



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"><li>• Corrosion resistant</li><li>• Antimagnetic</li></ul>	RoHS
Chloroprene	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 Tetrafluoroethylene	E/TFE	-80 °C to +170 °C	Blue (BU)	UL94 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, (+110 °C, 500 h)	Natural (NA)	UL94 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 impacts</li></ul>	RoHS
Polyamide 11	PA11	-40 °C to +85 °C, (+105 °C, 500 h)	Black (BK)	UL94 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 RoHS
Polyamide 12	PA12	-40 °C to +85 °C, (+105 °C, 500 h)	Black (BK)	UL94 HB	<ul style="list-style-type: none"><li>• Good chemical resistance to: acids, bases, oxidizing agents</li><li>• UV- resistant</li></ul>	HF RoHS
Polyamide 4.6	PA46	-40 °C to +150 °C (5000 h), +195 °C (500 h)	Natural (NA), Grey (GY)	UL94 V2	<ul style="list-style-type: none"><li>• Resistance to high temperatures</li><li>• Very moisture sensitive</li><li>• Low smoke sensitive</li></ul>	HF LFH RoHS
Polyamide 6	PA6	-40 °C to +80 °C	Black (BK)	UL94 V2	<ul style="list-style-type: none"><li>• High yield strength</li></ul>	RoHS
Polyamide 6, high impact modified	PA6HIR	-40 °C to +80 °C	Black (BK)	UL94 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, (+105 °C, 500 h)	Black (BK), Natural (NA)	UL94 V2	<ul style="list-style-type: none"><li>• High yield strength</li></ul>	HF RoHS
Polyamide 6.6, glass-fibre reinforced	PA66GF13, PA66GF15	-40 °C to +105 °C	Black (BK)	UL94 HB	<ul style="list-style-type: none"><li>• Good resistance to: lubricants, vehicle fuel, salt water and many solvents</li></ul>	HF RoHS
Polyamide 6.6, heat and UV stabilised	PA66HSW	-40 °C to +105 °C	Black (BK)	UL94 V2	<ul style="list-style-type: none"><li>• High yield strength</li><li>• Modified elevated max. temperature</li><li>• UV-resistant</li></ul>	HF RoHS
Polyamide 6.6, heat stabilised	PA66HS	-40 °C to +105 °C	Black (BK), Natural (NA)	UL94 V2	<ul style="list-style-type: none"><li>• High yield strength</li><li>• Modified elevated max. temperature</li></ul>	HF RoHS
Polyamide 6.6, high impact modified	PA66HIR	-40 °C to +80 °C, (+105 °C, 500 h)	Black (BK)	UL94 HB	<ul style="list-style-type: none"><li>• Limited brittleness sensitivity</li><li>• Higher flexibility at low temperature</li></ul>	RoHS
Polyamide 6.6, high impact modified, heat and UV stabilised	PA66HIRSW	-40 °C to +110 °C	Black (BK)	UL94 HB	<ul style="list-style-type: none"><li>• Limited brittleness sensitivity</li><li>• Higher flexibility at low temperature</li><li>• Modified elevated max. temperature</li><li>• High yield strength, UV-resistant</li></ul>	HF RoHS
Polyamide 6.6, high impact modified, heat stabilised	PA66HIRHS	-40 °C to +105 °C	Black (BK)	UL94 HB	<ul style="list-style-type: none"><li>• Limited brittleness sensitivity</li><li>• Higher flexibility at low temperature</li><li>• Modified elevated max. temperature</li></ul>	RoHS
Polyamide 6.6, high impact modified, scan black	PA66HIR(S)	-40 °C to +80 °C, (+105 °C, 500 h)	Black (BK)	UL94 HB	<ul style="list-style-type: none"><li>• Limited brittleness sensitivity</li><li>• Higher flexibility at low temperature</li></ul>	HF RoHS
Polyamide 6.6, UV-resistant	PA66W	-40 °C to +85 °C, (+105 °C, 500 h)	Black (BK)	UL94 V2	<ul style="list-style-type: none"><li>• High yield strength</li><li>• UV-resistant</li></ul>	HF RoHS

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.

\*\*More colours on request.

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

 = Minimum Loop Tensile Strength for Cable Ties (Newton)



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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)	UL94 HB	<ul style="list-style-type: none"><li>High yield strength</li><li>Metal and X-Ray detectable</li></ul>	<div>HF</div> <div>RoHS</div>
Polyamide 6.6 V0	PA66V0	-40 °C to +85 °C	White (WH)	UL94 V0	<ul style="list-style-type: none"><li>High yield strength</li><li>Low smoke emission</li></ul>	<div>HF</div> <div>LFH</div> <div>RoHS</div>
Polyamide 6.6 V0, High Oxygen Index	PA66V0-HOI	-40 °C to +85 °C, (+105 °C, 500 h)	White (WH)	UL94 V0	<ul style="list-style-type: none"><li>High yield strength</li><li>Low smoke emissions</li></ul>	<div>HF</div> <div>LFH</div> <div>RoHS</div>
Polyester	SP	-50 °C to +150 °C	Black (BK)	Halogen free	<ul style="list-style-type: none"><li>UV-resistant</li><li>Good chemical resistance to: most acids, alkalis and oils</li></ul>	<div>HF</div> <div>LFH</div> <div>RoHS</div>
Polyetheretherketone	PEEK	-55 °C to +240 °C	Beige (BGE)	UL94 V0	<ul style="list-style-type: none"><li>Resistance to radioactivity</li><li>Not moisture sensitive</li><li>Good chemical resistance to: acids, bases, oxidizing agents</li></ul>	<div>HF</div> <div>LFH</div> <div>RoHS</div>
Polyethylene	PE	-40 °C to +50 °C	Black (BK), Grey (GY)	UL94 HB	<ul style="list-style-type: none"><li>Low moisture absorption</li><li>Good chemical oilsresistance to: most acids, alcohol and oils</li></ul>	<div>HF</div> <div>RoHS</div>
Polyolefin	PO	-40 °C to +90 °C	Black (BK)	UL94 V0	<ul style="list-style-type: none"><li>Low smoke emissions</li></ul>	<div>HF</div> <div>LFH</div> <div>RoHS</div>
Polypropylene	PP	-40 °C to +115 °C	Black (BK), Natural (NA)	UL94 HB	<ul style="list-style-type: none"><li>Floats in water</li><li>Moderate yield strength</li><li>Good chemical resistance to: organic acids</li></ul>	<div>HF</div> <div>RoHS</div>
Polypropylene, Ethylene-Propylene-Dien-Terpolymer-rubber free of Nitrosamine	PP, EPDM	-20 °C to +95 °C	Black (BK)	UL94 HB	<ul style="list-style-type: none"><li>Good resistance to high temperatures</li><li>Good chemical and abrasion resistance</li></ul>	<div>HF</div> <div>RoHS</div>
Polypropylene with metal particles	PPMP	-40 °C to +115 °C	Blue (BU)	UL94 HB	<ul style="list-style-type: none"><li>Floats in certain liquids</li><li>Metal and X-Ray detectable</li><li>Heat resistant</li><li>Moderate yield strength</li><li>Good chemical resistance</li></ul>	<div>RoHS</div>
Polyvinylchloride	PVC	-10 °C to +70 °C	Black (BK), Natural (NA)	UL94 V0	<ul style="list-style-type: none"><li>Low moisture absorption</li><li>Good chemical resistance to: acids, ethanol and oil</li></ul>	<div>RoHS</div>
Stainless Steel, Stainless Steel	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>Outstanding chemical resistance</li></ul>	<div>HF</div> <div>LFH</div> <div>RoHS</div>
Thermoplastic Polyurethane	TPU	-40 °C to +85 °C	Black (BK)	UL94 HB	<ul style="list-style-type: none"><li>High elastic</li><li>Good chemical resistance to: acids, bases and oxidizing agents</li></ul>	<div>HF</div> <div>RoHS</div>

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