

GREEN WALL TEMPERATURE DIFFERENTIAL STUDY FOR HEAT ISLAND EFFECT



PROJECT NAME AND LOCATION:

Timberlake Corporate Center / Chesterfield, Missouri

RETAINING WALL PRODUCT IN USE:

Hercules Mega modules with soil infill

ORIGINAL CONSTRUCTION DATE:

Summer 1999

PLANT MATERIAL USED IN FACE OF WALL:

Sedum Kamtchaticum

MEASUREMENT DEVICE:

Non-contact, digital infrared thermometer

TEST DATE: 8/18/06

GREEN WALLS EFFECT ON HEAT ISLAND VS. OTHER STRUCTURES

	AIR TEMP Daylight	AIR TEMP Dark	Day/Night Differential
TIME OF READINGS	4:00 PM	9:30 PM	
AIR TEMPERATURE (as provided by local news and weather)	96 degrees	86 degrees	-10.40%
TEMPERATURE OF:			
Hercules module exposed to sun	● 107 degrees	● 90 degrees	-15.90%
Hercules module under plants in sun	● 92 degrees	● 85 degrees	-7.60%
Exposed Hercules module in shade	● 98 degrees	NM	NM
Plants covering the wall in sun	● 102 degrees	● 90 degrees	-11.80%
Plants covering the wall in shade	● 97 degrees	NM	NM
Modules under plants in shade	● 87 degrees	NM	NM
Building near walls in sun	● 106 degrees	● 95 degrees	NM
Turf at toe of walls in sun	● 102 degrees	● 85 degrees	-16.70%
Turf at toe of walls in shade	● 93 degrees	NM	NM
Turf above walls in sun	● 105 degrees	● 86 degrees	-19.00%
Turf above walls in shade	● 95 degrees	NM	NM
Asphalt roadway above walls	● 130 degrees	● 102 degrees	-21.50%
Concrete curbs on roadway	● 107 degrees	● 93 degrees	-13.10%
Solid concrete wing wall in sun	● 113 degrees	● 98 degrees	-13.30%
Solid concrete wing wall in shade	● 96 degrees	NM	NM

Levels of Heat Island Effect

● Non Contributors ● Mild Contributors ● Strong Contributors

NM = Not Measured



3916 Geraldine Ave. St. Louis, MO 63115
314-389-9255 phone • 314-389-6416 fax
www.herculesmfg.com