The WorkHorse® Family of coaxial assemblies is a time proven and cost effective group of test assemblies. These ruggedized test cables were specifically designed for use in high volume production environments, where strenuous flexing and numerous mating cycles quickly destroy typical connectors and attachment methods.

WorkHorse® assemblies are ideal replacements for OEM test port cables due to their long life and repeatable performance. WorkHorse® and Armored WorkHorse® assemblies utilize Carlisle Interconnect Technologies’ (CarlisleIT) proven “504” triple shielded cable. Using a solid center conductor, this cable has low loss and excellent phase stability with performance up to 26.5 GHz.

WorkHorse Plus® assemblies utilize CarlisleIT’s “524” cable, which has a stranded center conductor and polyurethane jacket for enhanced flexibility with performance capabilities up to 18 GHz.

**FEATURES**

- DC to 26.5 GHz
- Durable Construction and Attachment Method
- Available with Crush-proof Stainless Steel Interlocking Armor
- Low Loss and Phase Stable for Testing Repeatability
- Triple Shielded for Reduced Leakage
- RoHS Compliant
**504 Cables**

### ELECTRICAL SPECIFICATIONS

<table>
<thead>
<tr>
<th>Item</th>
<th>Material</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. CENTER CONDUCTOR</td>
<td>SILVER PLATED COPPER WELD STEEL</td>
<td>0.037</td>
</tr>
<tr>
<td>B. DIELECTRIC:</td>
<td>SOLID PTFE</td>
<td>0.117</td>
</tr>
<tr>
<td>C. INNER BRAID</td>
<td>FLAT SILVER PLATED COPPER STRIP BRAID</td>
<td>0.127</td>
</tr>
<tr>
<td>D. INTERLAYER</td>
<td>ALUMINUM / POLYESTER FOIL</td>
<td>0.134</td>
</tr>
<tr>
<td>E. OUTER BRAID</td>
<td>SILVER PLATED COPPER WIRE</td>
<td>0.154</td>
</tr>
<tr>
<td>F. JACKET</td>
<td>BROWN TINT FEP / HIGH TEMPERATURE</td>
<td>0.195</td>
</tr>
</tbody>
</table>

**MAX LOSS**

![MAX LOSS Graph](image)

**MAX POWER**

![MAX POWER Graph](image)

**MECHANICAL SPECIFICATIONS:**

- CABLE MAX. DIAMETER: **0.200 INCHES**
- MINIMUM BEND RADIUS: **1.17 INCHES**
- TEMPERATURE RANGE: **-55 to +105° C**
**ELECTRICAL SPECIFICATIONS**

- **Impedance, Nominal:** 50 Ω
- **Capacitance Nominal:** 28.8 pf/FOOT
- **Velocity of Propagation, Nominal:** 70.5 %
- **Relative Shielding:** -100.0 dB MIN.
- **Insulation Resistance:** 1000 MΩ MIN.
- **Dielectric Withstanding Voltage:** 1500 VRMS MIN.
- **Electrical Delay, Nominal:** 1.44 ns/FOOT
- **Electrical Delay, Nominal:** 120 ps/INCH
- **F (IN GHz) ------------->** 1 2 4 6 12.4 18
- **Max. CW Watts --------->** 50 33 22 17.3 11.4 8.50
- **Phase Stability Deg:** 0.3 0.6 1.2 1.8 3.6 5.4
- **Loss Stability dB------>** 0.01 0.01 0.01 0.015 0.031 0.045

**Cable Formed and Straightened 90° on a 4” Radius**

**MECHANICAL SPECIFICATIONS:**

- **Cable Max. Diameter:** 0.222 INCHES
- **Minimum Bend Radius:** 1.17 INCHES
- **Temperature Range:** -55 to +85° C

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**Item** | **Material** | **Size**
---|---|---
A. Center Conductor | Stranded Silver Plated Copper Wire | 0.037
B. Dielectric | Solid PTFE | 0.117
C. Inner Braid | Flat Silver Plated Copper Strip | 0.127
D. Interlayer | Aluminum / Polyester Foil | 0.134
E. Outer Braid | Silver Plated Copper Wire | 0.154
F. Jacket | Black Polyurethane | 0.212
How to Order

1) Choose your product from the table below:

<table>
<thead>
<tr>
<th>Product</th>
<th>Cable Code</th>
<th>Jacket Type</th>
<th>Center Conductor</th>
<th>Max. Frequency</th>
<th>Max. Insertion Loss (dB p/ft.)</th>
<th>Return Loss @ Max Freq.</th>
</tr>
</thead>
<tbody>
<tr>
<td>WorkHorse®</td>
<td>504</td>
<td>FEP</td>
<td>Solid SPCW</td>
<td>26.5GHz</td>
<td>0.89</td>
<td>-22.0 dB</td>
</tr>
<tr>
<td>WorkHorse Plus®</td>
<td>524</td>
<td>Polyurethane</td>
<td>Stranded SPCW</td>
<td>18GHz</td>
<td>0.719</td>
<td>-20.0 dB</td>
</tr>
</tbody>
</table>

2) Choose your connector codes from the table below:

<table>
<thead>
<tr>
<th>Series:</th>
<th>BNC</th>
<th>TNC</th>
<th>Type N</th>
<th>7mm</th>
<th>SMA</th>
<th>3.5mm</th>
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</thead>
<tbody>
<tr>
<td>Max Freq. (GHz)</td>
<td>4</td>
<td>18</td>
<td>18</td>
<td>18</td>
<td>26.5</td>
<td>33</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CODERS</th>
<th>Plug</th>
<th>Right Angle Plug</th>
<th>Jack</th>
<th>Bulkhead Jack</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>24</td>
<td>-</td>
<td>18</td>
<td>-</td>
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<td></td>
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<td>74</td>
</tr>
<tr>
<td></td>
<td>-</td>
<td>-</td>
<td>22</td>
<td>-</td>
</tr>
</tbody>
</table>

3) Build your assembly part number:

**WorkHorse® Assemblies**

W H X XX - XX XX - XX XX - XX XX X

- **Length in Inches (i.e 036 for 36” or 120 for 120”)**
- **Connector B. Choose from the connector Codes Shown Above**
- **Connector A. Choose from the connector Codes Shown Above**
- **Frequency in GHz. Choose from “04”, “18” or “26.5” depending on the chosen connectors**
- **Enter “U” for Unarmored or “A” for Armored**

**WorkHorse Plus® Assemblies**

X - XX XX - 524 - WH XX X

- **Length in Inches or Feet (i.e 36 for 36” or 10 for 120”)**
- **Connector B. Choose from the connector codes Shown Above**
- **Connector A. Choose from the connector Codes Shown Above**
- **Enter “1” if measured in Inches or “2” if measured in Feet (for assemblies over 99”)**

All WorkHorse and WorkHorse Plus Cables are Manufactured ROHS Compliant.

Note:
Connector codes should be listed in increasing numerical sequence. Examples: WHU18-1836-036 and 1-1836-524-WH36