



SPRING

COMMITTEE MEETING

March 21-22, 2023 | Phoenix, AZ



#NFRCMeetings



Diffuse Glazing Task Group

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#NFRCMeetings

Path to NFRC certification of windows with diffuse glazing from spring meeting

LBNL side

- ▶ Update web site to explain CGDB submission process
 - ▶ Published:
<https://windows.lbl.gov/cgdb-diffuse-glazing-submission-process>

NFRC side

- ▶ Simulation manual update
 - ▶ Balloted



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LBNL Website work

- ▶ Create text files according to new format
- ▶ Import textfile straight into WINDOW
- ▶ Start building glazing systems
- ▶ Configure Optical Calculation Preferences
- ▶ Asking Jacob is encouraged when the web page is not clear enough

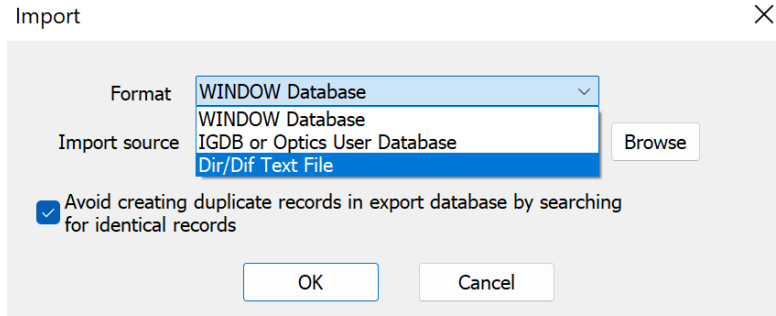
New text file format

- ▶ Definition on website CGDB/Submitting data

```
{ wavelength Tf_n-dir Tf_n-dif Tb_n-dir Tb_n-dif Rf_n-dir Rf_n-dif Rb_n-dir Rb_n-dif }  
0.250      0.0010      0.0020      0.0060      0.0760      0.0110      0.0870      0.0060      0.1310  
0.255      0.0020      0.0010      0.0030      0.0510      0.0110      0.0880      0.0030      0.1090  
...  
40.000      0.0000      0.0000      0.0000      0.0000      0.1330      0.0000      0.0000      0.0000
```

- ▶ Example files on website as well to try in WINDOW

WINDOW import of text file



- ▶ Shade *Material*/Library, has import with option to select Dir/Dif Text File
- ▶ Automatically generates a Shade Layer for the product

Building a glazing system with the layer

- ▶ Change from Glass to "Shade or frit" to insert CGDB layer
- ▶ Can also do single shade layer, but beware, don't build single layer systems with just Venetian blinds

	ID	Name	M
• Glass 1 »	102	CLEAR_3.DAT	
Gap 1 »	1	Air	
• Shade 2 »	27517	ILC2019_2 Low-e on	
Glass Shade or frit			

Clear3 + Clear3 Matrix calc

ID #: 2

Layers: 1

Tilt: 90 °

IG Height: 1000.00 mm

Environmental Conditions: NFRC 100-2010

IG Width: 1000.00 mm

Overall thickness: 12.000 mm

Mode: ?

	ID	Name	Mode	Thick	Flip	Tsol	Rsol1	Rsol2	Tvis
•	Shade 1 »	27517 ILC2019_2 Low-e on		12.0					

Configure Optical Calculation Preferences

Options Thermal Calcs Optical Calcs Optical Data Radiance Deflection Updates

Optical calculation options

☐ Use matrix method for specular systems (glazing systems without shading devices)

☒ Write CSV output file

☒ Write XML BSDF output

Generate full spectrally-averaged matrix for:

☒ Solar band

☒ Visible band

Spectral data: Condensed spectral data

Number of visible bands: 5

Number of IR bands: 10

Angular basis: W6 standard basis

Venetian blind calculation methods

Solar/Visible range: Directional diffuse

FIR range: Directional diffuse

of segments: 5

- ▶ Make sure it works in fast mode, switch to full for accuracy
- ▶ Spectral data
 - ▶ Condensed, 17 wavelengths
 - ▶ Full, 441 wavelengths
- ▶ Angular basis, standard vs smaller

Two major features have not been solved

- ▶ There will have to be a record for every substrate/coverage level combination
- ▶ Partial coverage records are created from measurement of 100% and 0% coverage and do weighted average
- ▶ Measurement has to be carried out for each different substrate

Admin details

- ▶ NFRC ID numbers
 - ▶ CGDB are not using the NFRC ID blocks
 - ▶ LBNL will assign IDs for diffuse glazing, as soon as we migrate to IGSDb they will not be needed
- ▶ Next submission deadline 4/21/2023



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Thanks!

Any questions?

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