

DAISY[™] Floor User Guide

This document explains how to use the floor design tools available within the DAISY[™] add-in for Revit. Once installed you will be able to get a bespoke floor design done to your relevant Design Standard, using either solid lumber, I-joist or engineered wood product joists and beams commonly available in the market.

Revit Add-in Installation

If you don't have the DAISY[™] Revit add-in installed, you can get the latest version available to download from <u>http://daisy.ai/downloads</u>

Once downloaded and installed you will find a new DAISYTM tab on your Revit Panel as shown below.

R		D 📙	<u>،</u> ا	\$ન • 🖒	* 🖨 🖶 *	A ©1 *4,	6.			<u>-</u>						Au	todesk	Revit 2020	2 - 3254	-56 W CR
F	File	Architec	ture	Structure	Steel Syste	ems Inser	t Ann	otate	Analyze	Massin	ng & Site	e Colla	borate	View	Manage	Add	-Ins	Daisy N	odify	• •
	6	\Box	J		IJ	0	F	P						\diamond	Ø	A][[0]		
N	/lodify	Wall	Door	Window	Component *	Column •	Roof	Ceiling	Floor	Curtain System	Curtain Grid	Mullion	Railing	Ramp) Stair	Model Text	Model Line	Model Group	Room	Room Separator
Se	elect 🔻					Bui	ld						Ci	rculatio	n		Mode	el		

Using this new DAISY[™] tab you have access an 'Export Walls 'command which is used to export the walls, pipes, floors, and levels from your Revit project into an xmlx file which can then be used by DAISY[™] to design the floors in question.



Note

A Revit modelling best practices 'section is provided later in this Guide providing tips on how to create Revit projects which will work best with DAISY™.

DWZY

Exporting data required to design a floor from Revit into Daisy™ Export Walls

Click the 'Export Walls 'button which will bring up a DAISY[™] Settings pop up dialogue. These four tabs will then enable you to specify your floor design preferences and parameters.

The 1st tab 'General/floor design 'covers general design options such as your geographic region, country, design standard, floor performance level and joist support condition. The floor performance level is expressed as a percentage of the minimum viable floor design possible using your design standard – 0% will produce a code minimum floor design and 25% will produce a floor where all floor design parameters have been tightened up by 25%. A maximum deflection limit can also be specified beyond that stipulated in the applicable design standard if you wish to specify a tighter limit than required by the applicable design standard. Finally, the joist support condition can either be set to 'built-in 'if the joists are to sit on top of the walls, or on metal hangers attached to the walls:



The 'Primary floor framing 'tab allows the selection of product types, their depth and proprietary manufacturer's products you may want to specify. This applies individually to the joists, structural beams and rimboard products used in the floor. If you have no supplier preferences then generic grades of solid lumber, glulam and I-joists (via APA PRI I-joists) can be selected:



[Daisy Settings			
	General/floor design Primary	floor framing Secondary floor construction Levels		
	Preferred joist type	I-Beam - Joist	~	and the second sec
	Joist centres to be tried	24" oc, 19.2" oc, 16" oc, 12" oc	~	
	Preferred joist/beam depth	11 7/8"	~	
	Preferred joist manufacturer	Trus Joist	~	1
	Preferred beam type	I-Beam - Joist	~	
	Preferred beam manufacturer	Trus Joist	~	
	For timber frame walls		1	
	Preferred rimboard type	Solid - LVL	~	
	Preferred rimboard thickness	1 3/4"	~	
	Preferred rimboard manufacturer	Trus Joist	~	
	Preferred Hanger Manufacturer	Simpson - USA	~	
	214.0		Cancel	

The 'Secondary floor construction 'tab enables you to define the floor decking and ceiling products you intend to use, and the stairwell opening type required:

	Daisy Settings			<u>-</u>		
	General/floor design Priman	floor framing	Secondary floor construction	Levels		
	Decking type/thickness	OSB3 - 7/	/8''		``````````````````````````````````````	
	Decking sheet size	96 1/8" x	48"		```	
	Decking joint type	Don't mind	d		~ ?	
	Decking manufacturer	Don't mind	d		`````	
	Decking fixity	Glued and	d nailed		×	
	Screed topping thickness	0.00			🖨 inche	
	Ceiling type/thickness	Gypsum -	1/2"		`	
	Ceiling fixity	Directly fix	red		×	
	Stairwell opening type	Leave ope	en		``````````````````````````````````````	
	Preferred hole oversize allowance for pipes/ducts	0.00			🔹 inche	
						ger u
SAM &						
- TASK						
	DWR	Y		Ok	Cancel	

Finally the 'Levels 'tab allows you to select the floor level you wish DAISY[™] to design a floor for, along with the floor loading category you wish to use in the design using the 'Building application 'dropdown at the bottom:

DXSY

				<u> 1938 (284)</u>	1	· ` 🖌 📗
	Daisy Settings			- 0	×	
	General/floor desig	n Primary floor framing	Secondary floor construction	Levels		off the state of t
	Finished floor level					No California
	Name		Elevation (inches)			
	T/O BUILDING		408"			
	MEAN HEIGHT		354"			
1	ATTIC	CELLING	324"			
	SECOND FLOOP	CEILING	204"			
	FIRST FLOOR		68"			
	GRADE		0"			
	DROEMENT		v			
						Mar Indexe
						Here I and Advant
11/172 N						and the part
San Min						
AN COMPAN						
	Floor level	Upper floo	-		\sim	
	Building application	Residentia	floor		~	
		CV		Ok C	ancel	
Floor level		l la sa fla sa				
1 1001 16 461		Oppernoor				~
			,			
Building applicatio	n	Residential flo	or			\sim
		Apartment floo	or (AII)			
		Assembly / Co	midors			
		Office floor (Al	1)			
		Residential flo	or			
24		Residential and	ound floor (All)			
	-	Roof - Access	sible (All)			
		Roof - Non ad	cessible (All)			
- Y/		Storage - Hea	ivy			
r /		Storage - Ligh	t			

Once you have completed the above stages, clicking the 'Ok 'button will prompt you to specify where you would like to save the xmlx output file on your hard drive. The Revit project will then be scanned and the xmlx output file created and saved to the location selected. Finally, you will see a report of what information was exported:



<u>Note</u>

The 'Revit modelling best practices 'section at the end of this Guide provides tips on how to create Revit projects which will work best with $DAISY^{M}$.



Running the Design in DAISY™

To run the floor design in DAISY[™] open the DAISY[™] App(<u>https://app.daisy.ai/login</u>). Your dashboard will look like the following. If you are opening this for the first time there will not be any live jobs showing.

UPLOAD EXISTING FILES CREATE	E NEW JOB 🛨 UPGRADE ACCOUNT		Total Jobs: 10 Remaining Jobs: 7			
Jobs					All	• C
Job Reference	Input File		Created	Status	Input	Output
Joe Blogs Builder	Joe Blogs Builder.	mlx	2021-09-16 16:59:00	SUCCEEDED	I 🗟 🕨	°0222 = •
Joe Blogs Builder	autofloor.xmlx		2021-09-16 16:03:00	SUCCEEDED	e 💩 🕨	▞ਯੋੋੈੈੈੈੈੈੈੈੈੈੈੈੈੈੈੈੈੈੈੈੈੈੈੈੈੈੈੈੈੈੈੈੈੈੈ
Joe Blogs Builder-1	3254-56 W CRYS1	AL ST_EXPORT (1).xmlx	2021-09-15 14:39:00	SUCCEEDED	C 🗟 🕨	▞ぬዾጷ₽₽ڨ
			Rows per	page: 25 ▼	1-3 of 3	< 1 >

To create your first job using you xmlx file created from your export out of Revit you will need to click on the UPLOAD EXISTING FILES tab which will bring the following dialogue box up.

Upload Files	
	Total Jobs: 100 Remaining Jobs: 100
Enter Job Reference	
	Drag & Drop your files or <u>Browse</u>
Design Options	
	SAVE JOBS RUN JOBS

Once you have filled in your job reference you will need to locate your saved xmlx file from your hard drive and either use the browse facility or use the Drag & Drop to pull your file in to DAISY[™]. When using the Drag & Drop facility you can upload multiple files at the same time. If you have a site with multiple houses these can therefore all be designed at the same time after dropping their xmlx output into DAISY[™] in batches.



Upload Files		SACK
		Total Jobs: 1000 Remaining Jobs: 1000
Taylor Homes	Drag & Drop your files or <u>Browse</u>	() + Copy
Design Options		
	SAVE JOBS FRUN JOBS	

Now that your File / Files have been uploaded you will be required to choose Design Options. Using the sliders provided you are able to set Floor Performance, Waste and Construction time.

Floor performance allows you to 'up spec 'your design by a percentage better than the design code being used

Waste prioritisation allows the user to produce a design taking potential waste generated into account

Construction time prioritisation allows the designer to choose whether the joists are to follow centres which follow decking sheet sizes. I.e. reduces the amount of cutting required on site. If set to none joists will be designed to a minimum number of joists with the software not caring if boards need cutting. Choose minimise and the software will ensure joists are set to centres that tie in with decking sheet sizes. I.e. no cutting required

oload Files							S BAC
							Total Job Remaining Jol
Taulan Unanan							Renew Date: Or
Taylor Homes							
	[Drag & Drop y	our files or <u>Bro</u>	owse			
X 3254-56 W CRYSTAL ST_EXPORT 2.xmlx							
Design Options							~
Override floor performance valu	ue specified in	n file.					
Floor performance (% above code)	0					0	
	0	5	10	15	20	25	
Construction time prioritisation	o		red	uce		minimise	
Optimization Options							~
		SAVE JOBS	► RUI	N JOBS			
			_				



After choosing your settings click RUN JOBS to start the design process. You will notice you have been returned to the dashboard where your uploaded new job is showing as PENDING. This notice will change through to Queued, then on to Running with a final Failed or Succeed

UPLOAD EXISTING FILES		/ JOB					Rema	Total Jobs: 1000 aining Jobs: 999
Jobs							All	• C
						Rows per page: 25 👻	1-25 of 452	< >
Job Reference	Input File	User	Created \downarrow	Status	Edit	Run	Actions	
Taylor Homes-1	3254-56 W CRYST	5	2021-08-05T09:45:	PENDING			b	
			QUEUED		15			

Once the job has finished and you see Succeeded under the Status column you will see further options now available

	LES CRE	ATE NEW JOB					Total Jobs: 1000 Remaining Jobs: 999
Jobs						4	All 🗸 G
					Rows per page:	25 👻	1-25 of 452 〈 〉
Job Refere	Input File	User	Created \downarrow	Status	Edit	Run	Actions
Taylor Homes-1	3254-56 W CR	5	2021-08-05T0	SUCCEEDED	ľ	►	6 6 2 1 1 1 i

A button now available under Edit if clicked will take you into our Auto Floor software which will allow editing of wall positions etc. to be done. Please note that this will cause a disconnect with your original Revit model with the final export not potentially matching the original. Clicking the button under run will re-run the design for you in DAISY[™].

You will also notice a number of new icons available under Actions. Here you have the option to download a Pdf of the final design, export a Csv file with the materials contained in it, export an xmlx file of the output which can then be used to import the floor back in to the original Revit model (see how to do this below), download the floor to see it in the Auto floor software, download a Log file which has all of the design details contained, export a zip file containing all of the other files available (Pdf, Csv, etc.) and finally delete the job should you need.

If you get a 'Failed 'status you will just get the Log file with the design details in and a message pointing you to the reason for the fail along with the delete option.



Importing a Completed Daisy[™] Floor Design back into Revit Import Floor

R 🗉	∎ ▷ ■ ● • ◇ • ◆ • ● ⊨ • ◇ ♪ A ◇ • • 🔜 🐰 🖀 • ▼													Autodesk Revit 2022 -		
File	Architecture	Structure	Steel	Precast	Systems	Insert	Annotate	Analyze	Massing & Site	Collaborate	View	Manage	Add-Ins	Daisy	Mo	
Export	Wals Import Flo	or User Guid	le Abou	t												
	Floors	He	lp													

Ensure the original Revit file is open. The 'Import Floor 'button is used to import the completed DAISY[™] floor design back into Revit as an xmlx file. DAISY[™] floor designs can only be imported back in to the Revit project that they were originally exported from.

First you will need to select the xmlx file that you wish to import from your computer.



After selecting the correct xmlx file which has been downloaded out of DAISY and now selected under the Import Floor button you will be prompted as to whether you want to get rid of the floor joists already showing in the model. Ie the joists inserted by the Architect or model creator.



	A G + ◆ #E P ₃ C + ▼ Autodek Revit 2020 - 3254 56 W CRSTAL ST_EXPORT (1).vt - 3D View (3D - thomaspings)	• 🕅 💄 neilwycherley • 🐷 💿 • 🛛 🗕 🗗 🗙
File Architecture Structure Steel Systems	Insert Annotate Analyze Massing & Site Collaborate View Manage Add-Ins Daioy Modify 🖸 -	
Export Walls Import Floor User Guide About		
Floors Help		
Properties	😡 (3D - thomaspinpt) 🗙	MEP Fabrication Parts
		Service:
3D View •		Group:
This is a second		
Granhier Contraction Contraction	FRONT	
View Scale 1/8" = 1'-0"		
Scale Value 1: 96		
Detail Level Medium Parts Visibility Show Original		
Visibility/Graphics Over Edit		
Graphic Display Options Edit		
Discipline Coordination	Application RxtFloorImport - Floor Import - question X	
Show Hidden Lines By Discipline		
View Type	Politika textsing joists in the floor zone.	
Sun Path		
Extents 8		
Crop View	Yes No	
Crop Region Visible		
Properties help Apply		
Project Browser - 3254-56 W CRYSTAL ST EXPORT (1).rvt		Chat California a solution for the formation and back a
- [0] Views (PMPC)		fabrication service into the model.
— Architectural		
Floor Plans		
BASEMENT		
BASEMENT - BOARD		
FIRST FLOOR		
- FIRST FLOOR - BOARD		
- FRONT SETBACK		
SECOND ELOOP		
SECOND FLOOR - BOARD		
SITE PLAN		
- SITE PLAN Copy 1		
SITE PLAN Copy 2		
SITE PLAN Copy 3		
III Show Complete		
Elevations (Building Elevation)		
Sections (Building Section)		
Drafting Views (Detail)	· · · · · · · · · · · · · · · · · · ·	200
د >	#*+14 20 <mark>4 2</mark> 4444864 · CRABBE	Settings
Click to select, TAB for alternates, CTRL adds, SHIFT unselect	5 一 デ 10 個 周 Main Model >	* 単長長 15 0 ▽∞
P Type here to search	O 🖽 💽 🛐 😼 😰 🦃 🎯 🚍 🛝 📀 层 🗮 🖉 Desitop *	98.50 16°C Sunny ∧ ⊕ (€ 4%) 23/09/2021

If 'yes 'is selected then the joists will be removed and you will see an upload bar start-up which highlights the joists and other floor material being imported into the job.



The floor design will then be built within the Revit project using the appropriate joist, beam and rimboard component families.

Note that the floor components are all added as nested groups to keep them together.

If a "Floor installation" phase already exists in your project, then the floor components will be set to "created in this phase". Similarly if a "Stair installation" phase already exists, then any sacrificial joists for the stair opening will be set to "demolished in this phase".

You should now be able to view the completed floor design within your Revit project: (Project hidden to show floor)





Revit Modelling Best Practices

This section includes tips on how to create Revit projects to work best with DAISY[™], and some practices which we know will cause problems.

Levels

✓ DO make sure that one of the levels is set to the finished floor level of the floor that you want DAISY™ to design. Make sure all openings, pipes and walls pertaining to the floor you want to design in DAISY™ are assigned to this level.

Walls

- ✓ DO use the compound structure layers of a wall style to represent the individual components of a wall structure, including finishes.
- \checkmark DO assign walls as either external or internal.
- X DO NOT assign internal load bearing walls as external and vice versa.
- X DO NOT use individual finishing layers, such as drywall to represent walls. Walls thinner than 1" will be ignored.
- X DO NOT allow walls to overlap (in plan or in section) or allow walls to encroach inside openings.

Pipes

- \checkmark DO use the Revit pipe types to represent pipes that need to penetrate the floor structure.
- X DO NOT use generic Revit families to represent pipes that need to penetrate the floor structure. These will be ignored by DAISY™.

Floor Openings

- X DO NOT input openings as non-rectangular or non-closed polygons. These will be ignored by DAISY™.
- Floor openings can be designated in several ways, either with or without a Revit floor in place.
- The best way to designate a floor opening <u>without a Revit floor</u> in place is to add a shaft opening that passes through the finished floor level.



The best way to designate a floor opening within a Revit floor (at the finished floor level) is to add an opening by face or vertical.



Thank you for using DAISY.

If you have any questions please reach out to DAISY Head of Product Mario Selvaraj at <u>mario@daisy.ai</u> or contact our team at contact@daisy.ai