



Cisco—Painting of Access Points

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Application question:

I have a customer that for reasons of aesthetics, would like to paint the Access Points. Should this be encouraged? Additionally, does this void the warranty? Any third party solutions?

Application answer:

I would recommend that customers **do not paint the access point** for the following reasons:

- 1 Painting is a skill that varies in quality, often with unexpected side effects such as paint getting into RF and Ethernet connectors etc.
- 2 The color can affect the thermal and MTBF properties of the device.
- 3 Paint can plug critical holes needed for venting heat and/or draining moisture.
- 4 Certain paints contain conductive properties that can diminish the RF performance.
- 5 A painted product is considered a customer "modified" product rendering it unserviceable, therefore the manufacturer's warranty is considered void.
- 6 Unserviceable means the product was returned in a fashion differently than how it was sold. We need to be able to refurbish the product (as warranty repairs are often replacements) for expediency therefore it is not practical to repair and return a modified item.

Rather than actually applying paint, a preferred solution to painting would be the use of colored plastic covers, referred to as "skins" many 3rd party companies offer these kinds of products (from custom colored skins) commonly available.

Other companies that offer 3D print services that can make custom enclosures in any shape or form. Care should be taken when fully enclosing an Access Point to make sure proper heat placement occurs so you do not significantly reduce the thermal characteristics perhaps causing premature failures or a reduction in MTBF (Mean Time Between Failure).

Figure 1: Oberon offers vanity covers (Skin) for Cisco APs



http://oberoninc.com/images/WebDocs/CCOAPi_Skin_Spec_Sheet.pdf

If the goal is to change the color of the antennas on an AP, another option might be to use colored polyvinyl chloride tape for example, different colors of electrical tape offered by 3M.

Figure 2: PVC Tape or sheeting material may be used



[http://solutions.3m.com/wps/portal/3M/en_US/EMDCI/Home/Products/ProductCatalog/~/
Scotch-Vinyl-Color-Coding-Electrical-Tape-35?N=5432987+3294355725&rt=rud](http://solutions.3m.com/wps/portal/3M/en_US/EMDCI/Home/Products/ProductCatalog/~/Scotch-Vinyl-Color-Coding-Electrical-Tape-35?N=5432987+3294355725&rt=rud)

Using third party 3D print services for custom solutions is also an option for example, companies such as www.shapeways.com can make custom cover plates or other 3D printed solutions that can then be painted yes still able to be removed later if warranty service is required.

Figure 3: Example of a 3D printed cover



Figure 4: Example of a 3D printed cover installed



<http://www.shapeways.com/product/M67DCYSEM/cisco-ap-3802-cover-plate?optionId=60844434>



Note When possible use modifications that can be removed so the device can be returned for service in the same condition that it was provided as at time of purchase.

Otherwise it is likely the warranty would be void.

If a customer makes a decision that it is acceptable to void the warranty and chooses to paint the device anyway, here are some guidelines when painting RF (Access Point) devices.



Tip Use a paint that has no conductive properties (i.e. metal colored flakes etc.)

Here are some paints that were tested that displayed good RF characteristics.

Brand Name	Product Line	Color	Spray Can Part Number	Gallons Part Number
Rust-Oleum	Professional	Gray Primer	7582	7769 (Aluminum Primer)
Rust-Oleum	Professional	Light Machine Gray	7581	7781
Rust-Oleum	Professional	Dark Machine Gray	7587	7786 (Smoke Gray)
Rust-Oleum	Professional	Hunter Green	7538	7738
Rust-Oleum	Professional	Dark Brown	7548	7748
Rust-Oleum	Professional	Gloss Black	7579	7779

Rust-Oleum brand can be found at <https://www.rustoleum.com/product-catalog/consumer-brands/rocksolid>

Figure 5: When painting do not get paint into any of the connectors (tape them properly)



Painting is all about skill and the ability to properly prepare the device to accept paint. Try to test paint on a similar material (or on a spot that is not visible first) to determine suitability.

If the device is outside consider the sun will impact the temperature of the device, as a device painted black will have more solar heat than say one that is painted white in color.

Again consider plastic covers or other enclosures perhaps painting the enclosure rather than then actual device when possible/practical to do so.



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