TracePro Help

Surface Property Import/Export Format

The format includes header lines, which must be present in the file, followed by the property data. Tabs or spaces may be used to separate data (tabs are more convenient when importing the property file into a spreadsheet program) and properties exported from TracePro will use tabs. The tables below describe the format of these files, but the easiest way to learn how to use the Import/Export format is to export a surface property that is already defined and view it yourself in text format. This will allow you to see exactly what data TracePro exports with each property. Practice by modifying the property name and using the File|Import properties command to add it to your database under the new name.

Line #	Description	Read for Import	Format
1	File Header	Yes	TracePro Surface Property Data
2	Database File Name	Ignored	File Name ***file path*** e.g. C:\Users\<*username*>\AppData\Roaming\Lambda Research Corporation\TracePro\TracePro.db
3	TracePro Version	Ignored	TracePro Version: n n n
4	Database Version	Yes	Database Version: n n n
5	Time and date file was generated	Ignored	Data generated at hh:mm:ss Month dd, yyyy
6	Blank line	Ignored	
7	Property Name	Yes	Name ***name***
8	Catalog	Yes	Catalog ***catalog***
9	Property Description	Yes	Description ***text***
10	Coating Data Type	Yes	Coating ***integer*** types: 0 = no coating data, Fresnel (specular terms are 0.0) 1 = tabular data 2 = stack with Stack Name e.g. Coating *2 MgF Layer* 3 = grating type with grating spacing e.g. Coating *3 12* 4 = anisotropic 5 = Coating DLL type 6 (not used) 7 = Direction-sensitive

11	Scatter Data Type	Yes	Scatter ***integer*** types: 0 = no scattering 1 = ABg 2 = Elliptical ABg 3 = Elliptical Gaussian 4 = Table 5 = Asymmetric table 6 = 1D ABg 7 = 1D Table 8 = Use BSDF Properties
12	Interaction flag	Yes	Interaction ***flag*** flag values: 0 = normal surface interaction 1 = retroreflector
13	Polarization flag	Yes	Polarization ***flag*** flag values: 0 = non-polarizing property (S and P terms are equal) 1 = polarizing data
14	User Data flag	Yes	User ***flag*** flag values: 0 = Lambda Research Data (Read Only) 1 = User added data (Read/Write)
15	Solve Code	Yes	Solve ***code*** *codes:* • <None> no solve performed • ABSORP solve for ***absorptance*** • SPECREFL solve for reflectance • SPECTRANS solve for transmittance • BRDF solve for ***BRDF*** • BTDF solve for ***BTDF***

16	Blank Line	Ignored	
17	Side 1 Data (optional)	Yes	Side1_Data If present, the data that follows is for Side 1 of a Direction-sensitive property
17 or 18	Column Headers	Only Temperature is Ignored	Temperature (followed by additional column headers)
18+ or 19+	Surface Data	Yes	17 columns of real numbers
18+ or 19+	Grating Data Line	Yes	GratingData If this line exists the following data will be applied to the grating orders.
18+ or 19+	Grating Data	Yes	Eight columns of real numbers
18+ or 19+	Table BSDF Data Line	Yes	Table_BSDF_Data If this line exists the following data will contain tabulated data for BRDF and BTDF.
18+ or 19+	Table BSDF Data	Yes	Eight columns of real numbers
20+ or 21+	Side 2 Data (optional)	Yes	Side2_Data If present, the data that follows is for Side 2 of a Direction-sensitive property
Last	Save Data	Optional	SAVE-DATA This may be placed between multiple properties and is used by the Tool|Database|Import

Surface Data Columns

The Surface Data is placed in 22 columns separated by spaces or tabs.

Column #	Name	Description	
1	Temperature	Kelvins	
2	Wavelength	Micrometers	
3	Inc Angle	Angle of incidence (degrees)	
4	Azi Angle	Azimuthal angle (degrees)	
5	Abso_S	Specular Absorptance for S polarization	
6	Abso_P	Specular Absorptance for P polarization	
7	Refl_S	Specular Reflectance for	

		S polarization	
8	Refl_P	Specular Reflectance for P polarization	
9	Tran_S	Specular Transmittance for S polarization	
10	Tran_P	Specular Transmittance for P polarization	
11	PhaseRefl	Phase change for Transmittance (degrees)	
12	PhaseTran	Phase change for Transmittance (degrees)	
13	BRDF_A	A coefficient of BRDF	
14	BRDF_B	B coefficient of BRDF	
15	BRDF_By	B coefficient of BRDF	
16	BRDF_g	g coefficient of BRDF	
17	BRDF_gy	g coefficient of BRDF	
18	BTDF_A	A coefficient of BTDF	
19	BTDF_B	B coefficient of BTDF	
20	BTDF_By	B coefficient of BTDF	
21	BTDF_g	g coefficient of BTDF	
22	BTDF_gy	g coefficient of BTDF	

Grating Data Columns

The Grating Data is placed in 8 columns separated by spaces or tabs.

Column #	**Name**	**Description**	
1	Temperature	Kelvins	
2	Wavelength	Micrometers	
3	Angle	Angle of incidence (degrees)	
4	Order	Grating Order	
5	Eff_Refl_S	Efficiency for Reflectance in the S polarization	
6	Eff_Refl_P	Efficiency for Reflectance in the P polarization	
7	Eff_Tran_S	Efficiency for Transmittance in the S polarization	
8	Eff_Tran_P	Efficiency for	

		Transmittance in the P polarization	

Table BSDF Data Columns

The Table BSDF Data is arranged in eight columns separated by tabs.

Column #	Name	Description	
1	Temperature	Kelvins	
2	Wavelength	Micrometers	
3	IncAngle	Polar angle of incidence (degrees)	
4	AziAngle	Azimuth angle of incidence (degrees)	
5	ScatterBeta	The length of the $\boldsymbol{\beta - \beta_0}$ vector (unitless)	
6	ScatterAzimuth	The azimuthal angle of the $\boldsymbol{\beta - \beta_0}$ vector (degrees)	
7	BRDF	The value of the BRDF at the parameter values (1/sr)	
8	BTDF	The value of the BTDF at the parameter values (1/sr)	