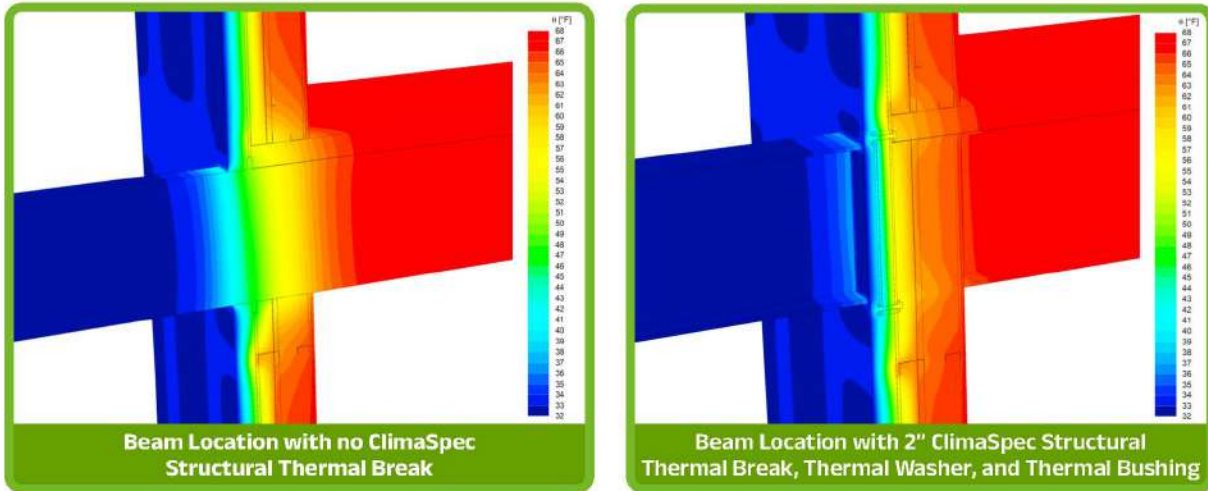


**ClimaSpec TB Structural Thermal Break** can reduce heat loss by over 50% in steel framing applications such as balconies, canopies, and sunshades.

Using 3D thermal modeling to calculate the performance of ClimaSpec TB, it is demonstrated to significantly reduce thermal bridging at the point location of a steel beam connection. ClimaSpec TB is a load-bearing thermal bridging solution that also maintains the structural integrity of the connection due to its strong mechanical properties.



Increasing the thickness of the **ClimaSpec TB Structural Thermal Break**, using stainless steel bolts, while adding **ClimaSpec Thermal Washers and Bushings** significantly improves the energy performance of the connection due to the reduction in thermal transmittance (chi value). The table below provides several scenarios highlighting the increased energy efficiency when continuously improving the thermal design of the connection.

**RESULTS**  
**Chi-Value Results**

MODEL	HEAT-LOSS W	HEAT-LOSS Btu/hr	CHI-VALUE W/K	CHI-VALUE Btu/hr.°F
Steel to Steel	50.90	173.68	1.20	2.28
Climaspec 1" (steel bolts)	43.46	148.29	0.83	1.57
Climaspec 1" (stainless bolts)	42.39	144.64	0.78	1.47
ClimaSpec 1" with ClimaSpec Thermal Washers and Thermal Bushings (steel bolts)	43.02	146.80	0.81	1.53
ClimaSpec 1" with ClimaSpec Thermal Washers and Thermal Bushings (stainless bolts)	42.03	143.42	0.76	1.44
ClimaSpec 2" with ClimaSpec Thermal Washers and Thermal Bushings (steel bolts)	40.10	136.82	0.66	1.26
ClimaSpec 2" with ClimaSpec Thermal Washers and Thermal Bushings (stainless bolts)	38.60	131.72	0.59	1.11