



**The Optical Properties of
tensARC InShade Fabric Shade Samples**

M.G. Hutchins

**Solar Energy Materials Research Laboratory
Sonnergy Limited**

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Sample No.	Sample Name	Sample Colour	Solar Reflectance		Visible Reflectance		Solar Transmittance		Visible Transmittance		Solar Absorbance		Visible Absorbance		Ultraviolet Transmittance	
			ρ_s	ρ_v	τ_s	τ_v	α_s	α_v	τ_{uv}							
T01	InShade 100	White	0.72	0.71	0.22	0.21	0.06	0.09	0.25							
T02	InShade 100	Bone	0.71	0.69	0.22	0.20	0.08	0.10	0.17							
T03	InShade 100	Cadet Blue	0.68	0.63	0.16	0.08	0.16	0.29	0.10							
T04	InShade 500	White	0.70	0.77	0.17	0.13	0.14	0.10	0.00							
T05	InShade 500	Bone	0.69	0.77	0.16	0.14	0.15	0.09	0.00							

Table 4. Integrated total near-normal hemispherical solar, visible and ultraviolet optical properties of the tensARC InShade samples (Reflectance values for Front Side F which faces the glazing).

Sample No.	Sample Name	Sample Colour	Total Solar Transmittance		Total Visible Transmittance		Diffuse Solar Transmittance		Diffuse Visible Transmittance		Solar Reflectance (Side B)		Visible Reflectance (Side B)	
			τ_s	τ_v	$\tau_{s,d}$	$\tau_{v,d}$	ρ_s	ρ_v						
T01	InShade 100	White	0.22	0.21	0.22	0.21	0.21	0.21	0.70	0.69				
T02	InShade 100	Bone	0.22	0.20	0.22	0.20	0.20	0.20	0.64	0.63				
T03	InShade 100	Cadet Blue	0.16	0.08	0.16	0.08	0.08	0.08	0.46	0.21				
T04	InShade 500	White	0.17	0.13	0.17	0.13	0.13	0.13	0.69	0.67				
T05	InShade 500	Bone	0.16	0.14	0.16	0.14	0.14	0.14	0.65	0.68				

Table 5. Integrated total near-normal hemispherical, near-normal diffuse transmittance and total near-normal hemispherical reflectance (Back Side B) of the tensARC InShade samples.

Blind Sample	Single Clear Glass (A)			Double Clear Glass (B)			Solar Control 1 (C)			Solar Control 2 (D)		
	Total Solar Energy Trans gtot	Shading Coeff SC	Shading Factor Fc	Total Solar Energy Trans gtot	Shading Coeff SC	Shading Factor Fc	Total Solar Energy Trans gtot	Shading Coeff SC	Shading Factor Fc	Total Solar Energy Trans gtot	Shading Coeff SC	Shading Factor Fc
T01 InShade 100 White	0.32	0.37	0.37	0.34	0.39	0.45	0.34	0.39	0.57	0.25	0.28	0.77
T02 InShade 100 Bone	0.32	0.37	0.38	0.34	0.40	0.45	0.34	0.39	0.58	0.25	0.28	0.77
T03 InShade 100 Cadet Blue	0.33	0.38	0.39	0.35	0.40	0.46	0.35	0.40	0.59	0.25	0.28	0.77
T04 InShade 500 White	0.32	0.37	0.38	0.34	0.40	0.45	0.34	0.39	0.58	0.25	0.28	0.77
T05 InShade 500 Bone	0.32	0.37	0.38	0.35	0.40	0.46	0.35	0.40	0.59	0.25	0.28	0.77

Table 6. Calculated total solar energy transmittance, g_{total} , shading coefficient, (SC), and shading factor, F_c , values of the tensARC InShade samples when used as internal shading in combination with the four standard glazings of EN 14501 (10).

Blind Sample	Single Clear Glass			Double Clear Glass			Triple Clear Glass			Double Clear low-e		
	Total Solar Energy Trans g _{tot}	Shading Coeff SC	Shading Factor F _c	Total Solar Energy Trans g _{tot}	Shading Coeff SC	Shading Factor F _c	Total Solar Energy Trans g _{tot}	Shading Coeff SC	Shading Factor F _c	Total Solar Energy Trans g _{tot}	Shading Coeff SC	Shading Factor F _c
T01 InShade 100 White	0.32	0.37	0.38	0.34	0.39	0.45	0.34	0.39	0.53	0.34	0.40	0.48
T02 InShade 100 Bone	0.32	0.37	0.38	0.34	0.40	0.46	0.35	0.40	0.53	0.35	0.40	0.49
T03 InShade 100 Cadet Blue	0.33	0.38	0.39	0.35	0.40	0.47	0.35	0.41	0.54	0.36	0.41	0.50
T04 InShade 500 White	0.32	0.37	0.38	0.34	0.40	0.46	0.35	0.40	0.53	0.35	0.40	0.49
T05 InShade 500 Bone	0.32	0.37	0.38	0.35	0.40	0.46	0.35	0.40	0.54	0.36	0.41	0.49

Table 7. Calculated total solar energy transmittance, g_{total} , shading coefficient, (SC), and shading factor, F_c , values of the tensARC InShade samples when used as internal shading in combination with the four standard glazings of EN 13363-1 (11).

Blind Sample	Single Clear Glass (A)			Double Clear Glass (B)			Solar Control 1 (C)			Solar Control 2 (D)		
	Total Solar Energy Trans gtot	Shading Coeff SC	Shading Factor Fc	Total Solar Energy Trans gtot	Shading Coeff SC	Shading Factor Fc	Total Solar Energy Trans gtot	Shading Coeff SC	Shading Factor Fc	Total Solar Energy Trans gtot	Shading Coeff SC	Shading Factor Fc
T01 InShade 100 White	0.21	0.24	0.25	0.19	0.22	0.28	0.15	0.17	0.25	0.10	0.11	0.30
T02 InShade 100 Bone	0.21	0.24	0.25	0.19	0.22	0.28	0.15	0.17	0.25	0.09	0.11	0.30
T03 InShade 100 Cadet Blue	0.17	0.19	0.20	0.15	0.17	0.23	0.11	0.13	0.19	0.08	0.09	0.24
T04 InShade 500 White	0.17	0.20	0.20	0.15	0.18	0.23	0.12	0.13	0.20	0.08	0.09	0.24
T05 InShade 500 Bone	0.17	0.20	0.20	0.15	0.17	0.23	0.12	0.13	0.20	0.08	0.09	0.24

Table 8. Calculated total solar energy transmittance, g_{total} , shading coefficient, (SC), and shading factor, F_c , values of the tensARC InShade samples when used as external shading in combination with the four standard glazings of EN 14501 (10).