



**obscuretech** LLC

**A new era in concealment!**

[www.obscuretechllc.com](http://www.obscuretechllc.com)

What if?

You could make antennas and enclosures...  
"absorb their surroundings?"

There's just enough concealment to obscure the site  
from the eye?

There's a concealment option at a fraction of the  
cost?







With 5G heavily upon us, 3M concealment film is becoming one of the leading products for concealing equipment.

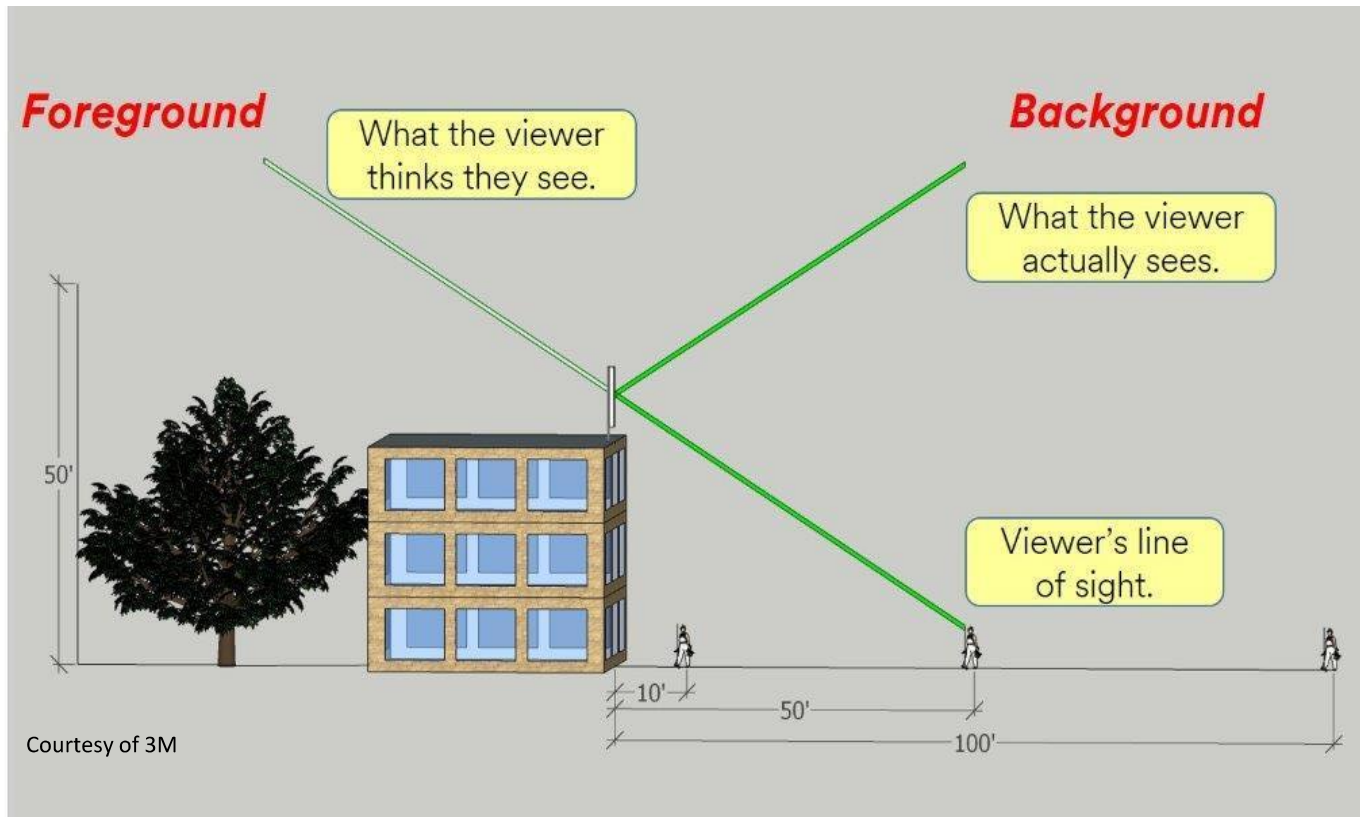
With **zero interference** from 600 MHz up to 26 GHz and beyond, OEM's are changing their spec sheets to state paint will void warranty and that film is an approved option.

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# Reflective Concealment Film

# How reflective Film Works



# RF Test

- **A. RF INSERTION LOSS (0.6 – 3 GHZ)**

- 1. **Governing Standard:** none available
- 2. **Conditions:** 600 MHz to 3 GHz
- 3. **Requirement:** Insertion Loss < 0.1 dB

**Test Result:** 3M™ Conceal Film **passed** the requirements of the test. We found that the insertion loss of the product was < 0.05 dB, indistinguishable from the noise floor of the free space insertion loss measurement technique.

- **B. RF RETURN LOSS (0.6 – 3 GHZ)**

- 1. **Governing Standard:** none available
- 2. **Conditions:** 600 MHz to 3 GHz
- 3. **Requirement:** Change in return loss < -20 dB

**Test Result:** 3M™ Conceal Film **passed** the requirements for return loss. Return loss was determined by laminating the 3M Conceal Film to an HDPE support plate placed in front of a transmitting antenna. Over the tested frequency range, the wrapped and non-wrapped samples are nearly the same, indicating that the product has little or no additional impact on return loss.

- **C. PIM (2X20 W)**

- 1. **Governing Standard:** IEC 62037
- 2. **Conditions:** 20 W at 734 MHz, 20 W at 757 MHz, PIM monitored at 711 MHz using Anritsu MW82119A meter
- 3. **Requirement:** Third order PIM < -150 dB

**Test Result:** 3M™ Conceal Film **passed** the requirements of this test, showing that PIM measurements from an antenna with and without the film were the same. The test was conducted using a Commscope SBNH-1D6565 antenna. Measurements were made from +45 and -45 degree ports.





By working closely with the A&E team, doing joint site walks and providing temporary antennas concealed with our films, the Obscure Tech team goes the extra mile to make sure our customers have a successful site launch.

The photos in this example represent our partnership with the property manager and the A&E firm as we placed an temporary antenna with our 3M reflective film on the roof. As you can see, the church maintains its beauty with the stealth structure of the concealed antenna.

First Methodist Church of Germantown  
6001 Germantown Ave. Philadelphia PA





Antenna placement



Antenna placement



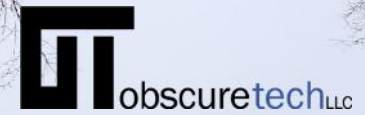
Antenna placement



Actual Installation  
Leap Academy building  
Camden, New Jersey

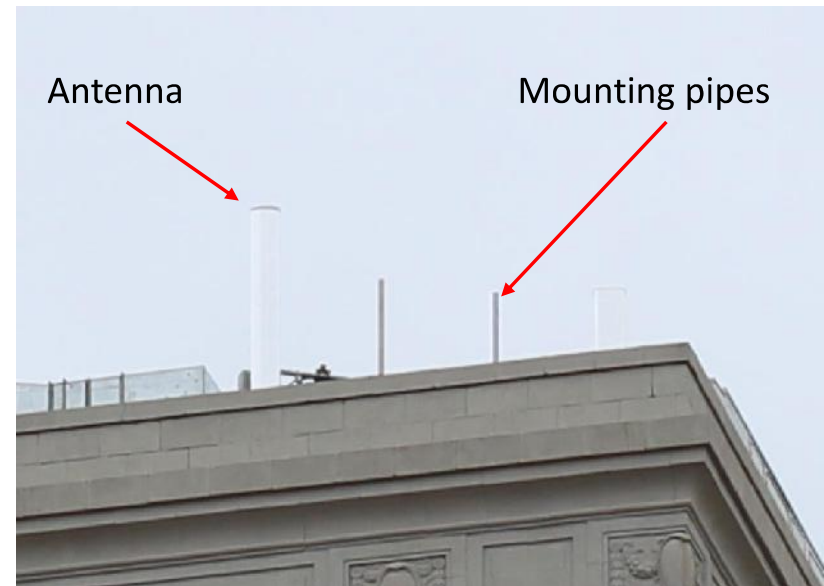


East side  
No concealment



Antenna

Mounting pipes



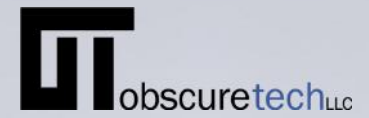




Cincinnati Ohio installation  
Commscope antennas concealment.



Actual Installation  
Taylor Street Plaza  
Dekalb, Illinois



Notice how the reflection changes, depending on the time of day.




Long Island, New York installation  
Ericsson and Commscope antennas wrapped.



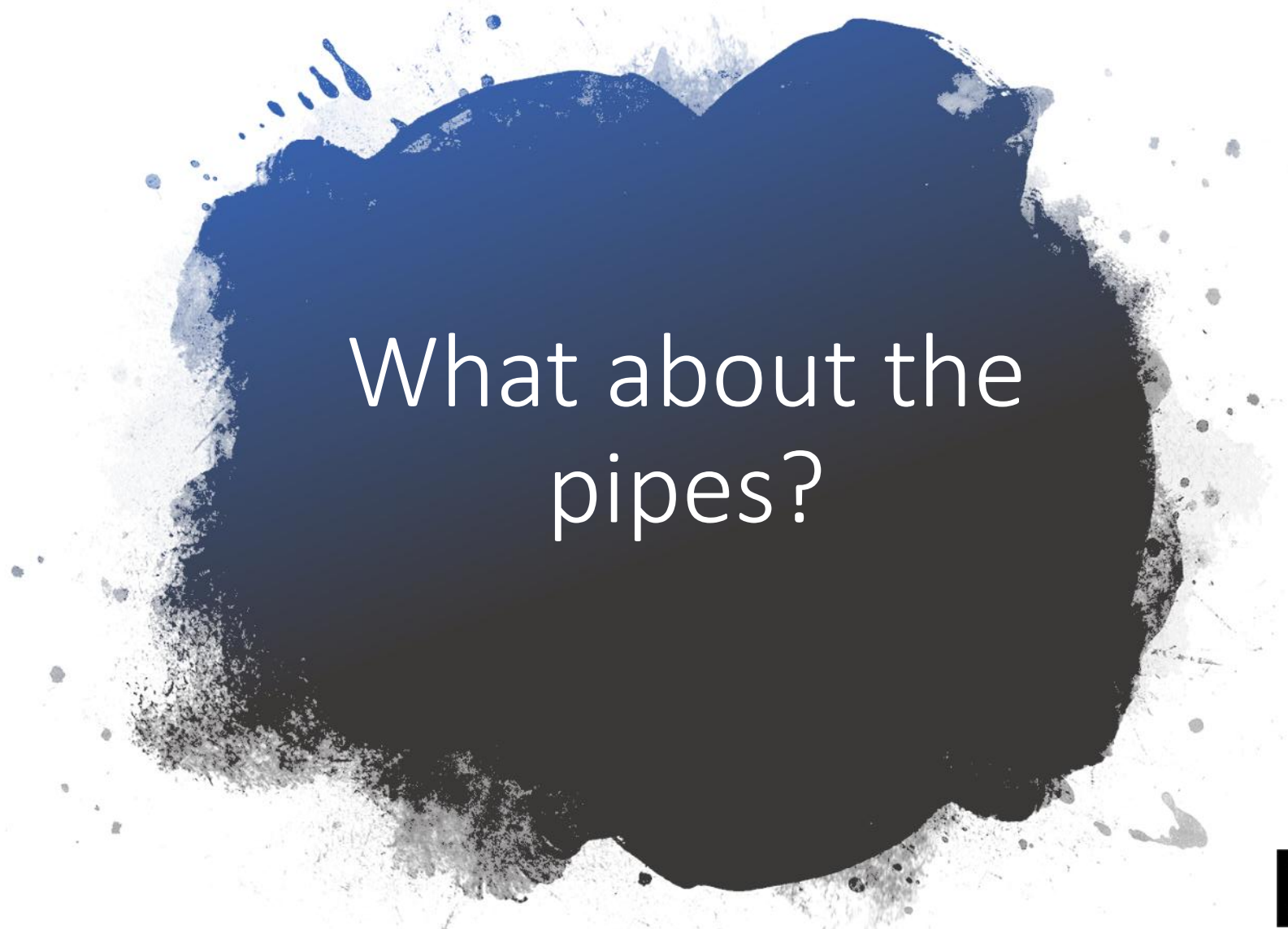
Conceal Film Photos Provided by 3M

**3M**

 **obscuretech** LLC



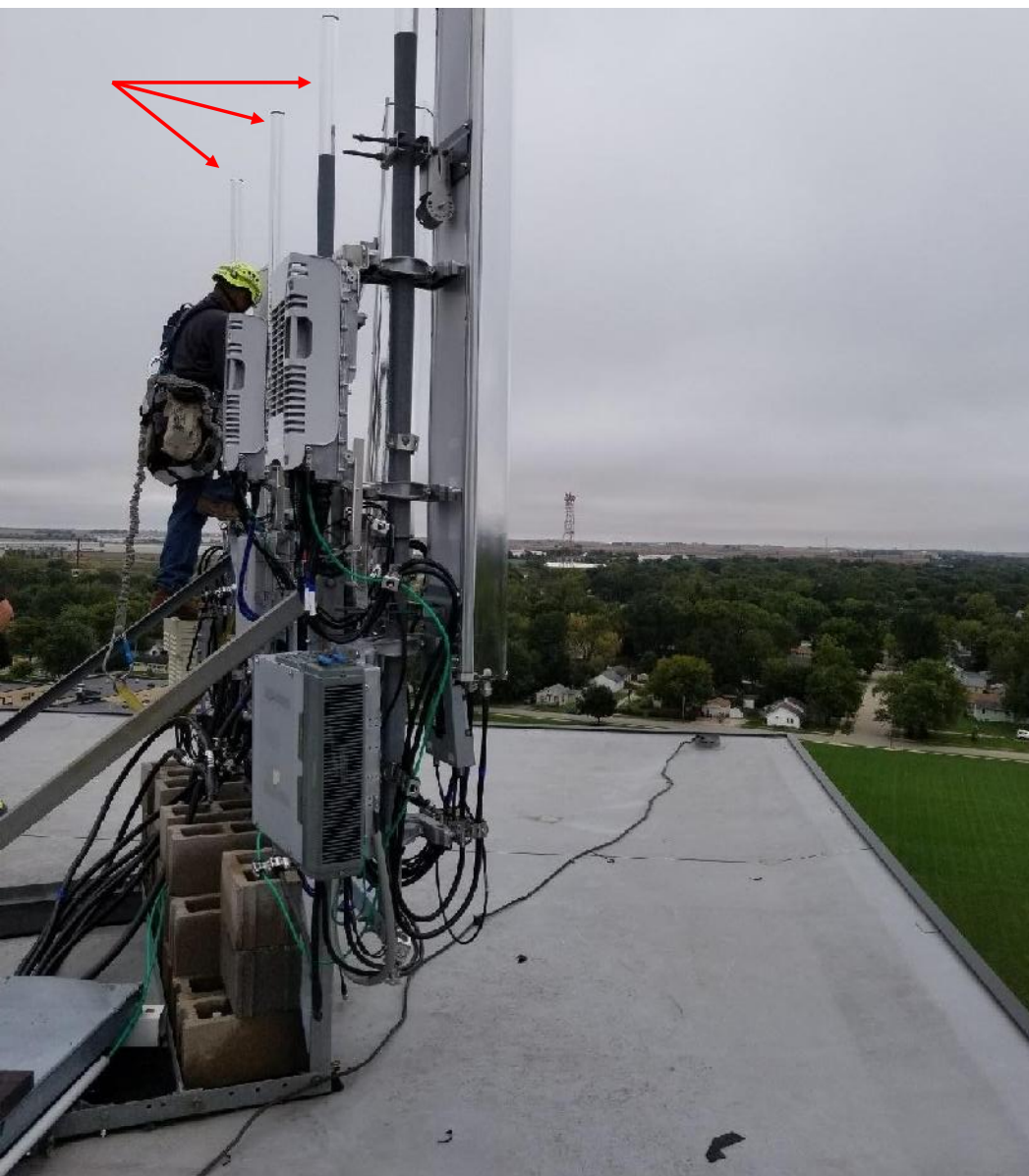
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What about the  
pipes?


Oh, yes we can!







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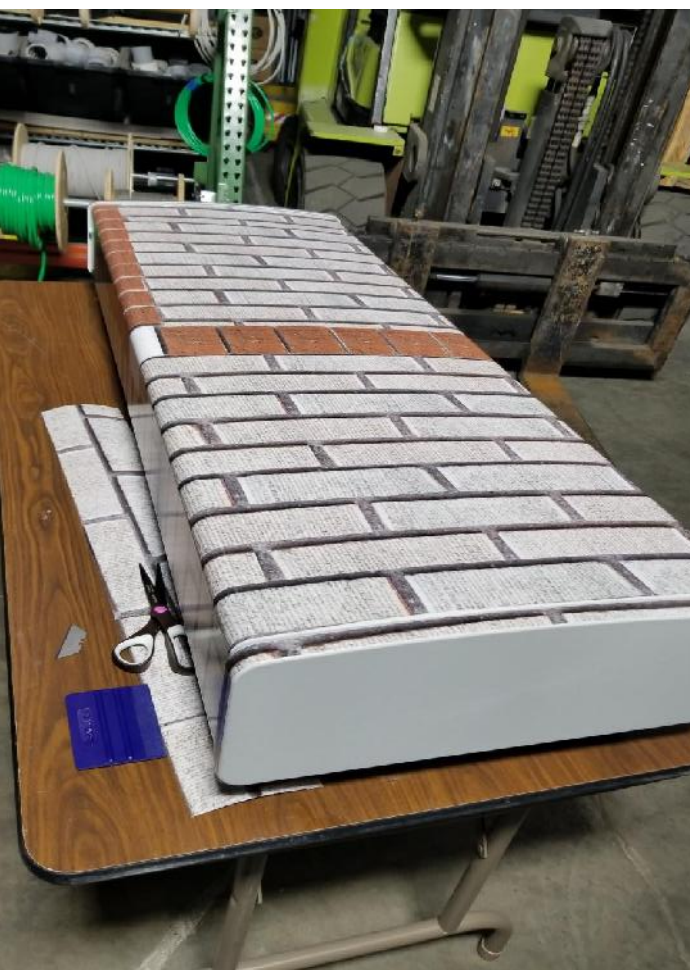
# Photo image & color matching film



## Print image film

Based Solutions for Infrastructure Camouflage  
From hi-res photo to concealed equipment





Printing film-Based Solutions for Infrastructure Camouflage  
Solution for background or facade surface – pigmented and inkjet printable  
versions – non-conductive film equals 100% zero signal interference.





# Radios

RRU's and small support cabinets can all be concealed with our films

# Color matching film-Based Solutions for Infrastructure Camouflage

Solution for background or facade surface – Color matching series non-conductive film provides 100% zero signal interference.



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# Other Services



# Photo Simulation



# Photo Simulation





Simulated photo – North AHU



Architecture concealment

Concealing air handling units  
to small support cabinets



After





Before



New direction  
concealing air handling units  
(AHU)

After





New product  
OT Bird Deterrent

