

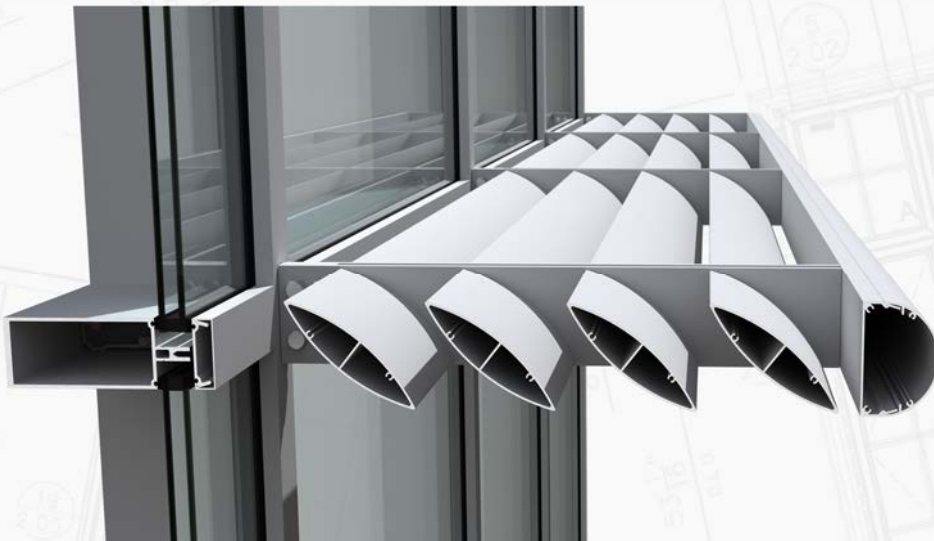
Outrigger Sunshades

Storefront & Curtain Wall



KS Dept. of Agriculture Laboratory
Manhattan, KS

Outrigger sunshades are designed to reduce the Solar Heat Gain by providing shade to the vision glass areas of the building envelope, effectively reducing cooling costs while still allowing for natural sunlight to fill the interior of the building. Pre-engineered sizes allow for design flexibility while maintaining low-cost design freedom, speedy delivery, and simple assembly with fast installations. Manko's outrigger style sunshades are easily integrated with the 250 / 250x series curtain wall and 2450 series storefront.



Curtain Wall Installation (26" Deep, Airfoil Louver, Round Fascia Cap)

Product Features

Pre-Engineered and Developed Sizes

26" Deep - 4 Louver System

31" Deep - 5 Louver System

36" Deep - 6 Louver System - Curtain Wall only

Louver Options: Airfoil, Circle, Square or Wave

Fascia Cap Options: Round or Square

Structural support arm with anchor plate used in conjunction with heavy wall vertical mullion in storefront application

Due to structural limitations, sunshade brackets are required to be no more than 24" below top of frame on storefront

Pre-Engineered for combined wind, snow, and dead loads with easy to read charts

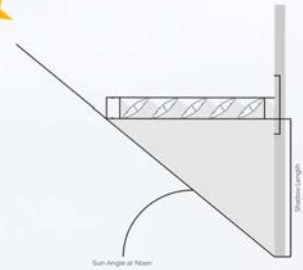
Anodized and AAMA 2605 Paint Finishes

Qualifications for LEED Certification Criteria



Effect on Outriggers Size and Louver Blades on Shading

Sunshades are more than an attractive feature on a building. They can effectively reduce unwanted Solar Heat Gain while still allowing for beneficial natural light. However, not all Solar Heat Gain is undesirable. Solar Heat Gain on cold winter days can be beneficial. The length and effectiveness of the shadow produced by sunshades will vary with geographical location (latitude), time of year (sun angle), length of outrigger (projection from building), louver blade shape, and location of sunshade in relation to glazing.



Proper consideration of these features can lead to significant increase in energy savings and occupant comfort.

Approximate Latitude of Select U.S. Cities

- Austin, TX - 30° North
- Dallas, TX - 33° North
- Wichita Falls, TX - 34° North
- Oklahoma City, OK - 35° North
- Stillwater, OK - 36° North
- Wichita, KS - 38° North
- St. Louis, MO - 39° North
- Topeka, KS - 39° North
- Denver, CO - 40° North
- Omaha, NE - 41° North
- Cedar Rapids, IA - 42° North
- Milwaukee, WI - 43° North
- Minneapolis, MN - 45° North
- Fargo, ND - 47° North



Latitude	30° North		35° North		40° North		45° North	
	Summer	Winter	Summer	Winter	Summer	Winter	Summer	Winter
Sun Angle (Degrees)	83°	37°	78°	32°	73°	27°	68°	22°
Shadow Length - 36" outrigger	293"	27"	169"	22"	118"	18"	89"	15"
Shadow Length - 31" outrigger	252"	23"	146"	19"	101"	16"	77"	13"
Shadow Length - 26" outrigger	212"	20"	122"	16"	85"	13"	64"	11"

Latitude	30° North		35° North		40° North		45° North	
	Summer	Winter	Summer	Winter	Summer	Winter	Summer	Winter
Sun Angle (Degrees)	83°	37°	78°	32°	73°	27°	68°	22°
Area Shaded - Airfoil	99%	100%	100%	100%	100%	100%	100%	100%
Area Shaded - Circular	75%	100%	76%	100%	78%	100%	81%	100%
Area Shaded - Square	75%	100%	80%	100%	86%	100%	92%	100%
Area Shaded - Wave	88%	100%	93%	100%	98%	100%	100%	100%

*Summer Solstice - June 21st - The day of the year that the sun reaches its highest point in the sky at noon.
 Winter Solstice - December 21st - The day of the year that the sun reaches its lowest point in the sky at noon.

Roosevelt High School
 Casper, WY



Visit www.mankowindowssystems.com
 Or scan the QR code for more information on
 Manko's Outrigger Sunshades

