Cable Ties and Fixings
Cable Ties Outside Serrated

Cable Ties for high temperature applications up to +240 °C

PEEK Ties have been designed for the use in hazardous environment. Their suitability for high temperature applications makes them ideal for use in the drilling industry, railway, offshore or automotive industry. The excellent chemical and radium ray resistance is predestined for applications in medical engineering, chemical industry and power stations. Within the aerospace industry, PEEK ties are suitable due to their good ratio weight to tensile strength. Because of this combination of different properties, PEEK ties can replace metal solutions.

Features and benefits
- For high temperature applications from -55 °C up to +240 °C
- Outside serrated cable tie with smooth surface to the bundle
- Close fit to the cable bundle due to the deepening head shape
- Easy insertion combined with high tensile strength
- Takes up less space due to curved head design
- Combines the performance of a metal tie with the ease of use of a polyamide cable tie
- Manual and/or pneumatic tools available for greater process reliability

**PEEK Series**

The contoured head takes up less space, gives a low insertion force and offers high strength.

PEEK Ties, outside serrated

<table>
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<tr>
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</thead>
<tbody>
<tr>
<td>PT2A</td>
<td>3.4</td>
<td>145.0</td>
<td>4.0</td>
<td>35.0</td>
<td>Beige (BGE)</td>
<td>PEEK</td>
<td>100 pcs.</td>
<td>6-8</td>
<td>118-00032</td>
</tr>
<tr>
<td>PT3B</td>
<td>4.7</td>
<td>250.0</td>
<td>4.0</td>
<td>65.0</td>
<td>Beige (BGE)</td>
<td>PEEK</td>
<td>100 pcs.</td>
<td>6-8</td>
<td>118-00116</td>
</tr>
</tbody>
</table>

All dimensions in mm. Subject to technical changes. Minimum Order Quantity (MOQ) may differ from package content. Other packaging options may also be available.

PEEK Ties, inside serrated

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>PT220</td>
<td>4.7</td>
<td>220.0</td>
<td>8.0</td>
<td>56.0</td>
<td>PEEK</td>
<td>Beige (BGE)</td>
<td>100 pcs.</td>
<td>8,12,15</td>
<td>111-01235</td>
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</tbody>
</table>

All dimensions in mm. Subject to technical changes. Minimum Order Quantity (MOQ) may differ from package content. Other packaging options may also be available.

Recommended Tools

<table>
<thead>
<tr>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
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<th>9</th>
<th>10</th>
<th>11</th>
<th>12</th>
<th>15</th>
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<tbody>
<tr>
<td>MK20</td>
<td>MK21</td>
<td>MK3SP</td>
<td>MK3NSP2</td>
<td>EVO7</td>
<td>MK7HT</td>
<td>MK7P</td>
<td>MK6</td>
<td>EVO9</td>
<td>EVO9HT</td>
<td>MK9P</td>
<td>MK9ST</td>
</tr>
<tr>
<td>551</td>
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<td>552</td>
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</table>

For more information on toolings please refer to the Application Tooling chapter.

For product specific approvals and specifications please refer to the Appendix.

Further information at www.HellermannTyton.com/fixings
### Material Specification Overview

<table>
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<tr>
<th>MATERIAL</th>
<th>Material Shortcut</th>
<th>Operating Temperature</th>
<th>Colour**</th>
<th>Flammability</th>
<th>Material Properties*</th>
<th>Material Specifications</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aluminium-alloy</td>
<td>AL</td>
<td>-40 °C to +180 °C</td>
<td>Natural (NA)</td>
<td>• Corrosion resistant • Antimagnetic</td>
<td></td>
<td>RoHS</td>
</tr>
<tr>
<td>Chloroprene</td>
<td>CR</td>
<td>-20 °C to +80 °C</td>
<td>Black (BK)</td>
<td>• Weather-resistant • High yield strength</td>
<td></td>
<td>RoHS</td>
</tr>
<tr>
<td>Ethylene Tetrafluoroethylene (Tefzel®)</td>
<td>E/TFE</td>
<td>-80 °C to +170 °C</td>
<td>Blue (BU)</td>
<td>UL 94 V0</td>
<td>• Resistance to radioactivity • UV-resistant, not moisture sensitive • Good chemical resistance to: acids, bases, oxidizing agents</td>
<td>RoHS</td>
</tr>
<tr>
<td>Polyacetal</td>
<td>POM</td>
<td>-40 °C to +90 °C, (+110 °C, 500 h)</td>
<td>Natural (NA)</td>
<td>UL 94 HB</td>
<td>• Limited brittleness sensitivity • Flexible at low temperature • Not moisture sensitive • Robust on impacts</td>
<td>RoHS</td>
</tr>
<tr>
<td>Polyamide 11</td>
<td>PA11</td>
<td>-40 °C to +85 °C, (+105 °C, 500 h)</td>
<td>Black (BK)</td>
<td>UL 94 HB</td>
<td>• Good chemical resistance to: acids, bases, oxidizing agents • UV-resistant</td>
<td>HF, RoHS</td>
</tr>
<tr>
<td>Polyamide 12</td>
<td>PA12</td>
<td>-40 °C to +85 °C, (+105 °C, 500 h)</td>
<td>Black (BK)</td>
<td>UL 94 HB</td>
<td></td>
<td>HF, RoHS</td>
</tr>
<tr>
<td>Polyamide 4.6</td>
<td>PA46</td>
<td>-40 °C to +150 °C (5000 h), +195 °C (500 h)</td>
<td>Natural (NA), Grey (GY)</td>
<td>UL 94 V2</td>
<td>• Resistance to high temperatures • Very moisture sensitive • Low smoke sensitivity</td>
<td>HF, LFH, RoHS</td>
</tr>
<tr>
<td>Polyamide 6</td>
<td>PA6</td>
<td>-40 °C to +80 °C</td>
<td>Black (BK)</td>
<td>UL 94 V2</td>
<td>• High yield strength</td>
<td>RoHS</td>
</tr>
<tr>
<td>Polyamide 6, high impact modified</td>
<td>PA6HIR</td>
<td>-40 °C to +80 °C</td>
<td>Black (BK)</td>
<td>UL 94 HB</td>
<td>• Limited brittleness sensitivity • Higher flexibility at low temperature</td>
<td>RoHS</td>
</tr>
<tr>
<td>Polyamide 6.6</td>
<td>PA66</td>
<td>-40 °C to +85 °C, (+105 °C, 500 h)</td>
<td>Black (BK), Natural (NA)</td>
<td>UL 94 V2</td>
<td>• High yield strength</td>
<td>HF, RoHS</td>
</tr>
<tr>
<td>Polyamide 6.6, glass-fibre reinforced</td>
<td>PA66GF13, PA66GF15</td>
<td>-40 °C to +105 °C</td>
<td>Black (BK)</td>
<td>UL 94 HB</td>
<td>• Good resistance to: lubricants, vehicle fuel, salt water and a lot of solvent</td>
<td>HF, RoHS</td>
</tr>
<tr>
<td>Polyamide 6.6, heat and UV stabilised</td>
<td>PA66HSW</td>
<td>-40 °C to +105 °C</td>
<td>Black (BK)</td>
<td>UL 94 V2</td>
<td>• High yield strength • Modified elevated max. temperature • UV-resistant</td>
<td>HF, RoHS</td>
</tr>
<tr>
<td>Polyamide 6.6, heat stabilised</td>
<td>PA66HS</td>
<td>-40 °C to +105 °C</td>
<td>Black (BK), Natural (NA)</td>
<td>UL 94 V2</td>
<td>• High yield strength • Modified elevated max. temperature</td>
<td>HF, RoHS</td>
</tr>
<tr>
<td>Polyamide 6.6, high impact modified</td>
<td>PA66HIR</td>
<td>-40 °C to +80 °C, (+105 °C, 500 h)</td>
<td>Black (BK)</td>
<td>UL 94 HB</td>
<td>• Limited brittleness sensitivity • Higher flexibility at low temperature</td>
<td>RoHS</td>
</tr>
<tr>
<td>Polyamide 6.6, high impact modified, heat and UV stabilised</td>
<td>PA66HIRHSW</td>
<td>-40 °C to +110 °C</td>
<td>Black (BK)</td>
<td>UL 94 HB</td>
<td>• Limited brittleness sensitivity • Higher flexibility at low temperature • Modified elevated max. temperature • High yield strength, UV-resistant</td>
<td>RoHS</td>
</tr>
<tr>
<td>Polyamide 6.6, high impact modified, heat stabilised</td>
<td>PA66HIRHS</td>
<td>-40 °C to +105 °C</td>
<td>Black (BK)</td>
<td>UL 94 HB</td>
<td>• Limited brittleness sensitivity • Higher flexibility at low temperature • Modified elevated max. temperature</td>
<td>RoHS</td>
</tr>
<tr>
<td>Polyamide 6.6, high impact modified, ScanBlack</td>
<td>PA66HIR(S)</td>
<td>-40 °C to +80 °C, (+105 °C, 500 h)</td>
<td>Black (BK)</td>
<td>UL 94 HB</td>
<td>• Limited brittleness sensitivity • Higher flexibility at low temperature</td>
<td>RoHS</td>
</tr>
<tr>
<td>Polyamide 6.6, UV-resistant</td>
<td>PA66W</td>
<td>-40 °C to +85 °C, (+105 °C, 500 h)</td>
<td>Black (BK)</td>
<td>UL 94 V2</td>
<td>• High yield strength • UV-resistant</td>
<td>HF, RoHS</td>
</tr>
</tbody>
</table>
### Cable Ties and Fixings
#### Material Information

<table>
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<tr>
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<th>Material Specifications</th>
</tr>
</thead>
</table>
| Polyamide 6.6, with metal particles | PA66MP | -40 °C to +85 °C, (+105 °C, 500 h) | Blue (BU) | UL 94 HB | • High yield strength  
• Metal and X-Ray detectable | HF  
RoHS |
| Polyamide 6.6, with metal particles | PA66MP+ | -40 °C to +85 °C | Blue (BU) | not flame retardant | • High yield strength  
• Metal and x-ray detectable | HF  
RoHS |
| Polyamide 6.6 V0 | PA66V0 | -40 °C to +85 °C | White (WH) | UL 94 V0 | • Low yield strength  
• Low smoke emission | HF  
LFH  
RoHS |
| Polyester | SP | -50 °C to +150 °C | Black (BK) | halogen free | • UV-resistant  
• Good chemical resistance to:  
most acids, alkalis and oils | HF  
LFH  
RoHS |
| Polyetheretherketone | PEEK | -55 °C to +240 °C | Beige (BGE) | UL 94 V0 | • Resistance to radioactivity  
• Not moisture sensitive  
• Good chemical resistance to:  
acids, bases, oxidizing agents | HF  
LFH  
RoHS |
| Polyethylene | PE | -40 °C to +50 °C | Black (BK), Grey (GY) | UL 94 HB | • Low moisture absorption  
• Good chemical oil resistance to:  
most acids, alcohol and oils | HF  
RoHS |
| Polyolefin | PO | -40 °C to +90 °C | Black (BK) | UL 94 V0 | • Low smoke emissions | HF  
LFH  
RoHS |
| Polypropylene | PP | -40 °C to +115 °C | Black (BK), Natural (NA) | UL 94 HB | • Floats in water  
• Moderate yield strength  
• Good chemical resistance to: organic acids | HF  
RoHS |
| Polypropylene, Ethylene-Propylene-Dien-Terpolymer-rubber free of Nitrosamine | PP, EPDM | -20 °C to +95 °C | Black (BK), Natural (NA) | UL 94 HB | • Good resistance to high temperatures  
• Good chemical and abrasion resistance | HF  
RoHS |
| Polypropylene with metal particles | PPMP | -40 °C to +115 °C | Blue (BU) | UL 94 HB | • Metal and X-Ray detectable  
• Heat resistant  
• Moderate yield strength  
• Good chemical resistance | HF  
RoHS |
| Polypropylene with metal particles | PPMP+ | -40 °C to +85 °C | Blue (BU) | not flame retardant | • High yield strength  
• Metal and x-ray detectable | HF  
RoHS |
| Polyvinylchloride | PVC | -10 °C to +70 °C | Black (BK), Natural (NA) | UL 94 V0 | • Low moisture absorption  
• Good chemical resistance to:  
acids, ethanol and oil | RoHS |
| Stainless Steel | SS304, SS316 | -80 °C to +538 °C | Natural (NA) | non-burning | • Corrosion resistant  
• Antimagnetic  
• Weather resistant  
• Outstanding chemical resistance | HF  
LFH  
RoHS |
| Thermoplastic Polyurethane | TPU | -40 °C to +85 °C | Black (BK) | UL 94 HB | • High elastic  
• Good chemical resistance to: acids, bases and oxidizing agents | HF  
RoHS |

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HF = Halogenfree  
LFH = Limited Fire Hazard  
RoHS = Restriction of Hazardous Substances  

**More colours on request.**  

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**Note:**  
- Tefzel® is a registered trademark of DuPont. General linguistic usage for cable ties made from raw material E/TFE is Tefzel®-Tie. In addition to Tefzel® from DuPont HellermannTyton is also using equivalent E/TFE raw material from other suppliers.  
- These details are only rough guide values. They should not be regarded as a material specification and are no substitute for a suitability test. Please see our datasheets for further details.