Super highly bendable robot cable

**OR super cable**

UL STYLE NO.21030 80°C 300 V

### Outline

- **Super bending performance**
  
  In order to greatly increase the bending performance, a newly developed special elastomer is used for the insulation. The excellent sliding performance, hardness, and toughness of this material realizes super bending performance which is one rank higher than that of a conventional high bending cable that uses fluorine-based insulation.

- **Conductor**
  
  The conductor uses a special copper alloy for improved bending resistance and twisting resistance.

- **Sheath**
  
  The sheath is made of polyurethane resin for improved wear resistance, mechanical toughness including resistance to exterior damage, and resistance to oil and chemicals. As a result, the cable is suitable for applications in the FA field where the working environmental conditions are severe.

- **Braided shield**
  
  A highly bendable type special shield material is used in order to improve the life of the shield. Also, this material is softer and more flexible than a general copper braided shield.

- **Standards**
  
  This cable uses a highly fire retardant polyurethane sheath, enabling it to be certified as conforming to the UL VW-1 fire retardant standard.

### Applications

Used for many applications including industrial robots and automated machine tools, which require high bending resistance, twisting resistance, and sliding resistance.

### Construction and order procedure

Core Numbers/Pair Numbers are requested upon order.

<table>
<thead>
<tr>
<th>Core numbers/Pair numbers</th>
<th>Conductor</th>
<th>Shield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.2.3.4.5…10.20…</td>
<td>AWG#25.#23.#21…</td>
<td>Yes/No</td>
</tr>
</tbody>
</table>

**Remark:**

The O.D. of the various types of cables that have a braided shield is 0.6mm larger than the corresponding types of cable that do not have a braided shield. If you wish to purchase cables of types other than those shown here, please contact our marketing department.

### Bending performance

Comparison of durability of OKI FA cable using a bending test

- **OKI FA Series**
  
  PVC insulated PVC sheathed bending cable "ORV Series"

- **Fluorine insulated PVC sheathed high bending cable "ORF Series"**

- **Special elastomer insulated polyurethane sheath ultra-high bending cable "OR super Series"**

<table>
<thead>
<tr>
<th>Bending angle</th>
<th>OKI FA Series</th>
<th>PVC insulated PVC sheathed bending cable &quot;ORV Series&quot;</th>
<th>Fluorine insulated PVC sheathed high bending cable &quot;ORF Series&quot;</th>
<th>Special elastomer insulated polyurethane sheath ultra-high bending cable &quot;OR super Series&quot;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low</td>
<td>-1</td>
<td>-5</td>
<td>-50</td>
<td>-50</td>
</tr>
<tr>
<td>High</td>
<td>-50</td>
<td>-50</td>
<td>-50</td>
<td>-50</td>
</tr>
</tbody>
</table>

Bending conditions:

- Bending R: 20 mm
- Bending angle: 180°
- Bending speed: 10 times/minute
- Bending load: 4.9N (500g)

Count: One back and forth cycle is defined as one time.