



Mounting Solutions for Wi-Fi Access Points

SOLAR LOADING OF MODEL 3030

FIBERGLASS WIFI BOLLARDS

Oberon’s heavy-duty fiberglass bollards are designed to protect Wi-Fi APs, antennas, power supplies, network switches, and media converters in public venues.

They are effective in protecting equipment from vandalism and weather. The bollard exterior is constructed of a very durable fiberglass with low RF loss characteristics (less than 2dB loss at 5GHz). Inside there is an equipment stand suitable for mounting access points and antennas from most manufacturers.

Oberon Wi-Fi Bollards are designed to go wherever Wi-Fi is desired.

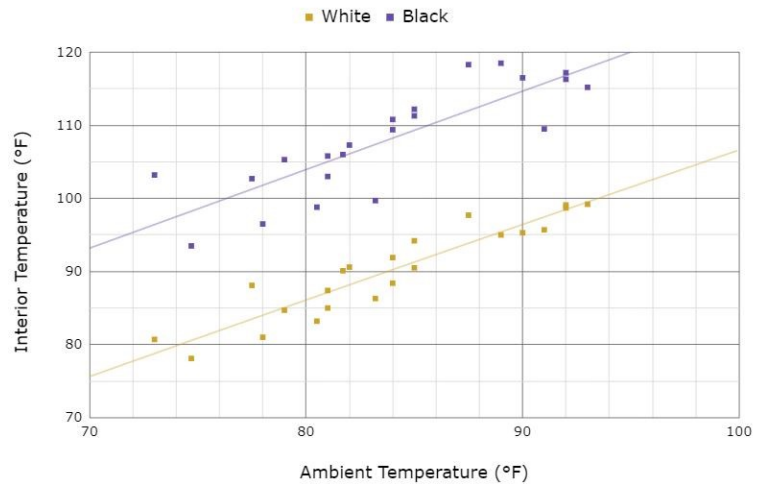


When placed in direct sunshine, the interior temperature of the white bollard was an average of 6°F (3°C) above the ambient temperature.

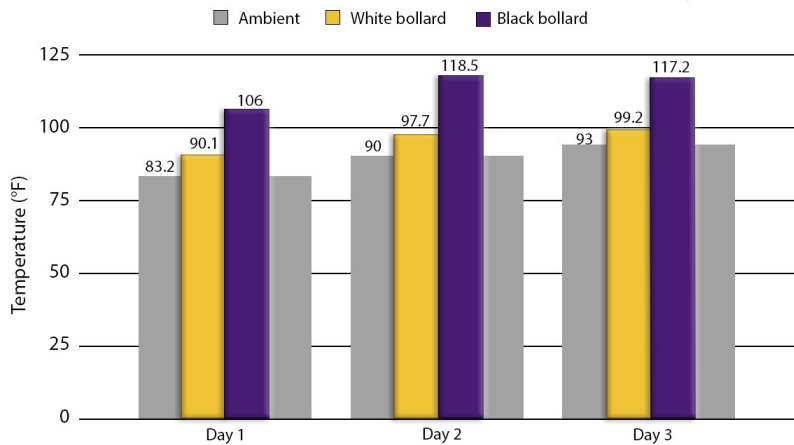
The interior temperature of the **black bollard** was an average of 24°F (13°C) above the ambient temperature.

**Measurements were taken in a temperate climate. Results may vary based on time of day, climate, and latitude.*

Fiberglass Bollards in Direct Sunlight



Maximum Bollard Temperature Over 3 Days



Why Compare Colors?

When placed outdoors, the largest environmental effect on the bollard’s internal operating temperatures may be solar loading. We have found that the most effective, product-based method for reducing solar loading is to select lighter colors.

Based on our testing, the white bollard is 18°F cooler internally than its black counterpart, under similar solar loading conditions. This difference can impact the ambient temperature range over which the enclosed equipment will operate per manufacturer’s specifications.



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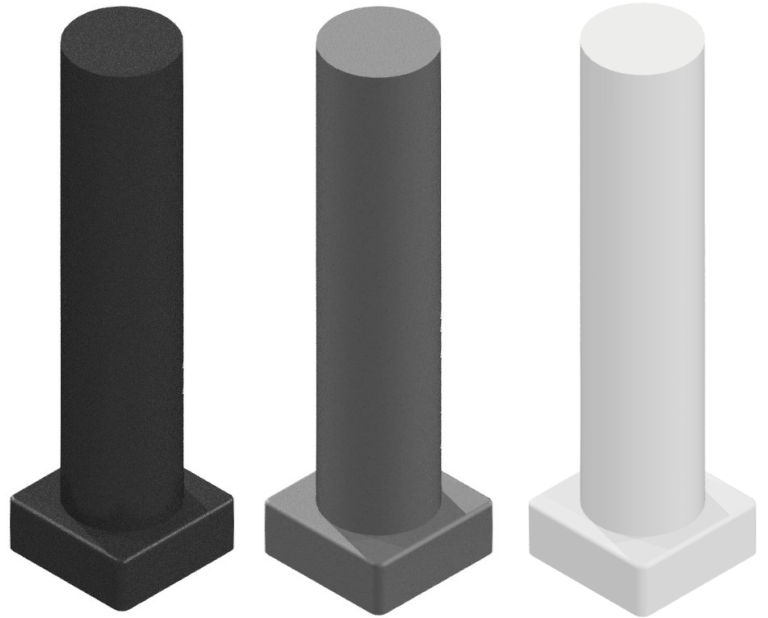
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Outdoor-rated APs typically have an operational temperature limit of +122°F (+50°C). Due to the increased interior temperature caused by solar loading, if the Bollard is exposed to direct sun, the operational temperature range is *de-rated* by 6°F for the white bollard, 15°F for the gray bollard, and 24°F for the black and bronze bollards.

For example: if you chose the black bollard, then the operational temperature would be de-rated by 24°F due to the solar loading. Thus, the new ambient temperature limit for the access point to operate, per its specifications, would be 122°F - 24°F = 98°F.

If you choose a white bollard, the new ambient temperature limit for the access point to operate, per its specifications, would be 122°F - 6°F = 116°F.

The equipment is not destroyed when operated above this range, but it may operate outside of its specified limits.



Color	Solar Loading	New Rating
White	+6°F	116°F (46.7°C)
Gray	+15°F	107°F (41.7°C)
Bronze	+24°F	98°F (36.7°C)
Black	+24°F	98°F (36.7°C)



Won't running a device inside the bollard also increase the temperature?

Yes, but due to the size of the bollard, the heat generated by the internal equipment is dispersed by convection. A typical Wi-Fi access point will raise the temperature 3-4°F, and at maximum power by 5°F.

What can I do to reduce solar loading?

Solar loading may be reduced by placing the bollard where it will be in the shade, especially in late afternoon, when the sun is at a lower angle (and thus impinging on a larger surface area of the bollard), and ambient temperatures tend to be the highest.