Semi-Flex® Cable Assemblies
DC - 40 GHz

INTRODUCTION

Semi-Flex® coaxial cable assemblies are a tried and proven alternative to traditional Semi-Rigid Coaxial Cables. These cables provide comparable electrical performance to semi-rigid cables, while simultaneously allowing simple formation for use within RF/Microwave systems, as well as, for making external connections to other equipment. The outer conductor is comprised of a tin filled copper wire braid, which enables easy forming and re-forming by hand without the need for bending tools. With a Copper/Poly Foil inner layer along with Semi-Rigid style dielectric and center conductor, our Semi-Flex cables provide enhanced shielding and performance that exceeds traditional conformable cables.

There is no significant electrical performance degradation when the Semi-Flex cables are formed into position. The conformable property of the cable allows it to retain its shape making field installations fast and simple. The malleable nature of the outer jacket eliminates solder joint failures and allows bends immediately behind the fillet. These features, along with CarlisleIT’s Anti-Torque connector designs (see inset) remarkably extend the assemblies’ working life even after many connect/disconnect cycles.

CarlisleIT’s Semi-Flex cable assemblies allow you to meet deadlines, reduce cost, eliminate tooling and drafting needs, and simplify manufacturing processes all at once.

FEATURES

» Hand-formable without the need for bending tools
» Excellent electrical performance; comparable to semi-rigid cables
» 100% Shielded with two metal outer conductors for reduced leakage
» Improved flexibility and bending radius compared to semi-rigid
» Quick and Easy Assembly; available in various lengths and connector options
» 1 Week Lead Time

CUSTOM SOLUTIONS

In addition to our standard offering, CarlisleIT has also built a vast library of modified designs from the myriad of custom solutions we have delivered to our customers. We offer a variety of customized options for these semi-flex cables, which include different connector options, higher frequency coverage, extended environmental testing, etc. Our team of dedicated Engineers can help develop the right solution for your application needs.
**Semi-Flex® Cable Assemblies**

**How to Order:**
1) Choose your Cable Code from the Semi-Flex® Cable Information table.
2) Choose your Connector Codes from the Connector Codes table (consult factory if your connector is not shown).
3) Build your assembly Part Number from the Part Number Guide.

**Semi-Flex® Cable Information**

<table>
<thead>
<tr>
<th>Product</th>
<th>Cable Code</th>
<th>Jacket Type</th>
<th>Max. Frequency</th>
<th>Max. Insertion Loss (dB p/ft.)</th>
<th>VSWR @ Max Freq.</th>
<th>Available Connectors</th>
</tr>
</thead>
<tbody>
<tr>
<td>.047 Type Semi-Flex®</td>
<td>604</td>
<td>None*</td>
<td>20GHz</td>
<td>1.90</td>
<td>1.50:1</td>
<td>MCX, SMA, SMP, SSMP</td>
</tr>
<tr>
<td>.086 Type Semi-Flex®</td>
<td>620</td>
<td>None*</td>
<td>40GHz</td>
<td>1.92</td>
<td>1.38:1</td>
<td>TNC, Type N, BMA, SMA, K, SMP, SSMP</td>
</tr>
<tr>
<td>.141 Type Semi-Flex®</td>
<td>621</td>
<td>Standard**</td>
<td>26.5GHz</td>
<td>1.48</td>
<td>1.17:1</td>
<td>TNC, N, BMA, SMA</td>
</tr>
<tr>
<td>.250 Type Semi-Flex®</td>
<td>606</td>
<td>None*</td>
<td>18GHz</td>
<td>0.94</td>
<td>1.17:1</td>
<td>TNC, N, BMA, SMA</td>
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</tbody>
</table>

* = Tin Filled Copper Braid Outer Conductor Only / ** = Polyurethane Coating over Outer Conductor / † = FEP Coating over Outer Conductor

**Connector Codes**

<table>
<thead>
<tr>
<th>SERIES:</th>
<th>MCX</th>
<th>TNC</th>
<th>Type N</th>
<th>BMA</th>
<th>SMA</th>
<th>K (2.92mm)</th>
<th>SMP</th>
<th>SSMP</th>
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<tr>
<td>Max Freq. (GHz)</td>
<td>6</td>
<td>18</td>
<td>18</td>
<td>22</td>
<td>26.5</td>
<td>40</td>
<td>40</td>
<td>60†</td>
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<td>CODES</td>
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<tr>
<td>PLUG</td>
<td>M6</td>
<td>30</td>
<td>18</td>
<td>R1</td>
<td>36</td>
<td>K5</td>
<td>G6</td>
<td>R6</td>
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<tr>
<td>RIGHT ANGLE PLUG</td>
<td>M7</td>
<td>31</td>
<td>19</td>
<td>N/A</td>
<td>37</td>
<td>N/A</td>
<td>G7</td>
<td>R7</td>
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<td>JACK</td>
<td>M8</td>
<td>32</td>
<td>20</td>
<td>R2</td>
<td>38</td>
<td>K8</td>
<td>G8</td>
<td>R8</td>
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<td>PANEL JACK</td>
<td>M9</td>
<td>33</td>
<td>21</td>
<td>R4</td>
<td>39</td>
<td>K9</td>
<td>G9</td>
<td>R9</td>
</tr>
<tr>
<td>BULKHEAD JACK</td>
<td>M0</td>
<td>34</td>
<td>22</td>
<td>R3</td>
<td>40</td>
<td>K0</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>

† = Max Frequency of cable assembly limited by the cable operating frequency

**Part Number Guide**

X-XXXXXXXX-XXX-X XXX

- Length in inches
- Specify:
  - "2" - For application frequency ≤ 18 GHz
  - "3" - For application frequency > 18 GHz
- Specify:
  - "3" - Standard product
  - "5" - Anti-torque connector (for SMA or K cable assemblies)
- CarlisleIT Cable Code
- 2nd Connector Code
- 1st Connector Code
- "Y" - ROHS Compliant
- "1" - NOT ROHS Compliant

**Notes:**
Connector codes should be listed in increasing numerical sequence and numbers should precede codes with letters.
Examples: 1-3640-601-5212 and 1-36GG-600-5212