



Cable Ties for higher impact resistant Polyamide 6.6 ScanBlack

T-Series in PA66HIR(S) black

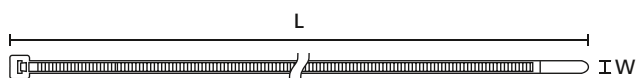
Impact resistance T-Series cable ties are manufactured from PA66HIR(S) – an impact modified material formulation. This high performance material offers limited brittleness sensitivity and a higher flexibility even at low temperatures. PA66HIR(S) cable ties meet increasing requirements like in the chemical, medical and/or automotive industry.

Features and benefits

- Impact resistant cable tie in black colour
- For bundling and securing cables, pipes and hoses
- Available in different sizes
- Higher flexibility especially in cold environments
- Limited brittleness sensitivity



Impact resistant T-Series cable tie (PA66HIR(S)).



T-Series



Material specification please see page 26.

| TYPE | Width (W) | Length (L) | Bundle Ø max. | N | Material | Colour | Pack Cont. | Tools | Article-No. |
|----------|-----------|------------|---------------|-----|------------|------------|------------|--------|-------------|
| T50R | 4.6 | 200.0 | 50.0 | 225 | PA66HIR(S) | Black (BK) | 100 pcs. | 2-10 | 111-04890 |
| T50I | 4.6 | 300.0 | 85.0 | 225 | PA66HIR(S) | Black (BK) | 100 pcs. | 2-10 | 111-00222 |
| T50L | 4.6 | 390.0 | 110.0 | 225 | PA66HIR(S) | Black (BK) | 100 pcs. | 2-10 | 111-05441 |
| T120I | 7.6 | 300.0 | 80.0 | 535 | PA66HIR(S) | Black (BK) | 100 pcs. | 3;9-12 | 111-12203 |
| T120R(E) | 7.6 | 387.0 | 100.0 | 535 | PA66HIR(S) | Black (BK) | 100 pcs. | 3;9-12 | 111-12032 |
| T120L | 7.6 | 760.0 | 225.0 | 535 | PA66HIR(S) | Black (BK) | 50 pcs. | 3;9-12 | 111-12402 |

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 | | | | | | | | | | | |
|-------------------|------|------|-------|----------|------|-------|------|-----|------|--------|------|
| | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| | MK20 | MK21 | MK3SP | MK3PNSP2 | EVO7 | MK7HT | MK7P | MK6 | EVO9 | EVO9HT | MK9P |
| | 551 | 551 | 552 | 552 | 554 | 555 | 556 | 557 | 554 | 554 | 558 |

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



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

Material Specification Overview

| MATERIAL | Material Shortcut | Operating Temperature | Colour** | Flammability | Material Properties* | Material Specifications |
|---|--------------------|---|--------------------------|--------------|---|-------------------------|
| Aluminium-alloy | AL | -40 °C to +180 °C | Natural (NA) | | <ul style="list-style-type: none"> Corrosion resistant Antimagnetic | RoHS |
| Chloroprene | CR | -20 °C to +80 °C | Black (BK) | | <ul style="list-style-type: none"> Weather-resistant High yield strength | RoHS |
| Ethylene Tetrafluoroethylene (Tefzel®) | E/TFE | -80 °C to +170 °C | Blue (BU) | UL 94 V0 | <ul style="list-style-type: none"> Resistance to radioactivity UV-resistant, not moisture sensitive Good chemical resistance to: acids, bases, oxidizing agents | RoHS |
| Polyacetal | POM | -40 °C to +90 °C, (+110 °C, 500 h) | Natural (NA) | UL 94 HB | <ul style="list-style-type: none"> Limited brittleness sensitivity Flexible at low temperature Not moisture sensitive Robust on impacts | RoHS |
| Polyamide 11 | PA11 | -40 °C to +85 °C, (+105 °C, 500 h) | Black (BK) | UL 94 HB | <ul style="list-style-type: none"> Bio-plastic, derived from vegetable oil Strong impact resistance at low temperature Very low moisture absorption Weather-resistant Good chemical resistance | HF RoHS |
| Polyamide 12 | PA12 | -40 °C to +85 °C, (+105 °C, 500 h) | Black (BK) | UL 94 HB | <ul style="list-style-type: none"> Good chemical resistance to: acids, bases, oxidizing agents UV-resistant | HF RoHS |
| Polyamide 4.6 | PA46 | -40 °C to +150 °C (5000 h), +195 °C (500 h) | Natural (NA), Grey (GY) | UL 94 V2 | <ul style="list-style-type: none"> Resistance to high temperatures Very moisture sensitive Low smoke sensitiv | HF LFH RoHS |
| Polyamide 6 | PA6 | -40 °C to +80 °C | Black (BK) | UL 94 V2 | <ul style="list-style-type: none"> High yield strength | RoHS |
| Polyamide 6, high impact modified | PA6HIR | -40 °C to +80 °C | Black (BK) | UL 94 HB | <ul style="list-style-type: none"> Limited brittleness sensitivity Higher flexibility at low temperature | RoHS |
| Polyamide 6.6 | PA66 | -40 °C to +85 °C, (+105 °C, 500 h) | Black (BK), Natural (NA) | UL 94 V2 | <ul style="list-style-type: none"> High yield strength | HF RoHS |
| Polyamide 6.6, glass-fibre reinforced | PA66GF13, PA66GF15 | -40 °C to +105 °C | Black (BK) | UL 94 HB | <ul style="list-style-type: none"> Good resistance to: lubricants, vehicle fuel, salt water and a lot of solvent | HF RoHS |
| Polyamide 6.6, heat and UV stabilised | PA66HSW | -40 °C to +105 °C | Black (BK) | UL 94 V2 | <ul style="list-style-type: none"> High yield strength Modified elevated max. temperature UV-resistant | HF RoHS |
| Polyamide 6.6, heat stabilised | PA66HS | -40 °C to +105 °C | Black (BK), Natural (NA) | UL 94 V2 | <ul style="list-style-type: none"> High yield strength Modified elevated max. temperature | HF RoHS |
| Polyamide 6.6, high impact modified | PA66HIR | -40 °C to +80 °C, (+105 °C, 500 h) | Black (BK) | UL 94 HB | <ul style="list-style-type: none"> Limited brittleness sensitivity Higher flexibility at low temperature | RoHS |
| Polyamide 6.6, high impact modified, heat and UV stabilised | PA66HIRHSW | -40 °C to +110 °C | Black (BK) | UL 94 HB | <ul style="list-style-type: none"> Limited brittleness sensitivity Higher flexibility at low temperature Modified elevated max. temperature High yield strength, UV-resistant | RoHS |
| Polyamide 6.6, high impact modified, heat stabilised | PA66HIRHS | -40 °C to +105 °C | Black (BK) | UL 94 HB | <ul style="list-style-type: none"> Limited brittleness sensitivity Higher flexibility at low temperature Modified elevated max. temperature | RoHS |
| Polyamide 6.6, high impact modified, ScanBlack | PA66HIR(S) | -40 °C to +80 °C, (+105 °C, 500 h) | Black (BK) | UL 94 HB | <ul style="list-style-type: none"> Limited brittleness sensitivity Higher flexibility at low temperature | RoHS |
| Polyamide 6.6, UV-resistant | PA66W | -40 °C to +85 °C, (+105 °C, 500 h) | Black (BK) | UL 94 V2 | <ul style="list-style-type: none"> High yield strength UV-resistant | HF RoHS |

| MATERIAL | Material Shortcut | Operating Temperature | Colour** | Flammability | Material Properties* | Material Specifications |
|---|-------------------|---------------------------------------|-----------------------------|---------------------|--|--|
| Polyamide 6.6, with metal particles | PA66MP | -40 °C to +85 °C, (+105 °C, 500 h) | Blue (BU) | UL 94 HB | <ul style="list-style-type: none"> 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 | <ul style="list-style-type: none"> 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 | <ul style="list-style-type: none"> High yield strength Low smoke emission | HF LFH RoHS |
| Polyester | SP | -50 °C to +150 °C | Black (BK) | halogen free | <ul style="list-style-type: none"> 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 | <ul style="list-style-type: none"> 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 | <ul style="list-style-type: none"> Low moisture absorption Good chemical resistance to: most acids, alcohol and oils | HF RoHS |
| Polyolefin | PO | -40 °C to +90 °C | Black (BK) | UL 94 V0 | <ul style="list-style-type: none"> Low smoke emissions | HF LFH RoHS |
| Polypropylene | PP | -40 °C to +115 °C | Black (BK), Natural (NA) | UL 94 HB | <ul style="list-style-type: none"> Floats in water Moderate yield strength Good chemical resistance to: organic acids | HF RoHS |
| Polypropylene, Ethylene-Propylene- Dien-Terpolymere- rubber free of Nitrosamine | PP, EPDM | -20 °C to +95 °C | Black (BK) | UL 94 HB | <ul style="list-style-type: none"> 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 | <ul style="list-style-type: none"> Metal and X-Ray detectable Heat resistant Moderate yield strength Good chemical resistance | RoHS |
| Polypropylene with metal particles | PPMP+ | -40 °C to +85 °C | Blue (BU) | not flame retardant | <ul style="list-style-type: none"> High yield strength Metal and x-ray detectable | HF RoHS |
| Polyvinylchloride | PVC | -10 °C to +70 °C | Black (BK), Natural (NA) | UL 94 V0 | <ul style="list-style-type: none"> 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 | <ul style="list-style-type: none"> Corrosion resistant Antimagnetic Weather resistant Outstanding chemical resistance | HF LFH RoHS |
| Thermoplastic Polyurethane | TPU | -40 °C to +85 °C | Black (BK) | UL 94 HB | <ul style="list-style-type: none"> High elastic Good chemical resistance to: acids, bases and oxidizing agents | HF RoHS |

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**More colours on request.

 = Minimum Loop Tensile Strength for Cable Ties (Newton)

HF = Halogenfree

LFH = Limited Fire Hazard

RoHS = Restriction of Hazardous Substances

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