M-FLEX® Cable Assemblies DC - 70 GHz

INTRODUCTION

M-FLEX® Microwave Coaxial Cables are a family of flexible cables designed to accept semi-rigid cable connectors. Unlike other single or double-braided “RG”-type flexible cables, M-FLEX cables are true MIL-DTL-17 compliant microwave cables capable of operating at frequencies up to 70 GHz. The extended frequency range is the result of a precision helically-wrapped, silver-plated, copper-foil inner shield which allows for outstanding flexibility while providing 100% coverage.

M-FLEX Coaxial Cable Assemblies are a tried and proven alternative to traditional semi-rigid coaxial cables, capable of:
- Comparable electrical performance to semi-rigid cables
- Easy routing within RF/Microwave Systems due to its flexibility
- External connections to other equipment

These features, along with CarlisleIT’s anti-torque connector designs (see inset above), remarkably extend the assemblies’ working life, even after many connect/disconnect cycles, allowing you to:
- Meet deadlines
- Reduce cost
- Eliminate tooling and drafting needs
- Simplify manufacturing

FEATURES

- Excellent electrical performance
- RF shielding greater than 90 dB to minimize crosstalk and maximize system performance
- Helical shield for improved loss and phase stability
- Same line size as semi-rigid cable to optimize assembly loss and VSWR
- Improved flexibility compared to semi-rigid and Semi-Flex®
- Available in various lengths and connector options
- Designed for standard, readily-available solder-on connectors

CUSTOM SOLUTIONS

In addition to our standard offering, CarlisleIT is proud to offer a vast library of modified designs and customized options which may include:
- Non-standard connector options
- Additional testing
- Phase matching

Our team of on-site engineers can help develop the right solution for your application needs.
M-FLEX® Cable Assemblies

HOW TO ORDER

1) Select your cable code from the M-FLEX Cable Information Table.
2) Select your connector codes from the Connector Codes Table (consult factory if your desired connector is not shown).
3) Build your assembly part number from the Part Number Guide.

M-FLEX Cable Information

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Description</th>
<th>Outer Diameter</th>
<th>Cable Code</th>
<th>Jacket Type</th>
<th>Max Frequency (GHz)</th>
<th>Max Insertion Loss (db/ft)</th>
<th>VSWR @ Max Frequency</th>
<th>Available Connectors</th>
</tr>
</thead>
<tbody>
<tr>
<td>HGE055D</td>
<td>Flexible .047&quot; Type</td>
<td>.055&quot;</td>
<td>410</td>
<td>FEP</td>
<td>70</td>
<td>3.79</td>
<td>1.25:1</td>
<td></td>
</tr>
<tr>
<td>HFE100D</td>
<td>Flexible .086&quot; Type</td>
<td>.100&quot;</td>
<td>411</td>
<td>FEP</td>
<td>40</td>
<td>1.66</td>
<td>1.25:1</td>
<td></td>
</tr>
<tr>
<td>HFE160D</td>
<td>Flexible .141&quot; Type</td>
<td>.160&quot;</td>
<td>413</td>
<td>FEP</td>
<td>33</td>
<td>0.89</td>
<td>1.25:1</td>
<td></td>
</tr>
</tbody>
</table>

Connecter Codes

<table>
<thead>
<tr>
<th>Series:</th>
<th>MCX</th>
<th>TNC</th>
<th>N</th>
<th>BMA</th>
<th>SMA</th>
<th>K (2.92 mm)</th>
<th>SMP</th>
<th>SMPM</th>
<th>1.85 mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Typical Max Frequency (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>65</td>
<td>65</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CONNECTOR CODES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plug</td>
</tr>
<tr>
<td>Right-Angle Plug</td>
</tr>
<tr>
<td>Jack</td>
</tr>
<tr>
<td>Panel Jack</td>
</tr>
<tr>
<td>Bulkhead Jack</td>
</tr>
</tbody>
</table>

NOTE: Max frequency is limited by the lowest frequency component (cable or connector) within an assembly configuration.

Part Number Guide

X - XX XX - XXX - X X XX

- Length in inches
- Specify:
  - "2" - For application frequency \(\leq 18\) 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" - NON-ROHS Compliant

NOTES:
Connector codes should be listed in increasing numerical sequence and numeric codes should precede alpha-numeric.
Examples: 1-3640-413-5212 and 1-36G6-411-5212