



## Fixing elements for tubes and harnesses

### with arrowhead

The increasing complexity of electronic and electrical components leads into less installation space. For this demand we are offering a selection of fixing elements guiding tubes and harnesses.

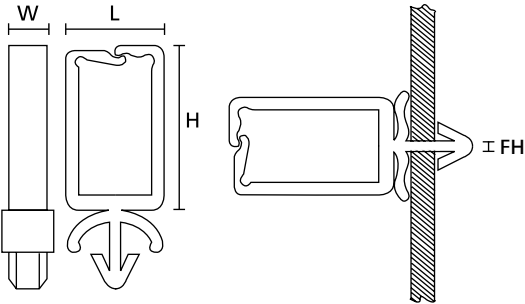
#### Features and benefits

- Accept single or multiple wires
- Simply push wires into place
- Self-locking to prevent accidental removal
- Arrowhead design for simple and secure installation
- Access to panel only needed from one side
- HC2x7.3AH13-PV: 360 degree rotatable, allows movement of wires if needed
- MWC12: Allows a large variety of wires to be routed



WPC – Wire Push In Clip.

Material information on page 22.



WPC Wire Push In Clip (side view, front view, in application)

| TYPE                  | Drawing | Hole Ø (FH) | Panel Thickness | Width (W) | Length (L) | Height (H) | Material | Colour     | Article-No. |
|-----------------------|---------|-------------|-----------------|-----------|------------|------------|----------|------------|-------------|
| HC140SFT62x122        |         | 6.2 x 12.2  | 0.5 - 3.5       | 14.0      | 30.0       | 26.0       | PA6HIR   | Black (BK) | 151-00423   |
| MWC12                 |         | 4.7 - 5.2   | 0.7 - 2.6       | 5.5       | 25.6       | 36.5       | PA66     | Black (BK) | 151-02204   |
| Universal Clip sealed |         | 6.5         | 0.7 - 1.8       | 40.0      | 30.4       | 26.3       | PA66HS   | Black (BK) | 151-00630   |

All dimensions in mm. Subject to technical changes.



Material Specification Overview

| MATERIAL                                                          | Material<br>Shortcut | Operating<br>Temperature                                   | Colour**                    | Flammability | Material Properties*                                                                                                                                                                                                                                  | Material<br>Specifications |
|-------------------------------------------------------------------|----------------------|------------------------------------------------------------|-----------------------------|--------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|
| Aluminium alloy                                                   | AL                   | -40 °C to +180 °C                                          | Natural (NA)                |              | <ul style="list-style-type: none"><li>• Corrosion resistant</li><li>• Antimagnetic</li></ul>                                                                                                                                                          | RoHS                       |
| Chloroprene Rubber                                                | CR                   | -20 °C to +80 °C                                           | Black (BK)                  |              | <ul style="list-style-type: none"><li>• Weather resistant</li><li>• High yield strength</li></ul>                                                                                                                                                     | RoHS                       |
| Ethylene<br>Tetrafluoroethylene<br>(Tefzel®)                      | E/TFE                | -80 °C to +170 °C                                          | Blue (BU)                   | UL 94 V0     | <ul style="list-style-type: none"><li>• Resistance to radioactivity</li><li>• UV resistant, not moisture sensitive</li><li>• Good chemical resistance to acids, bases, oxidizing agents</li></ul>                                                     | RoHS                       |
| Polyacetal                                                        | POM                  | -40 °C to +90 °C,<br>(+110 °C, 500 h)                      | Natural (NA)                | UL 94 HB     | <ul style="list-style-type: none"><li>• Limited brittleness sensitivity</li><li>• Flexible at low temperature</li><li>• Not moisture sensitive</li><li>• Robust on impact</li></ul>                                                                   | RoHS                       |
| Polyamide 11                                                      | PA11                 | -40 °C to +85 °C,<br>(+105 °C, 500 h)                      | Black (BK)                  | UL 94 HB     | <ul style="list-style-type: none"><li>• Bio-plastic, derived from vegetable oil</li><li>• Strong impact resistance at low temperature</li><li>• Very low moisture absorption</li><li>• Weather resistant</li><li>• Good chemical resistance</li></ul> | HF<br>RoHS                 |
| Polyamide 12                                                      | PA12                 | -40 °C to +85 °C,<br>(+105 °C, 500 h)                      | Black (BK)                  | UL 94 HB     | <ul style="list-style-type: none"><li>• Good chemical resistance to acids, bases, oxidizing agents</li><li>• UV resistant</li></ul>                                                                                                                   | HF<br>RoHS                 |
| Polyamide 4.6                                                     | PA46                 | -40 °C to +130 °C,<br>(+150 °C, 5000 h;<br>+195 °C, 500 h) | Natural (NA),<br>Grey (GY)  | UL 94 V2     | <ul style="list-style-type: none"><li>• Resistance to high temperatures</li><li>• Very moisture sensitive</li><li>• Low smoke sensitivity</li></ul>                                                                                                   | HF<br>LFH<br>RoHS          |
| Polyamide 6                                                       | PA6                  | -40 °C to +80 °C                                           | Black (BK)                  | UL 94 V2     | <ul style="list-style-type: none"><li>• High yield strength</li></ul>                                                                                                                                                                                 | RoHS                       |
| Polyamide 6,<br>high impact modified                              | PA6HIR               | -40 °C to +80 °C                                           | Black (BK)                  | UL 94 HB     | <ul style="list-style-type: none"><li>• Limited brittleness sensitivity</li><li>• Higher flexibility at low temperature</li></ul>                                                                                                                     | RoHS                       |
| Polyamide 6.6                                                     | PA66                 | -40 °C to +85 °C,<br>(+105 °C, 500 h)                      | Black (BK),<br>Natural (NA) | UL 94 V2     | <ul style="list-style-type: none"><li>• High yield strength</li></ul>                                                                                                                                                                                 | HF<br>RoHS                 |
| Polyamide 6.6,<br>glass-fibre reinforced                          | PA66GF13             | -40 °C to +105 °C                                          | Black (BK)                  | UL 94 HB     | <ul style="list-style-type: none"><li>• Good resistance to lubricants, fuels, salt water and solvents</li></ul>                                                                                                                                       | HF<br>RoHS                 |
| Polyamide 6.6,<br>heat and UV-stabilised                          | PA66HSUV             | -40 °C to +105 °C                                          | Black (BK)                  | UL 94 V2     | <ul style="list-style-type: none"><li>• High yield strength</li><li>• Modified elevated maximum temperature</li><li>• UV resistant</li></ul>                                                                                                          | HF<br>RoHS                 |
| Polyamide 6.6,<br>heat stabilised                                 | PA66HS               | -40 °C to +105 °C                                          | Black (BK),<br>Natural (NA) | UL 94 V2     | <ul style="list-style-type: none"><li>• High yield strength</li><li>• Modified elevated maximum temperature</li></ul>                                                                                                                                 | HF<br>RoHS                 |
| Polyamide 6.6,<br>high impact modified                            | PA66HIR              | -40 °C to +80 °C,<br>(+105 °C, 500 h)                      | Black (BK)                  | UL 94 HB     | <ul style="list-style-type: none"><li>• Limited brittleness sensitivity</li><li>• Higher flexibility at low temperature</li></ul>                                                                                                                     | RoHS                       |
| Polyamide 6.6,<br>high impact modified,<br>heat and UV-stabilised | PA66HIRHSUV          | -40 °C to +110 °C                                          | Black (BK)                  | UL 94 HB     | <ul style="list-style-type: none"><li>• Limited brittleness sensitivity</li><li>• Higher flexibility at low temperature</li><li>• Modified elevated maximum temperature</li><li>• High yield strength, UV resistant</li></ul>                         | RoHS                       |
| Polyamide 6.6,<br>high impact modified,<br>heat stabilised        | PA66HIRHS            | -40 °C to +105 °C                                          | Black (BK)                  | UL 94 HB     | <ul style="list-style-type: none"><li>• Limited brittleness sensitivity</li><li>• Higher flexibility at low temperature</li><li>• Modified elevated maximum temperature</li></ul>                                                                     | RoHS                       |
| Polyamide 6.6,<br>high impact modified,<br>scan black)            | PA66HIR(S)           | -40 °C to +80 °C,<br>(+105 °C, 500 h)                      | Black (BK)                  | UL 94 HB     | <ul style="list-style-type: none"><li>• Limited brittleness sensitivity</li><li>• Higher flexibility at low temperature</li></ul>                                                                                                                     | HF<br>RoHS                 |
| Polyamide 6.6,<br>UV-resistant                                    | PA66W                | -40 °C to +85 °C,<br>(+105 °C, 500 h)                      | Black (BK)                  | UL 94 V2     | <ul style="list-style-type: none"><li>• High yield strength</li><li>• UV resistant</li></ul>                                                                                                                                                          | HF<br>RoHS                 |

| MATERIAL                                                                                        | Material Shortcut | Operating Temperature                 | Colour**                    | Flammability        | Material Properties*                                                                                                                                                                                                               | Material Specifications                |
|-------------------------------------------------------------------------------------------------|-------------------|---------------------------------------|-----------------------------|---------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------|
| <b>Polyamide 6.6,</b><br>with metal particles                                                   | PA66MP            | -40 °C to +85 °C,<br>(+105 °C, 500 h) | Blue (BU)                   | UL 94 HB            | <ul style="list-style-type: none"> <li>High yield strength</li> <li>Metal and X-Ray detectable</li> </ul>                                                                                                                          | <b>HF</b><br><b>RoHS</b>               |
| <b>Polyamide 6.6,</b><br>with metal particles                                                   | PA66MP+           | -40 °C to +85 °C                      | Blue (BU)                   | not flame-retardant | <ul style="list-style-type: none"> <li>High yield strength</li> <li>Metal and X-Ray detectable</li> </ul>                                                                                                                          | <b>HF</b><br><b>RoHS</b>               |
| <b>Polyamide 6.6 V0</b>                                                                         | PA66V0            | -40 °C to +85 °C                      | White (WH)                  | UL 94 V0            | <ul style="list-style-type: none"> <li>High yield strength</li> <li>Low smoke emission</li> </ul>                                                                                                                                  | <b>HF</b><br><b>LFH</b><br><b>RoHS</b> |
| <b>Polyester</b>                                                                                | SP                | -50 °C to +150 °C                     | Black (BK)                  |                     | <ul style="list-style-type: none"> <li>UV resistant</li> <li>Good chemical resistance to most acids, bases and oils</li> </ul>                                                                                                     | <b>HF</b><br><b>LFH</b><br><b>RoHS</b> |
| <b>Polyetheretherketone</b>                                                                     | PEEK              | -55 °C to +240 °C                     | Beige (BGE)                 | UL 94 V2            | <ul style="list-style-type: none"> <li>Resistance to radioactivity</li> <li>Not moisture sensitive</li> <li>Good chemical resistance to acids, bases, oxidising agents</li> </ul>                                                  | <b>HF</b><br><b>LFH</b><br><b>RoHS</b> |
| <b>Polyethylene</b>                                                                             | PE                | -40 °C to +50 °C                      | Black (BK),<br>Grey (GY)    | UL 94 HB            | <ul style="list-style-type: none"> <li>Low moisture absorption</li> <li>Good chemical resistance to most acids, bases, alcohol, oils</li> </ul>                                                                                    | <b>HF</b><br><b>RoHS</b>               |
| <b>Polyolefin</b>                                                                               | PO                | -40 °C to +90 °C                      | Black (BK)                  | UL 94 V0            | <ul style="list-style-type: none"> <li>Low smoke emissions</li> </ul>                                                                                                                                                              | <b>HF</b><br><b>LFH</b><br><b>RoHS</b> |
| <b>Polypropylene</b>                                                                            | PP                | -40 °C to +115 °C                     | Black (BK),<br>Natural (NA) | UL 94 HB            | <ul style="list-style-type: none"> <li>Floats in water</li> <li>Moderate yield strength</li> <li>Good chemical resistance to acids, bases and solvents</li> </ul>                                                                  | <b>HF</b><br><b>RoHS</b>               |
| <b>Polypropylene,<br/>Ethylene Propylene<br/>Diene Terpolymer</b><br>rubber free of Nitrosamine | PP, EPDM          | -20 °C to +95 °C                      | Black (BK)                  | UL 94 HB            | <ul style="list-style-type: none"> <li>Good resistance to high temperature</li> <li>Good chemical and abrasion resistance</li> </ul>                                                                                               | <b>HF</b><br><b>RoHS</b>               |
| <b>Polypropylene</b><br>with metal particles                                                    | PPMP              | -40 °C to +115 °C                     | Blue (BU)                   | UL 94 HB            | <ul style="list-style-type: none"> <li>Metal and X-Ray detectable</li> <li>Heat resistant</li> <li>Moderate yield strength</li> <li>Good chemical resistance</li> </ul>                                                            | <b>RoHS</b>                            |
| <b>Polypropylene</b><br>with metal particles                                                    | PPMP+             | -40 °C to +85 °C                      | Blue (BU)                   | not flame-retardant | <ul style="list-style-type: none"> <li>High yield strength</li> <li>Metal and X-Ray detectable</li> </ul>                                                                                                                          | <b>HF</b><br><b>RoHS</b>               |
| <b>Polyvinylchloride</b>                                                                        | PVC               | -10 °C to +70 °C                      | Black (BK),<br>Natural (NA) | UL 94 V0            | <ul style="list-style-type: none"> <li>Low moisture absorption</li> <li>Good chemical resistance to acids, bases, salts, alcohol, oils</li> </ul>                                                                                  | <b>RoHS</b>                            |
| <b>Stainless Steel,<br/>Stainless Steel</b>                                                     | SS304, SS316      | -80 °C to +538 °C                     | Natural (NA)                | non-burning         | <ul style="list-style-type: none"> <li>Corrosion resistant</li> <li>Antimagnetic</li> <li>Weather resistant</li> <li>Chemical resistance</li> <li>SS316 also resistant against seawater, salt spray and anorganic acids</li> </ul> | <b>HF</b><br><b>LFH</b><br><b>RoHS</b> |
| <b>Thermoplastic<br/>Polyurethane</b>                                                           | TPU               | -40 °C to +85 °C                      | Black (BK)                  | UL 94 HB            | <ul style="list-style-type: none"> <li>High elasticity</li> <li>Good chemical resistance to acids, bases and oxidising agents</li> </ul>                                                                                           | <b>HF</b><br><b>RoHS</b>               |

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 also uses equivalent E/TFE raw material from other suppliers.

\*These details are only guide values. They should not be regarded as an exhaustive material specification and are no substitute for suitability tests. Please see our datasheets for further details.

**HF** = Halogen Free

**LFH** = Limited Fire Hazard

**RoHS** = Restriction of Hazardous Substances

\*\*Further colours available on request.



**N** = Minimum Loop Tensile Strength  
for Cable Ties (newton)

**For more material information  
please visit our website.**