



## QN Male Connector Crimp/Solder Attachment For RG58, RG141, RG303

### TECHNICAL DATA SHEET

PE44596

#### QN Male Connector Crimp/Solder Attachment For RG58, RG141, RG303

##### Configuration

|  |                  |
|--|------------------|
| Connector                                | QN Male          |
| Connector Interface Type                 | RG58,RG141,RG303 |
| Cable Attachment Method (Shield/Contact) | Crimp/Solder     |
| Body Style                               | Straight         |

##### Electrical Specifications

|                                       |          |
|---------------------------------------|----------|
| Frequency Range, GHz                  | DC to 11 |
| Impedance, Ohms                       | 50       |
| Maximum Operating Voltage, Volts      | 1,000    |
| Dielectric Withstanding Voltage, Vrms | 2,500    |

##### Frequency 1

|                    |             |
|--------------------|-------------|
| Frequency, MHz     | DC to 1,000 |
| Return Loss, dB    | 32          |
| Insertion Loss, dB | 0.05        |

##### Frequency 2

|                       |          |
|-----------------------|----------|
| Frequency, GHz        | 1 to 2.5 |
| VSWR                  | 1:1      |
| Insertion Loss, dB    | 0.08     |
| Power Handling, Watts | 300      |

##### Frequency 3

|                    |          |
|--------------------|----------|
| Frequency, GHz     | 2.5 to 6 |
| Return Loss, dB    | 27       |
| Insertion Loss, dB | 0.12     |

##### Mechanical Specifications

##### Temperature

|                        |             |
|------------------------|-------------|
| Operating Range, deg C | -40 to +125 |
|------------------------|-------------|

##### Size

|                     |               |
|---------------------|---------------|
| Length, in [mm]     | 1.355 [34.42] |
| Width/Dia., in [mm] | 0.748 [19.00] |
| Weight, lbs [g]     | 0.068 [30.84] |

Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: [QN Male Connector Crimp/Solder Attachment For RG58, RG141, RG303 PE44596](#)

The information contained in this document is accurate to the best of our knowledge and representative of the part described herein. It may be necessary to make modifications to the part and/or the documentation of the part, in order to implement improvements. Pasternack reserves the right to make such changes as required. Unless otherwise stated, all specifications are nominal.



QN Male Connector Crimp/Solder Attachment  
For RG58, RG141, RG303

TECHNICAL DATA SHEET

PE44596

**Connector**

|                              |                  |
|------------------------------|------------------|
| Type                         | QN Male          |
| Mating Cycles                | 100              |
| Contact Material and Plating | Brass, Gold      |
| Body Material and Plating    | Brass, Tri-Metal |
| Dielectric Type              | PTFE             |

**Compliance Certifications** (visit [www.Pasternack.com](http://www.Pasternack.com) for current document)

|                |     |
|----------------|-----|
| RoHS Compliant | Yes |
|----------------|-----|

**Plotted and Other Data**

|        |                            |
|--------|----------------------------|
| Notes: | Values at 25 °C, sea level |
|--------|----------------------------|

QN Male Connector Crimp/Solder Attachment For RG58, RG141, RG303 from Pasternack Enterprises has same day shipment for domestic and International orders. Our RF, microwave and fiber optic products maintain a 99% availability and are part of the broadest selection in the industry.

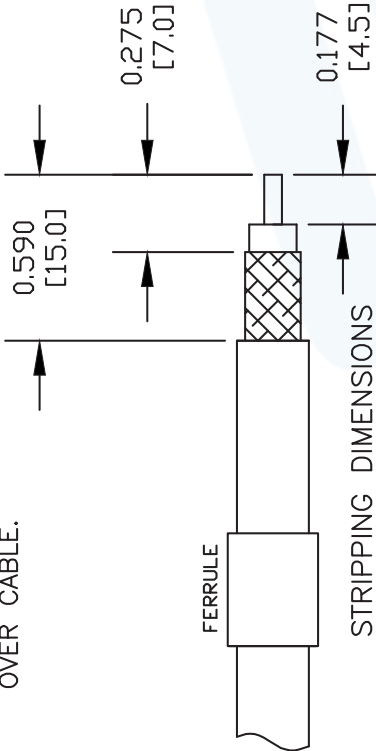
Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: [QN Male Connector Crimp/Solder Attachment For RG58, RG141, RG303 PE44596](http://www.pasternack.com/qn-male-standard-rg58-rg141-rg303-connector-pe44596-p.aspx)

URL: <http://www.pasternack.com/qn-male-standard-rg58-rg141-rg303-connector-pe44596-p.aspx>

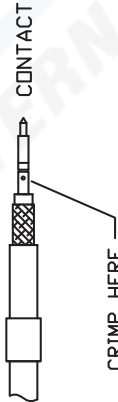
The information contained in this document is accurate to the best of our knowledge and representative of the part described herein. It may be necessary to make modifications to the part and/or the documentation of the part, in order to implement improvements. Pasternack reserves the right to make such changes as required. Unless otherwise stated, all specifications are nominal.

ASSEMBLY PROCEDURES

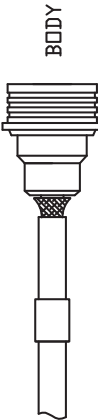
1. STRIP CABLE AS SHOWN. SLIDE FERRULE OVER CABLE.



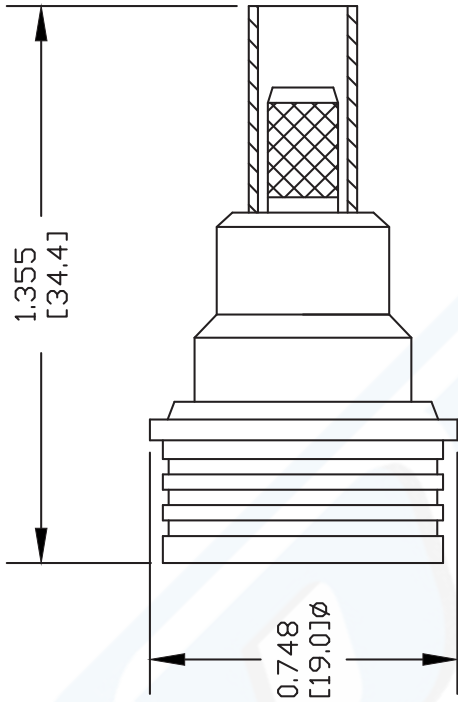
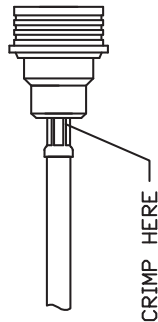
2. INSERT DIELECTRIC INTO CONTACT AND CRIMP IT WITH .100" HEX CRIMP TOOL. SPLAY OUT THE BRAID.



3. INSERT STRIPPED CABLE INTO BODY UNTIL CONTACT ENGAGES PERCEPTIBLY.



4. SLIDE FERRULE OVER BRAID UP TO THE CONNECTOR BODY AND CRIMP AS CLOSE TO THE CONNECTOR BODY AS POSSIBLE USING A .213" HEX CRIMP TOOL.



Pasternack Enterprises, Inc.  
P.O. Box 16759 | Irvine | CA | 92623  
Phone: (949) 261-1920 | Fax: (949) 261-7451  
Website: [www.pasternack.com](http://www.pasternack.com) | E-Mail: [sales@pasternack.com](mailto:sales@pasternack.com)

DWG TITLE

PE44596

FSCM NO. 53919

NOTES:

1. UNLESS OTHERWISE SPECIFIED ALL DIMENSIONS ARE NOMINAL.
2. ALL SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE AT ANY TIME.
3. DIMENSIONS ARE IN INCHES [mm].
4. FITS MIL-C-17 AND EQUIVALENT CABLES.

CAD FILE

081808

SCALE N/A

SIZE A

XXXX



QN Male Right Angle Connector Crimp/Solder  
Attachment for PE-C195, PE-P195, RG58, RG141,  
RG303, LMR-195, 0.195 inch, IP68

## RF Connectors Technical Data Sheet

PE44601

### Configuration

- QN Male Connector
- 50 Ohms
- Right Angle Body Geometry
- PE-C195, PE-P195, RG58, RG141, RG303, LMR-195, 0.195 inch Interface Type
- Crimp/Solder Attachment

### Features

- Max. Operating Frequency 11 GHz
- Gold over Nickel Plated Brass Contact
- IP68 0.3 bar (interface only)

### Applications

- General Purpose Test
- Custom Cable Assemblies

### Description

Pasternack's PE44601 QN male right angle connector with crimp/solder attachment for PE-C195, PE-P195, RG58, RG141, RG303, LMR-195 and 0.195 inch is part of our full line of RF components available for same-day shipping. Our QN male connector operates up to a maximum frequency of 11 GHz. Its right angle body geometry allows for easier connections in tight spaces. The connector has an IP68 rating to protect against dust and prolonged moisture protection under immersion conditions.

Our QN male right angle connector PE44601 datasheet specifications and drawing with dimensions are shown below in this PDF. Pasternack's broad catalog of RF, microwave and millimeter wave connectors allows designers to configure and customize their signal connections however they like. Whether the need is to provide an I/O for a board design, or simply create a custom cable assembly configuration, Pasternack has the right connector for the job. Pasternack can also expertly build your custom cable assemblies for you and ship same-day.

### Electrical Specifications

| Description                   | Minimum | Typical | Maximum | Units |
|-------------------------------|---------|---------|---------|-------|
| Frequency Range               | DC      |         | 11      | GHz   |
| Operating Voltage (AC)        |         |         | 1,000   | Vrms  |
| Test Voltage (AC)             |         |         | 2,500   | Vrms  |
| Inner Conductor DC Resistance |         |         | 1.5     | mOhms |
| Outer Conductor DC Resistance |         |         | 1.5     | mOhms |
| Insulation Resistance         | 5,000   |         |         | MOhms |

### Performance by Frequency

| Description     | F1        | F2       | F3     | F4 | F5 | Units |
|-----------------|-----------|----------|--------|----|----|-------|
| Frequency Range | DC to 2.5 | 2.5 to 4 | 4 to 6 |    |    | GHz   |
| VSWR, Max       | 1.06:1    | 1.16:1   | 1.23:1 |    |    |       |

Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: [QN Male Right Angle Connector Crimp/Solder Attachment for PE-C195, PE-P195, RG58, RG141, RG303, LMR-195, 0.195 inch, IP68 PE44601](#)



QN Male Right Angle Connector Crimp/Solder  
Attachment for PE-C195, PE-P195, RG58, RG141,  
RG303, LMR-195, 0.195 inch, IP68

## RF Connectors Technical Data Sheet

PE44601

Electrical Specification Notes:  
RF leakage: 90 dB (up to 3 GHz) min.  
Insertion loss =  $0.05 \times \sqrt{f(\text{GHz})}$  dB max.

### Mechanical Specifications

#### Size

|               |                     |
|---------------|---------------------|
| Length        | 0.894 in [22.71 mm] |
| Width/Dia.    | 0.748 in [19.00 mm] |
| Height        | 1.039 in [26.39 mm] |
| Weight        | 0.137 lbs [62.14 g] |
| Mating Cycles | 100 Cycles          |

### Material Specifications

| Description | Material | Plating          |
|-------------|----------|------------------|
| Contact     | Brass    | Gold over Nickel |
| Insulation  | PTFE     |                  |
| Body        | Brass    | Tri-Metal        |

### Environmental Specifications

#### Temperature

|                                |                                      |
|--------------------------------|--------------------------------------|
| Operating Range                | -40 to +125 deg C                    |
| Ingress Protection (IP) Rating | IP68 0.3 bar (interface only)        |
| Humidity                       | MIL-STD-202, Method 106              |
| Shock                          | MIL-STD-202, Method 213, Condition I |
| Vibration                      | MIL-STD-202, Method 204, Condition A |
| Thermal Shock                  | MIL-STD-202, Method 107, Condition B |
| Salt Spray                     | MIL-STD-202, Method 101, Condition B |

Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: [QN Male Right Angle Connector Crimp/Solder Attachment for PE-C195, PE-P195, RG58, RG141, RG303, LMR-195, 0.195 inch, IP68 PE44601](#)





QN Male Right Angle Connector Crimp/Solder  
Attachment for PE-C195, PE-P195, RG58, RG141,  
RG303, LMR-195, 0.195 inch, IP68

## RF Connectors Technical Data Sheet

PE44601

**Compliance Certifications** (see [product page](#) for current document)

### Plotted and Other Data

Notes:

QN Male Right Angle Connector Crimp/Solder Attachment for PE-C195, PE-P195, RG58, RG141, RG303, LMR-195, 0.195 inch, IP68 from Pasternack Enterprises has same day shipment for domestic and International orders. Our RF, microwave and millimeter wave products maintain a 99% availability and are part of the broadest selection in the industry.

Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: [QN Male Right Angle Connector Crimp/Solder Attachment for PE-C195, PE-P195, RG58, RG141, RG303, LMR-195, 0.195 inch, IP68 PE44601](#)

URL: <https://www.pasternack.com/qn-male-standard-rg58-rg141-rg303-connector-pe44601-p.aspx>

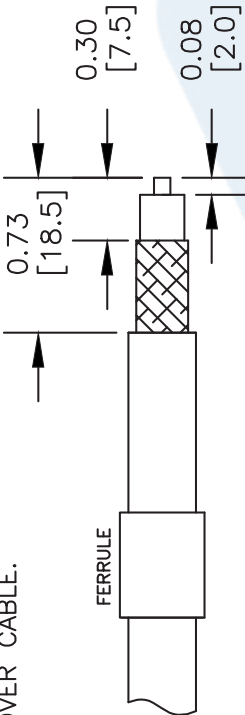
The information contained in this document is accurate to the best of our knowledge and representative of the part described herein. It may be necessary to make modifications to the part and/or the documentation of the part, in order to implement improvements. Pasternack reserves the right to make such changes as required. Unless otherwise stated, all specifications are nominal. Pasternack does not make any representation or warranty regarding the suitability of the part described herein for any particular purpose, and Pasternack does not assume any liability arising out of the use of any part or documentation.

# PE44601 CAD Drawing

QN Male Right Angle Connector Crimp/Solder Attachment for PE-C195,  
PE-P195, RG58, RG141, RG303, LMR-195, 0.195 inch, IP68

## ASSEMBLY PROCEDURES

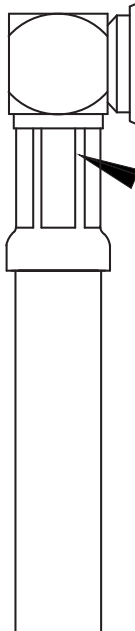
1. STRIP CABLE AS SHOWN. SLIDE FERRULE OVER CABLE.



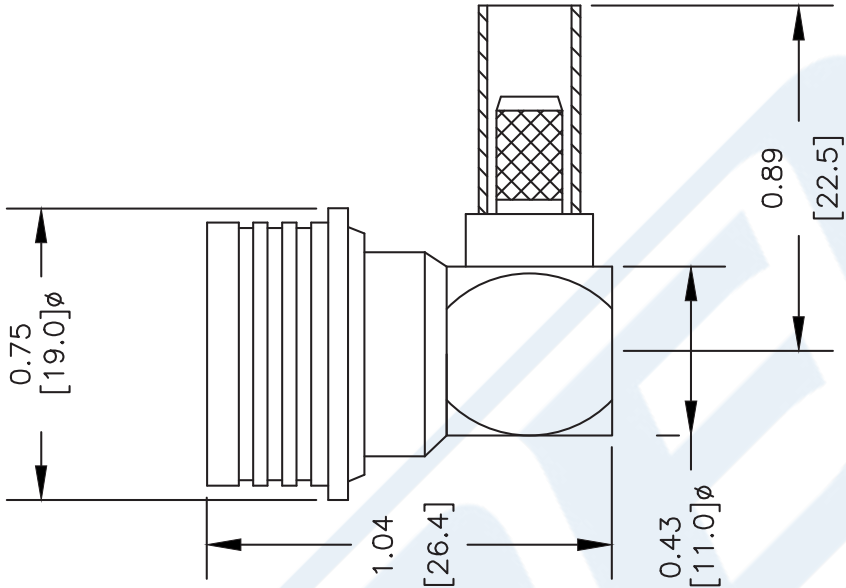
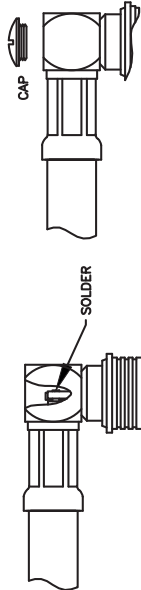
2. FLAIR BRAID AND INSERT THE STRIPPED CABLE INTO BODY AND POSITION THE CENTER CONDUCTOR IN THE SLOT OF THE CENTER PIN.



3. SLIDE FERRULE OVER BRAID UP TO THE CONNECTOR BODY AND CRIMP AS CLOSE TO THE CONNECTOR BODY AS POSSIBLE USING A .213" HEX CRIMP TOOL.



4. SOLDER THE CENTER CONDUCTOR OF THE CABLE TO THE CENTER PIN. TIGHTEN DOWN THE CAP INTO THE REAR APERTURE OF THE BODY.



NOTES:  
1. UNLESS OTHERWISE SPECIFIED ALL DIMENSIONS ARE NOMINAL.  
2. ALL SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE AT ANY TIME.  
3. DIMENSIONS ARE IN INCHES [mm].  
4. FITS MIL-C-17 AND EQUIVALENT CABLES.

DWG TITLE

PE44601

FSCM NO. 53919

CAD FILE 061608

SCALE N/A

SIZE A

XXXX

**PE PASTERNAK®**

Pasternack Enterprises, Inc.

P.O. Box 16759 | Irvine | CA | 92623

Phone: (949) 261-1920 | Fax: (949) 261-7451

Website: [www.pasternack.com](http://www.pasternack.com) | E-Mail: [sales@pasternack.com](mailto:sales@pasternack.com)

# LMR®-195

## Flexible Low Loss Communications Coax

### Ideal for...

- Jumper Assemblies in Wireless Communications Systems
- Short Antenna Feeder runs
- Any application (e.g. WLL, GPS, LMR, WLAN, WiSP, WiMax, SCADA, Mobile Antennas) requiring an easily routed, low loss RF cable
- Drop-in replacement for RG-58 and RG-142



• **LMR®** standard is a UV Resistant Polyethylene jacketed cable designed for 20-year service outdoor use. The bending and handling characteristics are significantly better than air-dielectric and corrugated hard-line cables.

• **LMR® - DB** is identical to standard LMR plus has the advantage of being watertight. The addition of waterproofing compound in and around the foil/braid insures continuous reliable service should the jacket be inadvertently damaged during installation or in the future.

• **LMR® - FR** is a non-halogen (non-toxic), low smoke, fire retardant cable designed for in-building runs that can be routed anywhere except air handling plenums. LMR-FR is UL/NEC & CSA rated 'CMR' and 'FT4' respectively, meets FAA FAR25 requirements and is MSHA-P for mining applications.

• **LMR® - FR-PVC** is a general-purpose indoor cable and has a UL/NEC & CSA rating of 'CMR' and 'FT4' respectively. It is less expensive than LMR-FR, however it emits toxic fumes (HCL) and greater smoke density when burned.

• **LMR® - PVC** is designed for low loss general-purpose applications and is somewhat more flexible than the standard polyethylene jacketed LMR.

• **LMR® - PVC-W** is a white-jacketed version of LMR-PVC for marine and other applications where color compatibility is desired.

• **LMR® - MA** is a flexible cable designed specifically for mobile antenna applications. It has a PVC jacket and un-bonded aluminum tape to facilitate end stripping with automated equipment.

• **Flexibility** and bendability are hallmarks of the LMR-195 cable design. The flexible outer conductor enables the tightest bend radius available for any cable of similar size and performance.

• **Low Loss** is another hallmark feature of LMR-195. Size for size LMR has the lowest loss of any flexible cable and comparable loss to semirigid hard-line cables.

• **RF Shielding** is 50 dB greater than typical single shielded coax (40 dB). The multi-ply bonded foil outer conductor is rated conservatively at > 90 dB (i.e. >180 dB between two adjacent cables).

• **Weatherability:** LMR-195 cables designed for outdoor exposure incorporate the best materials for UV resistance and have life expectancy in excess of 20 years.

• **Connectors:** A wide variety of connectors are available for LMR-195 cable, including all common interface types, reverse polarity, and a choice of solder or non-solder center pins. Most LMR connectors employ crimp outer attachment using standard hex crimp sizes.

• **Cable Assemblies:** All LMR-195 cable types are available as pre-terminated cable assemblies. Refer to the section on FlexTech for further details.

| Part Description |                          |        |       | Stock |
|------------------|--------------------------|--------|-------|-------|
| Part Number      | Application              | Jacket | Color | Code  |
| LMR-195          | Outdoor                  | PE     | Black | 54110 |
| LMR-195-DB       | Outdoor/Watertight       | PE     | Black | 54113 |
| LMR-195-FR       | Indoor/Outdoor Riser CMR | FRPE   | Black | 54111 |
| LMR-195-FR-W     | Indoor/Outdoor Riser CMR | FRPE   | White | 54158 |
| LMR-195-FR-PVC   | Indoor/Outdoor Riser CMR | FRPVC  | Black | 54105 |
| LMR-195-MA       | Mobile Antennas          | PVC    | Black | 54210 |
| LMR-195-PVC      | General Purpose          | PVC    | Black | 54215 |
| LMR-195-PVC-W    | General Purpose          | PVC    | White | 54199 |

| Construction Specifications |                   |       |        |
|-----------------------------|-------------------|-------|--------|
| Description                 | Material          | In.   | (mm)   |
| Inner Conductor             | Solid BC          | 0.037 | (0.94) |
| Dielectric                  | Foam PE           | 0.110 | (2.79) |
| Outer Conductor             | Aluminum Tape     | 0.116 | (2.95) |
| Overall Braid               | Tinned Copper     | 0.139 | (3.53) |
| Jacket                      | (see table above) | 0.195 | (4.95) |



## Mechanical Specifications

| Performance Property      | Units          | US    | (metric) |
|---------------------------|----------------|-------|----------|
| Bend Radius: installation | in. (mm)       | 0.5   | (12.7)   |
| Bend Radius: repeated     | in. (mm)       | 2.0   | (50.8)   |
| Bending Moment            | ft-lb (N-m)    | 0.2   | (0.27)   |
| Weight                    | lb/ft (kg/m)   | 0.021 | (0.03)   |
| Tensile Strength          | lb (kg)        | 40    | (18.2)   |
| Flat Plate Crush          | lb/in. (kg/mm) | 15    | (0.27)   |

## Environmental Specifications

| Performance Property           | °F       | °C      |
|--------------------------------|----------|---------|
| Installation Temperature Range | -40/+185 | -40/+85 |
| Storage Temperature Range      | -94/+185 | -70/+85 |
| Operating Temperature Range    | -40/+185 | -40/+85 |

## Electrical Specifications

| Performance Property    | Units             | US    | (metric) |
|-------------------------|-------------------|-------|----------|
| Velocity of Propagation | %                 | 76    |          |
| Dielectric Constant     | NA                | 1.56  |          |
| Time Delay              | nS/ft (nS/m)      | 1.27  | (4.17)   |
| Impedance               | ohms              | 50    |          |
| Capacitance             | pF/ft (pF/m)      | 25.4  | (83.3)   |
| Inductance              | uH/ft (uH/m)      | 0.064 | (0.21)   |
| Shielding Effectiveness | dB                | >90   |          |
| DC Resistance           |                   |       |          |
| Inner Conductor         | ohms/1000ft (/km) | 7.6   | (24.9)   |
| Outer Conductor         | ohms/1000ft (/km) | 4.9   | (16.1)   |
| Voltage Withstand       | Volts DC          | 1000  |          |
| Jacket Spark            | Volts RMS         | 3000  |          |
| Peak Power              | kW                | 2.5   |          |

## Attenuation vs. Frequency (typical)



| Frequency (MHz)       | 30   | 50   | 150  | 220  | 450  | 900  | 1500 | 1800 | 2000 | 2500 | 5800 |
|-----------------------|------|------|------|------|------|------|------|------|------|------|------|
| Attenuation dB/100 ft | 2.0  | 2.5  | 4.4  | 5.4  | 7.8  | 11.1 | 14.5 | 16.0 | 16.9 | 19.0 | 29.9 |
| Attenuation dB/100 m  | 6.5  | 8.4  | 14.6 | 17.7 | 25.5 | 36.5 | 47.7 | 52.5 | 55.4 | 62.4 | 98.1 |
| Avg. Power kW         | 0.89 | 0.68 | 0.39 | 0.32 | 0.22 | 0.16 | 0.12 | 0.11 | 0.10 | 0.09 | 0.06 |

Calculate Attenuation =  $(0.356859) \cdot \sqrt{\text{FMHz}} + (0.000470) \cdot \text{FMHz}$  (interactive calculator available at [http://www.timesmicrowave.com/cable\\_calculators](http://www.timesmicrowave.com/cable_calculators))  
**Attenuation:** VSWR=1.0 ; Ambient = +25°C (77°F) **Power:** VSWR=1.0; Ambient = +40°C; Inner Conductor = 100°C (212°F);  
 Sea Level; dry air; atmospheric pressure; no solar loading



TC-195-NM



TC-195-SM



TC-195-NM-RA-D



TC-195-TM

## Connectors

| Interface | Description   | Part Number     | Stock Code | VSWR**<br>Freq. (GHz) | Coupling<br>Nut | Inner<br>Contact<br>Attach | Outer<br>Contact<br>Attach | Finish*<br>Body /Pin | Length<br>in (mm) | Width<br>in (mm) | Weight<br>lb (g) |
|-----------|---------------|-----------------|------------|-----------------------|-----------------|----------------------------|----------------------------|----------------------|-------------------|------------------|------------------|
| N male    | Straight Plug | TC-195-NM       | 3190-1555  | <1.25:1 (2.5)         | Knurl           | Solder                     | Crimp                      | S/G                  | 1.5 (38.1)        | 0.75 (19.1)      | 0.073 (33.1)     |
| N male    | Right Angle   | TC-195-NMH-RA-D | 3190-2425  | <1.35:1 (6)           | Hex/Knurl       | Solder                     | Crimp                      | A/G                  | 1.3 (32.1)        | 1.19 (30.1)      | 0.083 (37.5)     |
| SMA male  | Straight Plug | TC-195-SM       | 3190-1553  | <1.25:1 (2.5)         | Hex             | Solder                     | Crimp                      | SS/G                 | 1.0 (25.4)        | 0.32 (8.1)       | 0.015 (6.8)      |
| TNC male  | Straight Plug | TC-195-TM       | 3190-1554  | <1.25:1 (2.5)         | Knurl           | Solder                     | Crimp                      | S/G                  | 1.4 (35.6)        | 0.59 (15.0)      | 0.045 (20.4)     |

\* Finish metals: N=Nickel, S=Silver, G=Gold, SS=Stainless Steel, A=Alloy \*\*VSWR spec based on 3 foot cable with a connector pair

## Install Tools

| Type              | Part Number        | Stock Code | Description  |
|-------------------|--------------------|------------|--|
| Crimp Tool        | CT-240/200/195/100 | 3190-667   | Crimp tool for LMR-100,195, 200 and 240 connectors |
| Cutting Tool      | CCT-01             | 3190-1544  | Cable end flush cut tool                           |
| Deburr Tool       | DBT-U              | 3192-001   | Removes center conductor rough edges               |
| Replacement Blade | RB-01              | 3190-1609  | Replacement blade for cutting tool                 |



CT-240/200/195/100



DBT-U



CCT-01