inspector.



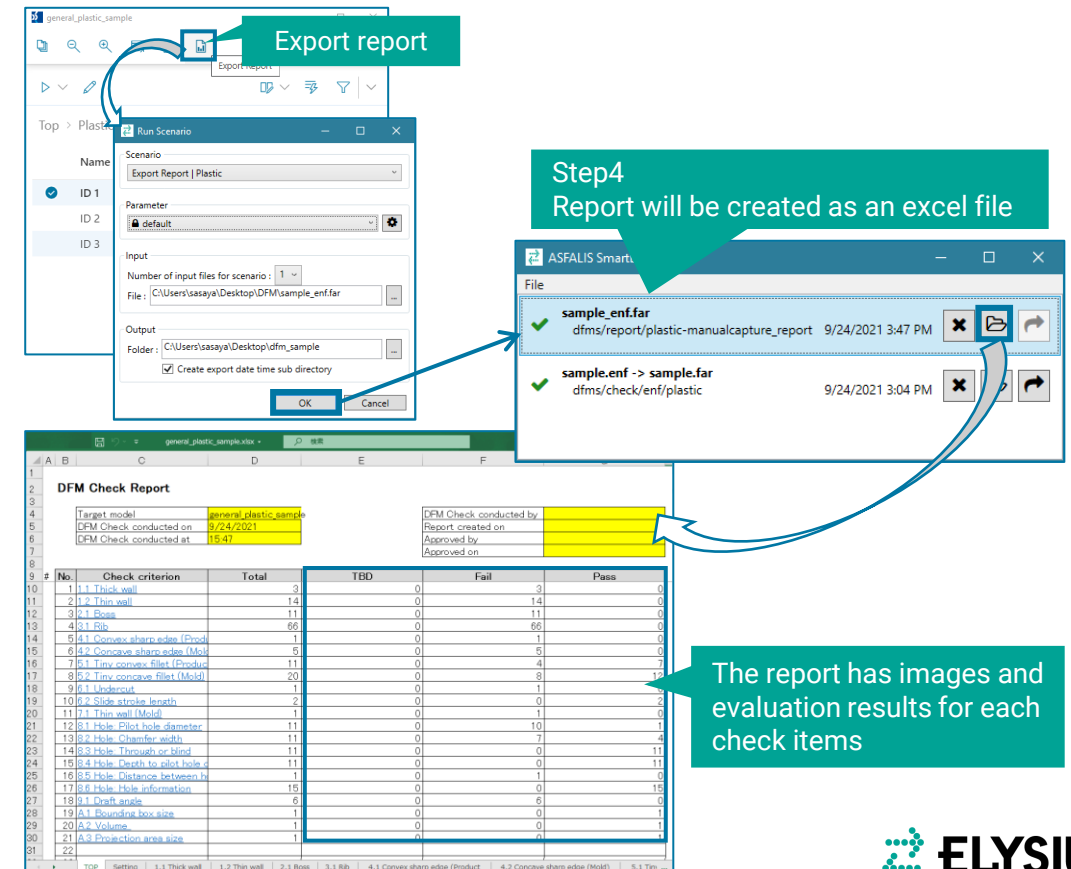
Evaluate each check result automatically created by DFM Studio (select “Pass” or “Fail”) and insert the evaluation reason in the Comments. After confirming and evaluating all check results, save the check result file.

<Step4 Share Result>

Reference document: DFM_Studio_Inspector_Manual_en.pdf

Share the check result in the following methods.

- Share the check result file (.far) saved in Step3.
- Export and share a check report from DFM Studio Inspector.



Appendix

5. DFM Studio Tips

6. DFM Studio Inspector Tips

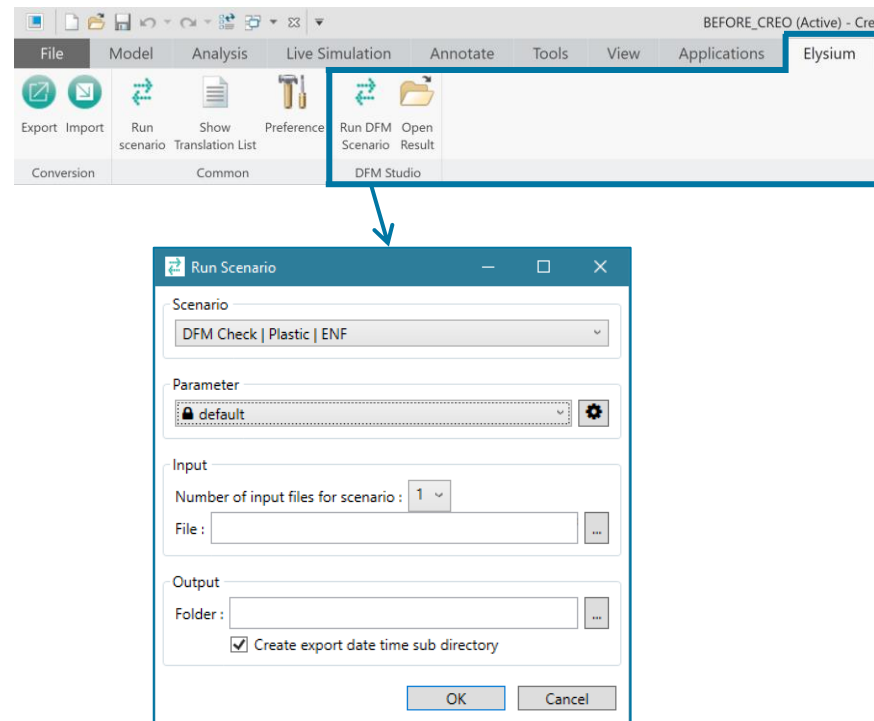
5. DFM Studio Tips

1. Launching ASL from a CAD system

Reference document: DFM_Studio_Quick_Start_Guide_en.pdf

Specify a CAD Plug-in at the time of ASL installation. Launch ASL from the Elysium menu for the model showing the CAD system.

Elysium menu in Creo

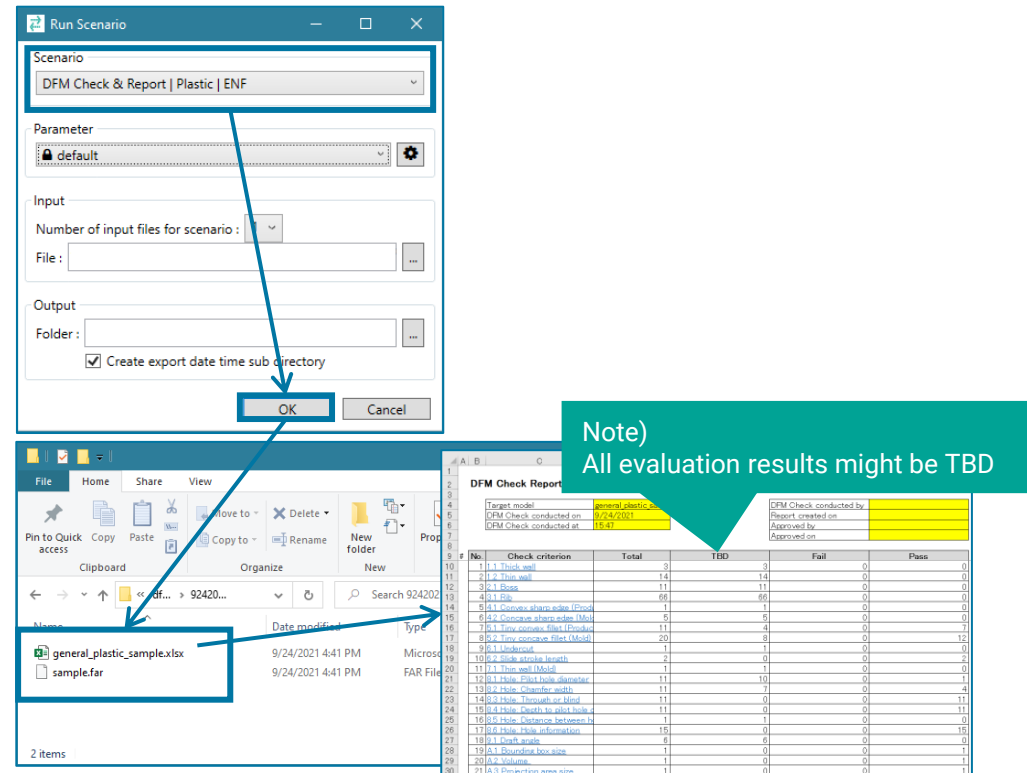


2. Check and export a report at the same time

Reference document: DFM_Studio_Quick_Start_Guide_en.pdf

Select a scenario that includes "Report" in ASL and execute the check. The check result file (.far) along with the Excel report will be created in the output folder. An overview of the check result can be confirmed in the Excel report.

"DFM Studio Reporter" license is required to export the check result report.



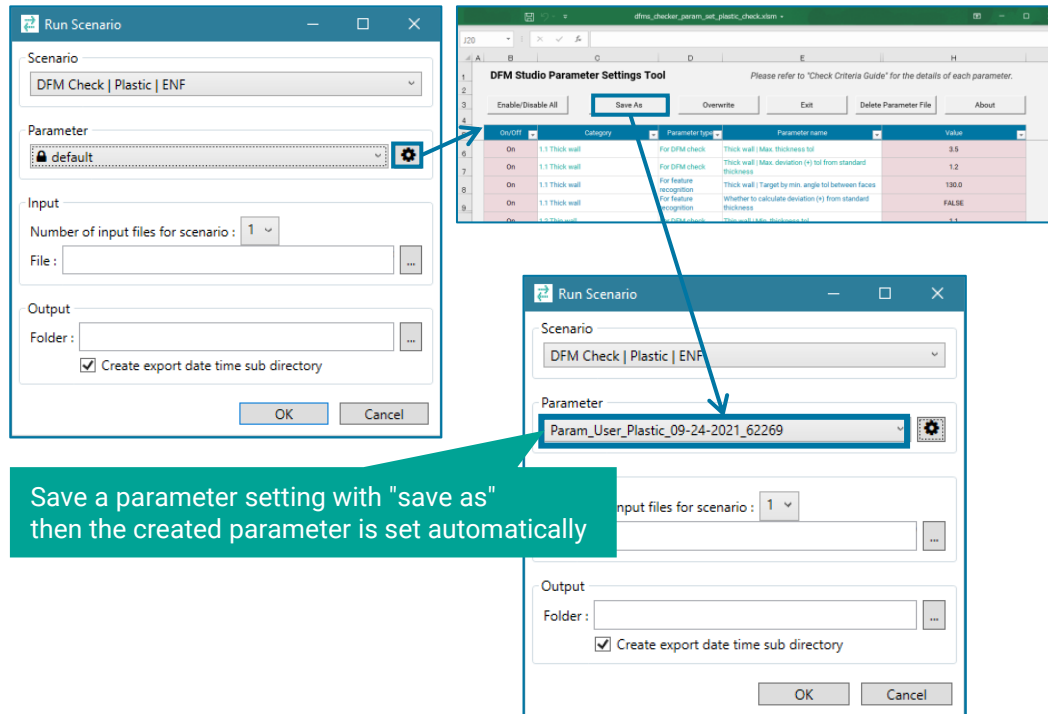
5. DFM Studio Tips

3. On-demand check (check by altering the parameters)

Reference document: [DFM_Studio_Quick_Start_Guide_en.pdf](#)

[DFM_Studio_Parameter_Settings_Tool_User_Manual_en.pdf](#)

Click on the gear mark next to the parameter pull-down menu in the ASL dialog to launch the parameter settings tool. Change the parameter settings to check based on specified needs such as “checking only a specified item” or “change the threshold of a certain check item”.



4. Display CAD model and synchronization

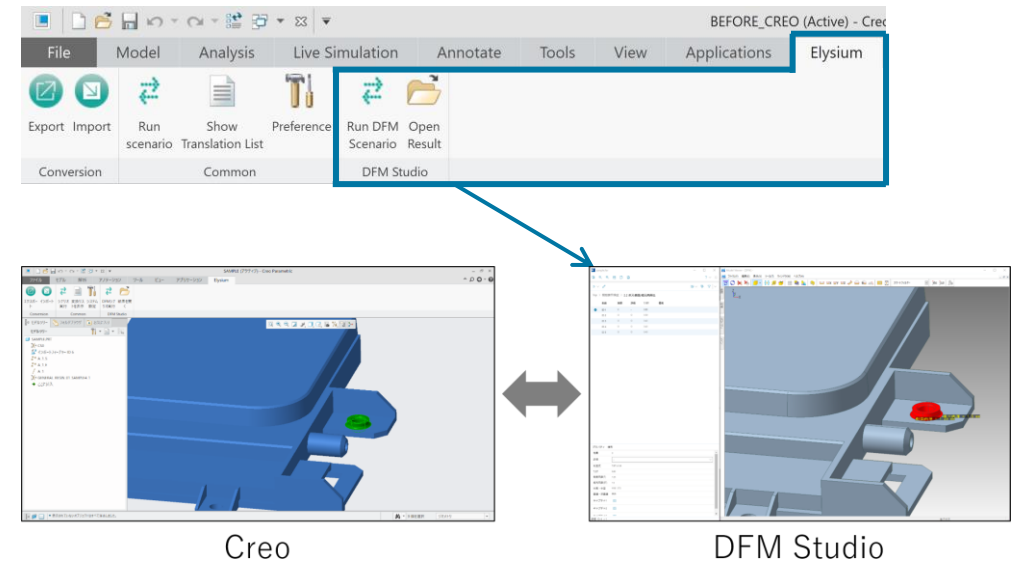
Reference document: [DFM_Studio_Quick_Start_Guide_en.pdf](#)

Synchronize the model displayed in the CAD system and the result displayed in DFM Studio Inspector. Zoom into (double-click) a check result in DFM Studio Inspector and the view will be synchronized in the CAD system as well.

This will make it easier to check the CAD model.

“CAD Connector” license is required to use this function.

Elysium menu in Creo

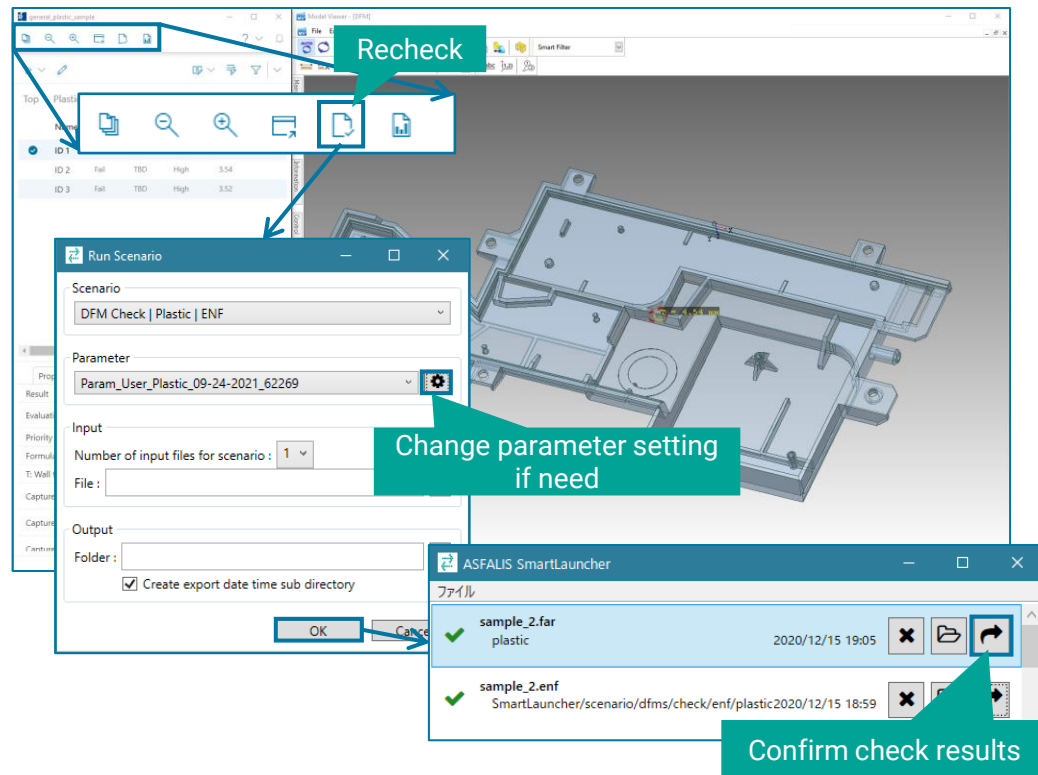


6. DFM Studio Inspector Tips

1. Re-run a check for a model displayed in DFM Studio Inspector

Reference document: DFM_Studio_Inspector_Manual_en.pdf

Re-run a check for a model displayed in the user PC DFM Studio Inspector. (ASL needs to be installed in the user PC.)



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