AUTODESK UNIVERSITY

Fabrication Profiles: How Do You Manage Your Database Without Them?

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Learning Objectives

- Understanding the benefits of using Profiles for both Fabrication Products and REVIT
- Cover what parts of the database are Global vs. Profile specific
- Learn to create and manage Profiles for use in Fabrication Products as well as REVIT
- Learn how to edit the Profile for Project requirements for use in Fabrication Products as well as REVIT

Description

Does your company have multiple locations, branches or divisions? Does your Fabrication Database have multiple "Job Specific" Services? Does your Fabrication Database have multiple "Job Specific" Pressure Classes, Insulation Specifications or Support Specifications? If you answered "Yes" to one of these questions, we have a solution for you. Using Autodesk Fabrication Profiles for each project is a great way to maintain the Autodesk Fabrication Database without the need for Project Specific Groups within the database. Utilizing Profiles will help maintain a clean database to eliminate temporary database entries. If you plan to use Fabrication Parts in Revit, this is a Must See.

Your AU Experts

William Tucker
William is currently working at Comfort Systems USA, a Premier Mechanical Systems Installation and Service provider, as BIM Trainer and Product Specialist. CSUSA is a national organization with 24 companies, 7 Sheet Metal Fabrication Shops and 190 users currently sharing the Autodesk Fabrication Products with one database. William is responsible for implementing, training, and advising on best practices for these companies, developing standards within the organization, and providing technology recommendations for the future. In the past, William has trained and Implemented Autodesk Fabrication CADmep, ESTmep, and CAMduct as well as utilized it as a 3D detailing and coordination package. William has been using Autodesk Products for 29 years. William enjoys helping others utilize the software to its fullest extent.

Kevin Allen
Kevin is currently employed at Comfort Systems USA, a Premier Mechanical Systems Installation, and Service provider with annual revenue of $1.6B, as Director of BIM and Productivity. CSUSA is a national organization with over 7K employees and 36 operating companies, with some being service only. Currently, 24 of these locations utilize Virtual Design/Construction, with 7 Sheet Metal Fabrication Shops, numerous pipe and plumbing shops, with 190 employees utilizing the Autodesk Fabrication Suite of Products on ONE database. Kevin is responsible for implementing, training, and advising on best practices for these companies, developing standards within the organization, and providing technology recommendations for the future, along with numerous other tasks. In the past, Kevin has trained Autodesk Fabrication CADmep, as well as utilized it as a 3D detailing and coordination package. Kevin enjoys helping others utilize the software to its fullest extent.

A little history of my experience with Profiles.
I have worked with the Autodesk Fabrication Software for 12 years and I have trained and worked with implementation on the software for the past 10 years. I will have to admit that I may have been the person that started the “Project Specific” services, service templates and specifications. Several years ago MAP software had introduced “Profiles” and had asked me to test them. Well, I was out helping with an implementation of a well-experienced client that wanted to rebuild their database. After analyzing what they wanted to do I thought that Project Specific Profiles would be the answer, so I suggested that we test them and they agreed. We spent 3 days building new services and service templates, so now we were ready to test Profiles. Within about 10 minutes of testing we lost every service and service template, yes we lost them, but luckily for us, I had exported them prior to testing. Needless to say, that was the end of my testing for a few more years.

In 2012 after Autodesk acquired MAP Software, Andy asked me to test them again and assured me that would not have that same issue again. I started testing the again in my spare time and could not reproduce the Issue again, but I had never tested them on a live database.

I hired on with Comfort Systems USA in September of 2013 and the main goal was to help Kevin Allen and Josh Asche build a national database that could be used across the country with all of the OpCo’s (Operating Companies). Well at that point the only way we could see this to be possible was the use of “Project Specific Profiles” and “Sharing The Database via the Cloud” (MSF21480).

We did some extensive testing with Profiles ourselves and could not break them. We then call about 14 of our employees across the country to meet in one location for a week. We used all of them to help test and we developed some tasks for everyone to execute at the same time to see if we could break it, we could not break it and had 100% success on all tasks. We rolled out our National database in January of 2014 and have had tremendous success using Profiles. But there are a few rules to follow….

Understanding the benefits of using Profiles for both Fabrication Products and REVIT

What Are Profiles?

Profiles are mini databases within one, kind of like an ESJ file.

The Global Profile is your main Profile(database) and this should be treated as a template. Create project specific profiles from the Global Profile and create a new Profile for every project.

Benefits:

The benefits of using Profiles far outweigh the cons

1. I can say that the main benefit is that using Profiles will keep your main database (Global) very clean
    a. Over the years of working with other companies, I have helped a lot of them rebuild their database so many times due to a lot of clutter/temporary data that has been into their database.
2. In your Global Profile you will not need Job specific;
    a. Services
    b. Service templates
    c. Sheet metal specifications
    d. Support specifications
    e. Insulation specifications
3. When working on a project the user will not need to choose from hundreds of services to determine which one to use for that project while working in the Fabrication products or REVIT.
4. When you need project specific service templates or specs, just modify the existing ones in the Project Profile, no need to copy, rename and reassign.
5. When a Profile is created most database settings are static at that point in time.
6. You can add your button mappings needed for REVIT accessories without needing to add them to the Global database. See FAB Parts in REVIT: Understanding how Design to Fabrication works in REVIT (MSF21097)

Cons:

1. When a Profile is created most database settings are static at that point in time.
    a. Database information can be exported from Global and imported into the profile if needed.
    b. Sheet Metal material pricing can be cumbersome

What parts of the database are Global Versus Profile specific?

Like I had said Profiles are just mini-databases. For those that understand the Fabrication database, you may want to know what database files are Global and what files are Profile specific.
This is a list of Common Files and Uncommon Files between Global database and the Profile database

Global_File	GlobExt		Profile_File	ProfExt
address	map			
Airturn	map		Airturn	map
ANCILLRY	map		ANCILLRY	map
BarCode	map			
COLOURS	map			
Connectr	map		Connectr	map
Cost	map		Cost	map
Cutouts	map		Cutouts	map
DAMPER	map		DAMPER	map
Diameter	map		Diameter	map
dwgdb	map		dwgdb	map
EDGENEST	map			
ETimes	map		ETimes	map
FACINGS	map		FACINGS	map
FTimes	map		FTimes	map
HSpecs	map		HSpecs	map
ISpecs	map		ISpecs	map
jobb	map			
layers	map		layers	map
LEADS	map		LEADS	map
Material	map		Material	map
MCGROUPS	map			
NESTING	map		NESTING	map
Notches	map		Notches	map

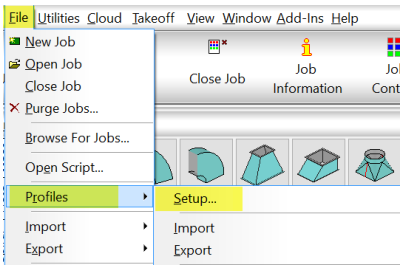
Notes	map		Notes	map
oglQTOdetail	map			
OPENGL	map			
PARTNAME	map		PARTNAME	map
pmdetail	map			
Process	map			
prodinfo	map			
QDETAIL	map			
RESISTANCE	map		RESISTANCE	map
RESISTLINK	map		RESISTLINK	map
Seam	map		Seam	map
sections	map		sections	map
Service	map		service	map
SETUP	map		SETUP	map
Silencer	map		Silencer	map
Specs	map		Specs	map
splitter	map		splitter	map
STIFFNER	map		STIFFNER	map
StressLd	map		StressLd	map
SUPPLIER	map		SUPPLIER	map
SUPPORT	map		SUPPORT	map
TAKEOFF	map		TAKEOFF	map
TEXTATTS	map		TEXTATTS	map
TOOLDFLT	map		TOOLDFLT	map
All Machines	mch			
Machine	cfg			
buttons	dat			
products	dat			
scribe	fnt			
IMPORT	R2V			
PROFILE	R2V			
SOLIDART	R2V			
SOLIDSHAPES	R2V			
toolbase	txt			
Backup				
DECOILER				
Users				

The parts of the database that should be the most commonly changed after a Profile is created are;

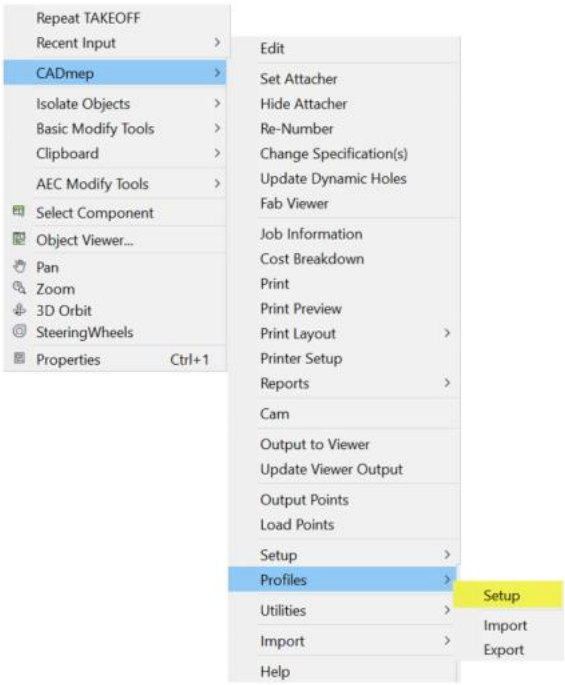
1. Service Template to possible replace Piping of duct accessories
2. Hanger specifications (values only, not names)
3. Insulation specifications (values only, not names)
4. Sheet Metal specifications (values only, not names)
5. Sections
6. Default Machine (for Multiple shop locations)

Create and managing Profiles for use in Fabrication Products as well as REVIT

To create a profile with CAMduct and ESTmep go to File>Profiles>setup

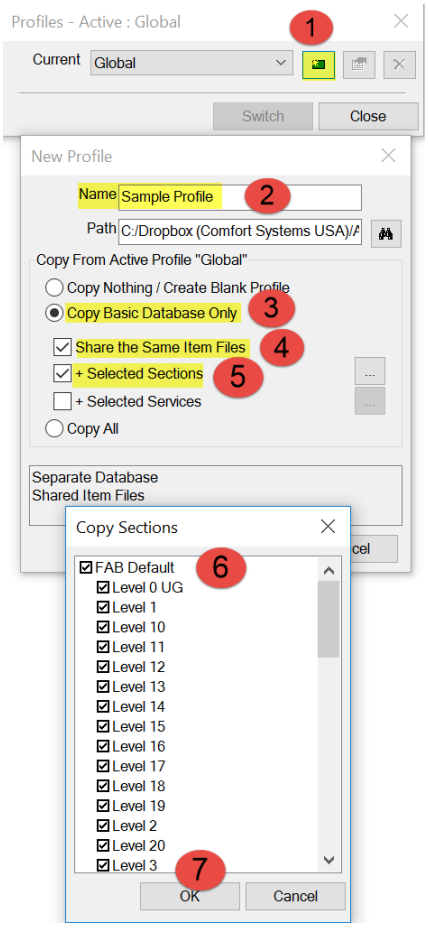


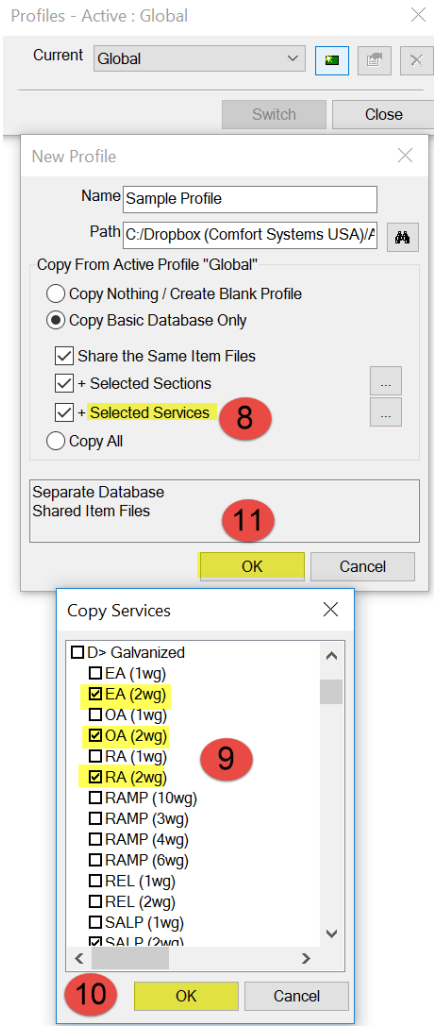
To create a Profile with CADmep Right click on the screen go to CADmep>Profiles>setup



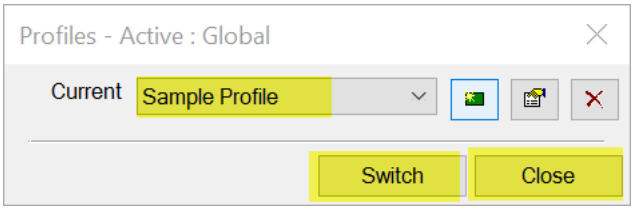
Start with Global

1. Click the Green Button to Create a new Profile
2. Name Your Profile
3. Select Copy Basic Database Only
4. Check the box for Share the same Item Files
5. Check the box for Selected Sections
6. Select the sections that you want to copy for your project
7. Select “OK” for sections
8. Check the box for Selected Services
9. Select the Services that you want to copy for your project
10. Click “OK” for services
11. Click “OK” to accept the Profile





12. Click Close to close the profile setup or switch to change to the new profile.



Managing Profiles

Rules

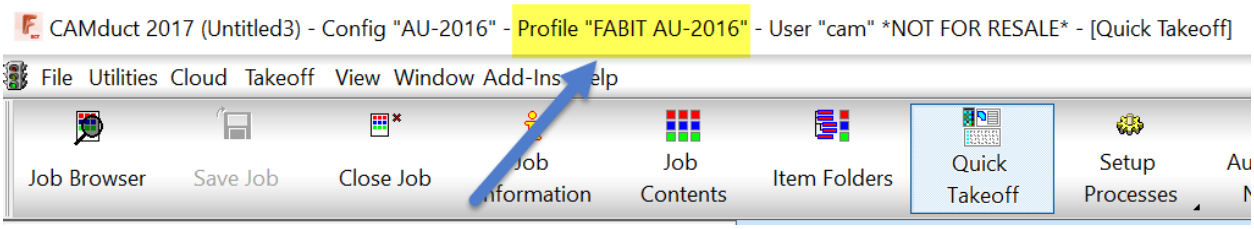
Yes, you have a few rules to follow;

1. Do not try to work on multiple drawings with more than one profile in the same session of AutoCAD. (This can cause the Profile to become corrupted)
2. If you need to work on two drawings with different Profiles use a separate session of AutoCAD for each profile.
3. Never work out of the Global profile, this is only for setup, testing and creating Profiles from. Actually, this should be a rule for every Fabrication Database Never work on a drawing logged in as Full/Admin.
4. In AutoCAD, always load the Fabrication application before opening a drawing.
5. Never double click on a drawing in windows explorer to open a drawing.

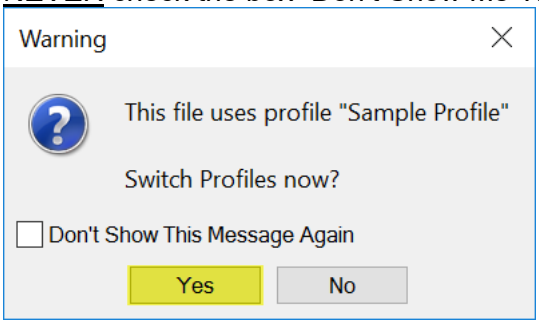
Changing Profiles

In AutoCAD, you can tell what Profile that you currently have loaded on the title bar

In CAMduct or ESTmep you can tell what Profile that you currently have loaded on the title bar



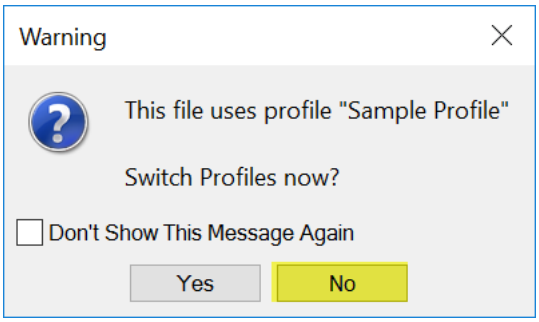
If you have the wrong profile loaded, when you open a drawing you will get a warning.
“This Drawing uses “XYZ” Profile” Switch Profiles now?
In this case, click “Yes”
NEVER check the box “Don’t Show Me This Again”



If you start working on a drawing using with the wrong Profile loaded.

1. Save and Close the drawing.
2. Close AutoCAD
3. Open AutoCAD
4. Change Profiles to the Profile that you should have been using.
5. Open the drawing.

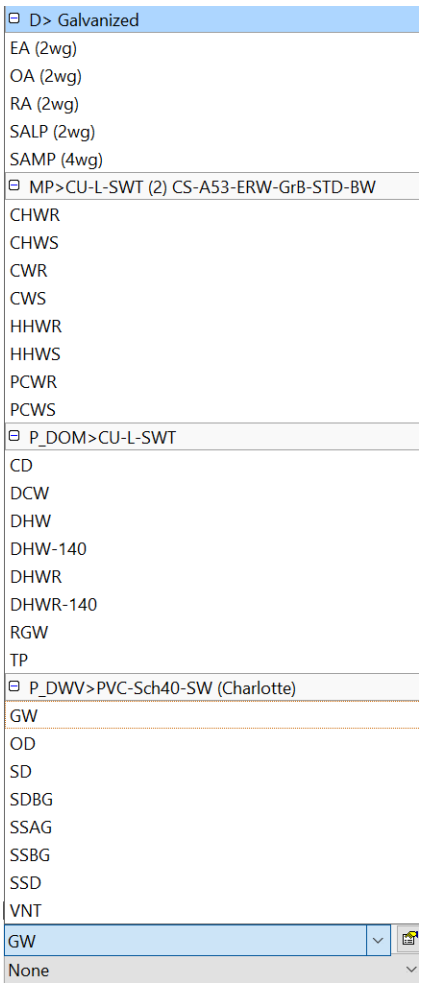
You will get a warning.
“This Drawing uses “XYZ” Profile” Switch Profiles now?
In this case, click “No”
NEVER check the box “Don’t Show Me This Again”



When you save the drawing. The Profile will now be associated to that Drawing.

Edit the Profile for Project requirements for use in the Fabrication Products as well as REVIT

When you are in your Profile you should now have just a small list of services to select from. This can be handy for the CAD detailers and REVIT users so that they don't have a large selection to choose from.

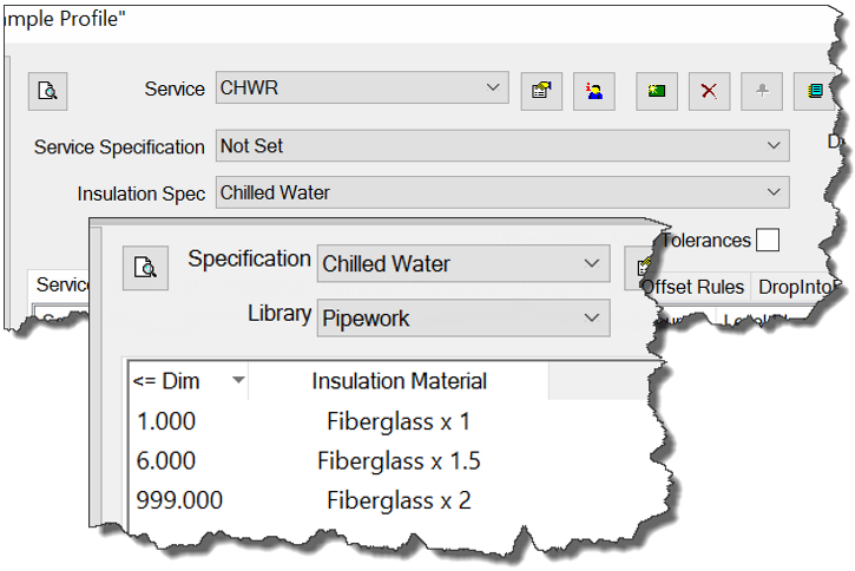


You do only get these selected services and sections to choose from, but you get all of your;

1. Service templates
2. Hanger specifications
3. Insulation specifications
4. Sheet Metal specifications
5. Stiffeners
6. Vanes

7. Connectors
8. Seams
9. And much more

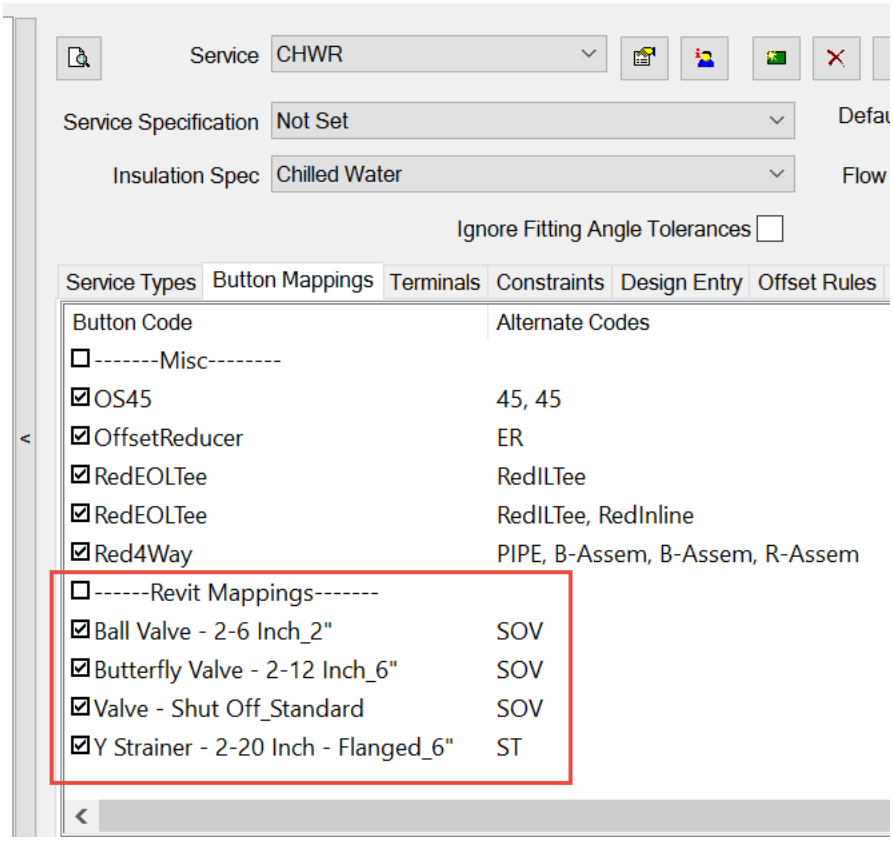
Here is an example of a simple change that you may need to change;
We have insulation specifications assigned to all of our services that would require insulation, on our Chilled Water service we have an Insulation Specification, called “Chilled Water”. I know that this specification is not going to be the same for every project. In this case, I have it assigned to the service, all I need to do is change my size breaks and maybe materials and I am done…There is no need to create a new one and reassign it.



This would be the same scenario for any other type of specification.
We have one database administrator at each of our operating companies. Most of our database administrators can create and setup a new Profile in about 20 minutes (Provided that they have all of their information from the Project Manager).

For REVIT, if you are planning to use Design to Fabrication (MSF21097), you can add your button mappings needed for REVIT accessories

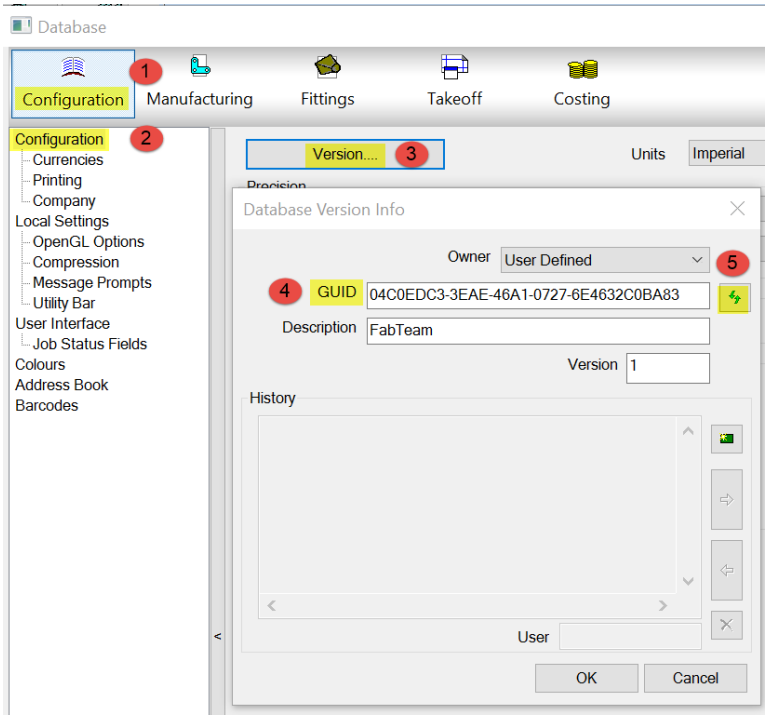
'FABIT AU-2016"



To use the Profile in REVIT;

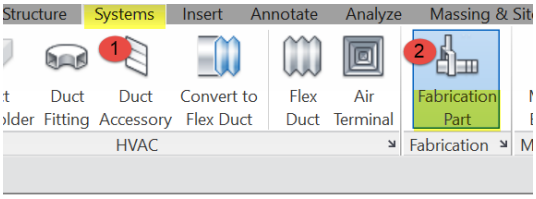
For a Configuration to work in REVIT the Fabrication database must have a GUID. To determine if your database has a GUID go to “Edit the Database”

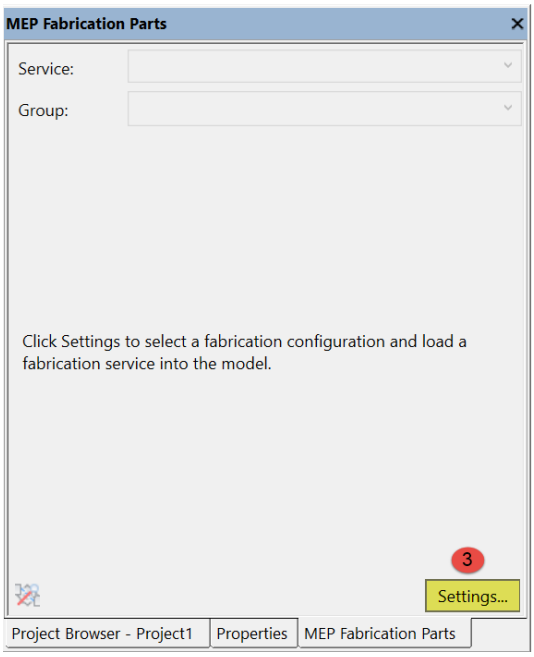
1. Click the “Configuration Tab”
2. Select the “Configuration” section
3. Click “Version”
4. If you see a value in the “GUID” field, you should be OK
5. If you do not see a value in the “GUID” Field, click the Green button on the right and one will be generated.



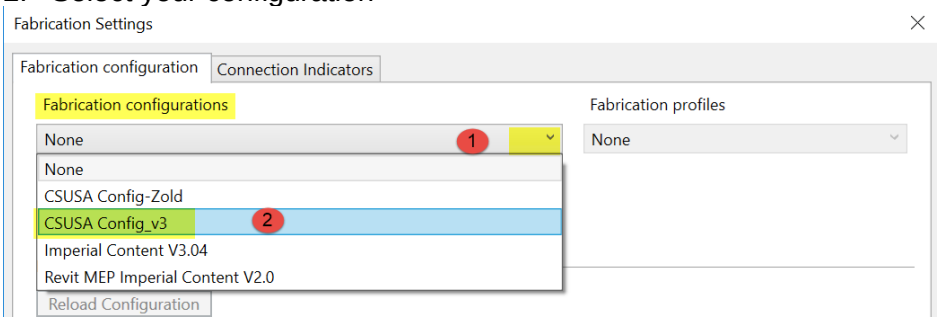
To load your Fabrication configuration in Revit

1. Click on the “System” tab
2. Click on the “Fabrication Part” button on the ribbon to open MEP Fabrication Parts pallet
3. Click “Settings”

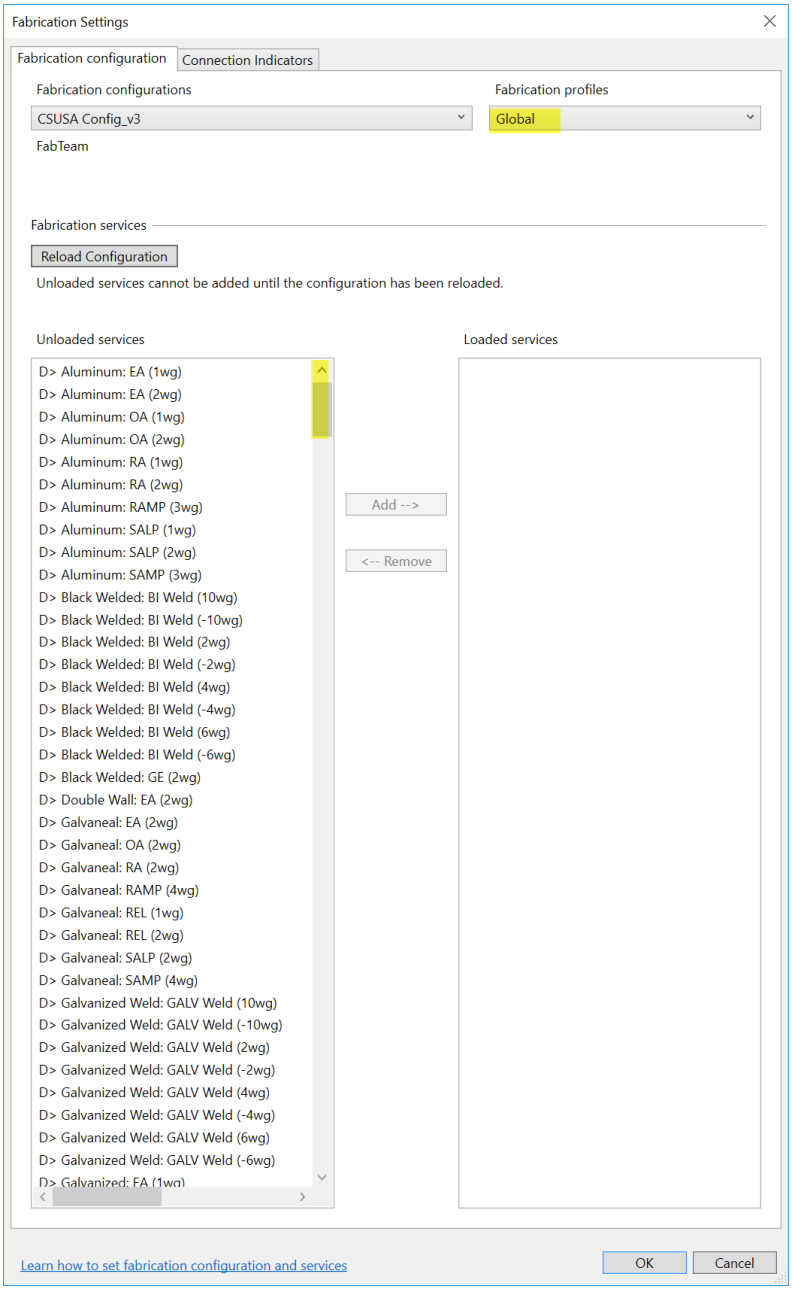




1. Use the pulldown under “Fabrication Configurations”
2. Select your configuration



This will take a little bit of time to load and It will default to your “Global” Profile.
Notice that if you use your global profile you may have a long list of services to choose from.


Fabrication Settings
Fabrication configuration
Connection Indicators
Fabrication configurations
CSUSA Config_v3
FabTeam
Fabrication profiles
Global
Fabrication services
Reload Configuration
Unloaded services cannot be added until the configuration has been reloaded.
Unloaded services
D> Aluminum: EA (1wg)
D> Aluminum: EA (2wg)
D> Aluminum: OA (1wg)
D> Aluminum: OA (2wg)
D> Aluminum: RA (1wg)
D> Aluminum: RA (2wg)
D> Aluminum: RAMP (3wg)
D> Aluminum: SALP (1wg)
D> Aluminum: SALP (2wg)
D> Aluminum: SAMP (3wg)
D> Black Welded: BI Weld (10wg)
D> Black Welded: BI Weld (-10wg)
D> Black Welded: BI Weld (2wg)
D> Black Welded: BI Weld (-2wg)
D> Black Welded: BI Weld (4wg)
D> Black Welded: BI Weld (-4wg)
D> Black Welded: BI Weld (6wg)
D> Black Welded: BI Weld (-6wg)
D> Black Welded: GE (2wg)
D> Double Wall: EA (2wg)
D> Galvaneal: EA (2wg)
D> Galvaneal: OA (2wg)
D> Galvaneal: RA (2wg)
D> Galvaneal: RAMP (4wg)
D> Galvaneal: REL (1wg)
D> Galvaneal: REL (2wg)
D> Galvaneal: SALP (2wg)
D> Galvaneal: SAMP (4wg)
D> Galvanized Weld: GALV Weld (10wg)
D> Galvanized Weld: GALV Weld (-10wg)
D> Galvanized Weld: GALV Weld (2wg)
D> Galvanized Weld: GALV Weld (-2wg)
D> Galvanized Weld: GALV Weld (4wg)
D> Galvanized Weld: GALV Weld (-4wg)
D> Galvanized Weld: GALV Weld (6wg)
D> Galvanized Weld: GALV Weld (-6wg)
D> Galvanized: EA (1wg)
Add -->
<-- Remove
Loaded services
Learn how to set fabrication configuration and services
OK
Cancel

Now select the profile that you want to use, I am using a profile that I have setup for Autodesk University “FABIT AU-2016”. Notice that I do not have such a massive list of services because I set up my profile for only the services needed for this project. I don’t have to pick and choose which services I need, I will just select all of them and select “Add” when it finishes, click “OK”