



# VERTICAL CABLE

## A GUIDE TO: OUTDOOR RATED CABLE

*VERTICAL CABLE STOCKS A VARIETY OF OUTDOOR CABLES.  
UV RATED, DIRECT BURIAL, SHIELDED, MESSENGER – OR A  
COMBINATION.*

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# WHAT DOES CMX, CMXT, CMXF MEAN?

CMX, CMXF, CMXT are standards and certifications for cable installed outdoors

- **CMX:** Communications External for outdoor applications: UV rated, not for direct burial
- **CMXF:** Communications External for outdoor applications: gel filled, rated for direct burial
- **CMXT:** Communications External for outdoor applications: waterblock tape or dual jacket, rated for direct burial



# UV RATED – ABILITY TO WITHSTAND SUN UV RAYS

- **UV rated** cable is designed for outdoor applications above ground
- **UV rated** cable either has a PE, LSZH or LLDPE jacket
- **UV rated** is not the same as direct burial
- all Vertical Cable outdoor cable is **UV rated** (CMX has the highest UV protection)

## CAT5E:

- all 059s
- Highest **UV** tolerance: [059-484/CMX](#), [059-484/CMX/WH](#), [059-488/WS/CMX](#), [059-491/CMX2K](#)

## CAT6:

- all 069s
- Highest **UV** tolerance: [069-559/CMX](#)

## CAT6A:

- All 069s
- Highest **UV** tolerance: [069-564/A/CMX](#)



# DIRECT BURIAL – BURIED DIRECTLY UNDERGROUND

- **direct burial** cable can be buried directly underground. (conduit is preferred but not required)
- **direct burial** has a dual jacket, waterblock tape or gel to withstand moisture
- usually has either an LLDPE outer jacket - or LSZH outer jacket
- all Vertical Cable outdoor cables except for CMX and MESSENGER

## CAT5E :

- [059-485/CMXF](#), [059-487/S/CMXF](#), [059-489/WS/CMXF](#), [059-488/CMXF25P](#)
- LSZH jacket: conduit recommended: [059-486/CMXT](#), [059-490/WS/CMXT](#), [059-493/CMXT2K](#)
- [059-494/WS/CWT](#), [059-494/RB/CWT](#)

## CAT6:

- [069-558/S/CMXF](#), [069-560/CMXF](#)
- [069-561/CMXT](#), [069-557/US/CMXT](#)

## CAT6A:

- [069-565/A/CMXT](#)



# SHIELDED – PROTECTION FROM EMI & RFI

- shielded cable has nothing to do with outdoor ratings
- shielded cable simply protects the electrical current from electromagnetic or radio frequency interference
- some outdoor cables are shielded and some are not
- aluminum foil shield or aluminum braid shield

## CAT5E :

- [059-487/S/CMXF](#)
- [059-494/WS/CWT](#), [059-494/RB/CWT](#), [059-495/S1/CWT](#) , [059-496/S2/CWT](#)
- [059-498/S/MESG](#)

## CAT6:

- [069-558/S/CMXF](#)
- [069-561/CMXT](#)
- [069-563/S/MESG](#)

## CAT6A:

- [069-565/A/CMXT](#)



# MESSENGER – STRUCTURAL SUPPORT

- **messenger** is an exterior supporting wire — it adds strength to cable used for aerial applications (from post to post) prevents it from sagging.
- **messenger** does not transmit data
- outdoor cable with **messenger** is not meant for direct burial (it does not have waterblock tape, a dual jacket or gel)
- outdoor cable with **messenger** is UV rated

## CAT5E :

- [059-497/MESG](#)
- [059-498/S/MESG](#)

## CAT6:

- [069-562/MESG](#)
- [069-563/S/MESG](#)



# CELL TOWER – AN APPLICATION FOR OUTDOOR CABLE

- a variety of outdoor cables can be used for **cell tower** applications
- ideally: (1) a tough LLDPE jacket and (2) dual jacket preferred (not required)
- shield is preferred because **cell towers** are high interference areas
- CMXF is not recommended for **cell towers** because vertically installed cable can leak gel
- CMX is not recommended because it is not shielded, no additional water resistance

## CAT5E :

- [059-494/WS/CWT](#), [059-494/RB/CWT](#), [059-495/S1/CWT](#), [059-496/S2/CWT](#)

## CAT6:

- [069-561/CMXT](#)

## CAT6A:

- [069-565/A/CMXT](#)



# NARROW IT DOWN

“Which CAT?”

“What’s the application?”

## CAT5E

### Direct Burial

- Shielded
  - [059-487/S/CMXF](#)
  - [059-486/CMXT](#), [059-490/WS/CMXT](#), [059-493/CMXT2K](#) (LSZH jacket, conduit recommended for CAT5E CMXT)
  - [059-494/WS/CWT](#), [059-494/RB/CWT](#)
- Unshielded
  - [059-485/CMXF](#), [059-489/WS/CMXF](#), [059-488/CMXF25P](#)

### Above Ground - UV

- Shielded
  - [059-487/S/CMXF](#)
  - [059-486/CMXT](#), [059-490/WS/CMXT](#), [059-493/CMXT2K](#)
  - [059-494/WS/CWT](#), [059-494/RB/CWT](#)
- Unshielded
  - [059-484/CMX](#), [059-484/CMX/WH](#), [059-488/WS/CMX](#), [059-491/CMX2K](#)
  - [059-485/CMXF](#), [059-489/WS/CMXF](#), [059-488/CMXF25P](#)

### Cell Tower

- [059-494/WS/CWT](#), [059-494/RB/CWT](#), [059-495/S1/CWT](#), [059-496/S2/CWT](#)

### Aerial – Messenger

- Shielded
  - [059-498/S/MESG](#)
- Unshielded
  - [059-497/MESG](#)

## CAT6

### Direct Burial

- Shielded
  - [069-558/S/CMXF](#)
  - [069-561/CMXT](#)
- Unshielded
  - [069-560/CMXF](#)
  - [069-557/US/CMXT](#)

### Above Ground - UV

- Shielded
  - [069-558/S/CMXF](#)
  - [069-561/CMXT](#)
- Unshielded
  - [069-559/CMX](#)
  - [069-560/CMXF](#)
  - [069-557/US/CMXT](#)

### Cell Tower

- [069-561/CMXT](#)

### Aerial – Messenger

- Shielded
  - [069-563/S/MESG](#)
- Unshielded
  - [069-562/MESG](#)

## CAT6A

### Direct Burial

- [069-565/A/CMXT](#)

### Above Ground - UV

- [069-564/A/CMX](#)
- [069-565/A/CMXT](#)

### Cell Tower

- [069-565/A/CMXT](#)





# WHICH PLUGS WITH WHICH CABLE

CABLE	PLUG	BOOT
<b>CAT5E</b>		
059-484/CMX, 059-484/CMX/WH, 059-488/WS/CMX, 059-491/CMX2K	<a href="#">011-016</a>	<a href="#">015-XXX</a>
059-485/CMXF, 059-489/WS/CMXF, 059-488/CMXF25P	<a href="#">011-016</a>	<a href="#">015-XXX</a>
059-487/S/CMXF	<a href="#">011-017</a>	<a href="#">015-XXX</a>
059-486/CMXT, 059-490/WS/CMXT, 059-493/CMXT2K	<a href="#">011-017</a>	<a href="#">015-XXX</a>
059-494/WS/CWT, 059-494/RB/CWT, 059-495/S1/CWT, 059-496/S2/CWT	<a href="#">011-017</a>	<a href="#">015-XXX</a>
059-497/MESG	<a href="#">011-016</a>	<a href="#">015-XXX</a>
059-498/S/MESG	<a href="#">011-017</a>	<a href="#">015-XXX</a>
<b>CAT6</b>		
069-559/CMX	<a href="#">012-018</a>	<a href="#">015-XXX</a>
069-560/CMXF	<a href="#">012-018</a>	<a href="#">015-XXX</a>
069-558/S/CMXF	<a href="#">012-021</a>	<a href="#">016-XXX</a>
069-561/CMXT, 069-557/US/CMXT	<a href="#">012-021</a>	<a href="#">016-XXX</a>
069-562/MESG	<a href="#">012-018</a>	<a href="#">015-XXX</a>
069-563/S/MESG	<a href="#">012-021</a>	<a href="#">016-XXX</a>
<b>CAT6A</b>		
069-564/A/CMX	<a href="#">012-021</a>	<a href="#">016-XXX</a>
069-565/A/CMXT	<a href="#">012-021</a>	<a href="#">016-XXX</a>

- plugs are neither waterproof nor UV rated
- plugs need special housings if installed outdoors
- outdoor cables cannot be installed indoors
- outdoor cables can come 10ft indoors max to be terminated





SINCERELY,  
VERTICAL CABLE MARKETING TEAM

KGB and FBI secured