

City of Mesa Transportation-ITS Group Approved Traffic Signal Cable

Revised 12/13/2021

1. **SIGNAL CABLE:**

Approved Suppliers: Belden, Advanced Digital, Tappan
Part Number: 19-1, 90c Hi Temp
Description: 2/5/7/25 Conductor & shall have a rip cord
Conductor: 16 AWG Stranded copper wire
Note: Resin certifications may be required.
(See specifications & suppliers list on page 3)

2. **DETECTOR LOOP WIRE:**

Part Number: IMSA 51-5-1984
Description: PVC insulation, nylon jacketed loop detector wire loosely
encased in a PVC or PE tube.
Tube Color: Orange

3. **DETECTOR LOOP LEAD-IN CABLE:**

Approved Suppliers: Accu-Tech, Advanced Digital Cable (ADC), Falcon Fine Wire
Part Number: Accu-Tech 144922, ADC 8384PWB, Falcon Fine Wire 970418GFPP
Description: 4-conductor with shield
Conductor: 18 AWG stranded, tinned copper wire
Shield: Aluminum/Polyester and/or Water Blocking Tape
Jacket Material: Polyethylene

4. **FIRE PRE-EMPTION CABLE:**

Approved Suppliers: 3M, Accu-Tech & Belden, COLE, Tappan, Falcon Fine Wire,
Advanced Digital Cable (ADC)
Part Number: 3M/M-138, Accu-Tech/S2138, Belden/58046, Cole CWX-S203CSTP-Mesa
Tappan SU3007/2080AT3M/NU, Falcon Fine Wire 970320OPT-00
ADC 32003HSD
Description: 3 Conductor, Blue/Orange/Yellow with drain wire
Conductor: 20 AWG, Stranded (7x28), tinned copper
Shield: Aluminum/Polyester
Drain Wire: 20 Awg, Stranded (7x28), tinned copper

5. **VIDEO DETECTION CABLE:**

Approved Suppliers: Econolite, Falcon Fine Wire
Part Number: Econolite-ECPI-010 (500'), ECPI #1175-011 (1000')
Falcon Fine Wire 970316TS 16/3 Solo Terra
Description: Autoscope Terra Branch Cable (Cabinet to Camera)
Conductor: 18 AWG, 3 Conductor
Jacket Material: Low Density Polyethylene



TRANSPORTATION
DEPARTMENT

mesaaz.gov

300 E Sixth St
PO Box 1466
Mesa, Arizona 85211-1466

6. VIDEO DETECTION CABLE:

Approved Suppliers: Belden
Part Number: 7929A
Description: Gridsmart (Cabinet to Camera)
Conductor: 8 conductor (4 bonded pairs) 24 AWG with 100% coverage overall foil shield, drain wire and rip cord. Cable is sequentially marked at two foot intervals.
Jacket Material: sunlight and oil-resistant PVC jacket

7. FIBER OPTIC COMMUNICATION CABLE:

[See I-10 in Approved Product List - ITS & ITD Communications System](#)

8. CCTV CABLE:

[See I-90 in Approved Product List - ITS & ITD Communications System](#)

Suppliers and/or part numbers other than those listed above must be submitted to the City of Mesa ITS Group for consideration & approval. Vendor must submit complete specifications and two 6' samples of each cable to be evaluated.

Change Log:

- 9/4/12: Change Signal Cable from 21 conductor to 25 conductor & update color code chart
- 10/30/12: Add ADC 32003HSD as an approved Fire Pre-emption cable equivalent
- 1/22/13: Add Falcon Fine Wire 970316TS 16/3 Solo Terra as an approved video cable equivalent
- 8/22/2016: Delete Belden 7992A w/gel blocker from detector loop lead-in cable
- 8/22/2016: Add Belden 7929A as approved Video Detection Cable for Gridsmart
- 9/13/2018: Correct Detector Loop Lead-In Cable shield description
- 12/13/2021: Delete Falcon Fine Wire from Signal Cable List-

City of Mesa High Temperature Traffic Signal Cable

Part Number: Mesa High Temp Traffic
Signal Cable

Description: 2, 5, 7 & 25 conductor. 16 AWG stranded (Refer to IMSA 19-1 for color code)

Suitable Application: Installations of Traffic Signal Cable in locations subject to increased temperatures.

Construction Details:

Total Number Conductors	2, 5, 7, 25
Awg	16
Stranding	Stranded
Conductor Material	Bare copper
Nominal Cond. Resistance	Per IMSA 19-1 table 3.1.1
Insulation Material	90C Wet/Dry XHHW-2 type bulletinized compound per table 2 of UL Class XL compound
Insulation/Dielectric Thickness	.030"
Color Code	Per IMSA 19-1 table 5.1
Conductor Assembly	Per IMSA 19-1 section 6
Fillers	Per IMSA 19-1 section 7
Tape Material	Clear Mylar min 10% overlap
Final Jacket Material	90C Black Sunlight Resistant Direct Burial Polyvinylchloride per IMSA 19-1 section 9.1
Nominal Thickness	Per IMSA 19-1 table 9.3
Jacket Color	Black
Ripcord	YES

Print (Indent Print and Inkjet Print)

Indent	Yes
Sequential Foot Marks	Yes

Print Legend:

Indent print

"MANUFACTURER" 19-1 90C High Temp 600V (YYYY) "yyyy= current year"

Electricals:

Operating voltage	600v
Conductor Ratings	ASTM B-3, B-8

Applicable Standards:

Certifications	UL/ETL
IMSA	Type 19-1 1997
ROHS Compliant	Yes

Specification Date

8/30/12

City of Mesa High Temp Cable Color Code			
Revised 8/30/12			
Cond.#	Base Color	Tracer Color	(Notes)
1	Black		
2	White		
3	Red		
4	Green		
5	Orange		
6	Blue		
7	White	Black	
8	Red	Black	
9	Green	Black	
10	Orange	Black	
11	Blue	Black	
12	Black	White	
13	Red	White	
14	Green	White	
15	Blue	White	
16	Black	Red	
17	White	Red	
18	Orange	Red	
19	Blue	Red	
20	Red	Green	
21	Orange	Green	
22	Yellow	Red	Added 8/23/12
23	Yellow	Blue	Added 8/23/12
24	Brown		Added 8/23/12
25	Brown	White	Added 8/23/12
Mesa Hi Temp Cables follow IMSA 19-1 Lay up			

Suggested suppliers:

Anixter Wire & Cable
Marty Koplan
marty.koplan@anixter.com
480-293-2821

Capital Electric Supply
Tanner George
tgeorge@capitalphx.com
623-936-6789

Brown Wholesale Electric Supply
Laura Sundberg
lsundberg@wesco.com
602-275-8521

Arizona Electric Supply
David Dillman
DDillman@aesmesa.com
480-834-8050

Power-Tel
Joe Garofalo
joe.garofalo@ptsupply.com
800-233-0111 ext# 3125

Change Log:
4/18/13: Added suggested supplier list