

### Q-ties

#### Innovative – Effective – Safe!

The new Q-tie has not only innovative, but also has a revolutionary new design. The open head of the cable tie enables a simple and quick installation. Simply insert the ergonomically bent tail into the open side of the head and tighten the cable tie.

With Q-ties you can save time and money!

#### Easy Application for every Situation!

Q-tie provides the perfect solution for applications in difficult working conditions. It is ideal for use in applications when working with gloves is necessary or for blind applications with a limited view of the work. The new Q-tie allowing for a quick and simple installation, even with work gloves and restricted view.

Features for quick and easy application:

- Large curved tail with easy-grip ribs
- Open head with easy detectable slot

This saves time and trouble!

#### Integrated Pre-locking Functionality!

Due to several simultaneous working processes, it is not always possible to install all cables and conduits in one single step. Working with standard cable ties means either removing the cable tie of the first installation or applying additional cable ties. The integrated pre-locking function of the Q-tie offers both a temporary and final cable fastening solution.

This saves material and time!



Application video:  
Q-Series



Even under difficult circumstances the Q-tie cable tie is very fast and easy to apply.



Please find more Q-Series products for your system solution on page 137, 147 and 492.

#### Application Method:



1. Insert the thin part of the cable tie into the open lock head.



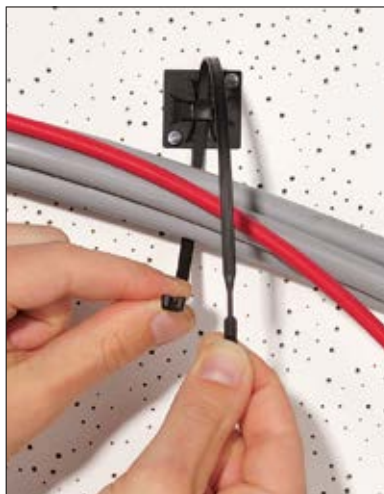
2. Pull the tie through the head until the bundle is fixed.

3. Cut off the remaining part of the tie with an application tool.

#### Pre-locking Function of the Q-tie:



1. Insert tail into lock head and push tail partly into the head.



2. To release the tie push the tail slightly out of the head.



3. If installation is finished, Q-tie can be tightened and cut off - either manually or with an application tool.



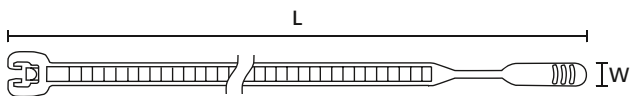
## Cable Ties with open head Polyamide 6.6 standard

### Q-Series in PA66 natural and black

Q-Series cable ties for bundling and securing cables, pipes and hoses. These innovative and effective cable ties enable a simple and quick installation, even in difficult applications.

#### Features and benefits

- Open lock head for quick and easy insertion
- Integrated pre-locking function
- More than 25 % faster to apply than a standard cable tie
- Inside serration for a strong hold around bundles
- Easy application either manually or with a processing tool



Q-Series



Q-tie cable ties: choose from a wide product range in different sizes.

TYPE	Width (W)	Length (L)	Bundle Ø max.	N	Material	Colour	Pack Cont.	Tools	Article-No.
Q18R	2.6	105.0	24.0	80	PA66	Black (BK)	100 pcs.	2;4-6	109-00030
	2.6	105.0	24.0	80	PA66	Natural (NA)	100 pcs.	2;4-6	109-00001
Q18I	2.6	155.0	40.0	80	PA66	Black (BK)	100 pcs.	2;4-6	109-00033
	2.6	155.0	40.0	80	PA66	Natural (NA)	100 pcs.	2;4-6	109-00004
Q18L	2.6	195.0	50.0	80	PA66	Black (BK)	100 pcs.	2;4-6	109-00036
	2.6	195.0	50.0	80	PA66	Natural (NA)	100 pcs.	2;4-6	109-00007
Q30R	3.6	160.0	38.0	130	PA66	Black (BK)	100 pcs.	2;4-6;8	109-00039
	3.6	160.0	38.0	130	PA66	Natural (NA)	100 pcs.	2;4-6;8	109-00010
Q30L	3.6	200.0	50.0	130	PA66	Black (BK)	100 pcs.	2;4-6;8	109-00041
	3.6	200.0	50.0	130	PA66	Natural (NA)	100 pcs.	2;4-6;8	109-00012
Q30LR	3.6	250.0	65.0	130	PA66	Black (BK)	100 pcs.	2;4-6;8	109-00043
	3.6	250.0	65.0	130	PA66	Natural (NA)	100 pcs.	2;4-6;8	109-00014
Q50R	4.7	210.0	50.0	220	PA66	Black (BK)	100 pcs.	2-12;15	109-00047
	4.7	210.0	50.0	220	PA66	Natural (NA)	100 pcs.	2-12;15	109-00018
Q50I	4.7	290.0	75.0	220	PA66	Black (BK)	100 pcs.	2-12;15	109-00049
	4.7	290.0	75.0	220	PA66	Natural (NA)	100 pcs.	2-12;15	109-00020
Q50L	4.7	410.0	110.0	220	PA66	Black (BK)	100 pcs.	2-12;15	109-00051
	4.7	410.0	110.0	220	PA66	Natural (NA)	100 pcs.	2-12;15	109-00022
Q120I	7.7	300.0	70.0	530	PA66	Black (BK)	100 pcs.	3;9-12;15	109-00053
	7.7	300.0	70.0	530	PA66	Natural (NA)	100 pcs.	3;9-12;15	109-00024
Q120R	7.7	420.0	110.0	530	PA66	Black (BK)	100 pcs.	3;9-12;15	109-00055
	7.7	420.0	110.0	530	PA66	Natural (NA)	100 pcs.	3;9-12;15	109-00026
Q120M	7.7	520.0	130.0	530	PA66	Black (BK)	100 pcs.	3;9-12;15	109-00057
	7.7	520.0	130.0	530	PA66	Natural (NA)	100 pcs.	3;9-12;15	109-00028

All dimensions in mm. Subject to technical changes.

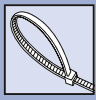
Minimum Order Quantity (MOQ) may differ from package content. Other packaging options may also be available.

Recommended Tools												
	2	3	4	5	6	7	8	9	10	11	12	15
	MK20	MK21	MK3SP	MK3PNSP2	EVO7	MK7HT	MK7P	MK6	EVO9	EVO9HT	MK9P	MK9SST
	551	551	552	552	554	555	556	557	554	554	558	560

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



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



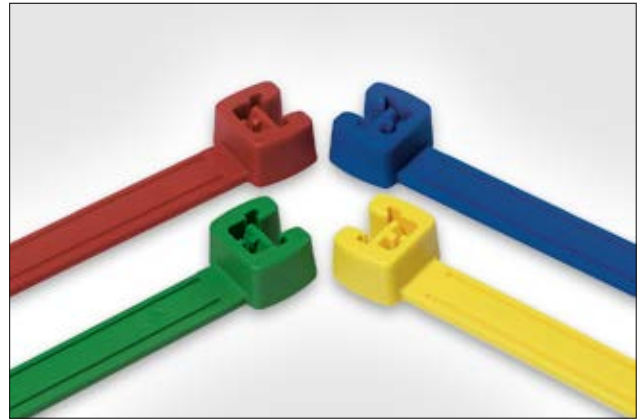
### Cable Ties with open head Polyamide 6.6 standard

#### Q-Series in PA66 coloured

Q-Series cable ties for bundling and securing cables, pipes and hoses. These innovative and effective cable ties enable a simple and quick installation, even in difficult applications.

#### Features and benefits

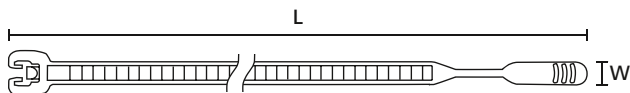
- Coloured cable ties available in a wide range of sizes
- Open lock head for quick and easy insertion
- Integrated pre-locking function
- More than 25 % faster to apply than a standard cable tie
- Inside serration for a strong hold around bundles
- Easy application either manually or with a processing tool



Q-ties in different colours are ideal for marking and bundling in one step.



Application video:  
Q-Series



Q-Series



**Material specification**  
please see page 26.



**Please find more Q-Series products for your system solution on page 137, 147 and 492.**

TYPE	Width (W)	Length (L)	Bundle Ø max.	N	Material	Colour	Pack Cont.	Tools	Article-No.
Q18R	2.6	105.0	24.0	80	PA66	Blue (BU)	100 pcs.	2;4-6	109-00147
	2.6	105.0	24.0	80	PA66	Green (GN)	100 pcs.	2;4-6	109-00148
	2.6	105.0	24.0	80	PA66	Red (RD)	100 pcs.	2;4-6	109-00149
	2.6	105.0	24.0	80	PA66	Yellow (YE)	100 pcs.	2;4-6	109-00150
Q18I	2.6	155.0	40.0	80	PA66	Blue (BU)	100 pcs.	2;4-6	109-00152
	2.6	155.0	40.0	80	PA66	Green (GN)	100 pcs.	2;4-6	109-00153
	2.6	155.0	40.0	80	PA66	Red (RD)	100 pcs.	2;4-6	109-00154
	2.6	155.0	40.0	80	PA66	Yellow (YE)	100 pcs.	2;4-6	109-00155
Q18L	2.6	195.0	50.0	80	PA66	Blue (BU)	100 pcs.	2;4-6	109-00157
	2.6	195.0	50.0	80	PA66	Green (GN)	100 pcs.	2;4-6	109-00158
	2.6	195.0	50.0	80	PA66	Red (RD)	100 pcs.	2;4-6	109-00159
	2.6	195.0	50.0	80	PA66	Yellow (YE)	100 pcs.	2;4-6	109-00160

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	15
	MK20	MK21	MK3SP	MK3PNSP2	EVO7	MK7HT	MK7P	MK6	EVO9	EVO9HT	MK9P	MK9SST
	551	551	552	552	554	555	556	557	554	554	558	560

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

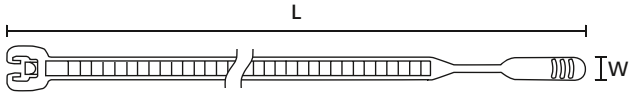


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## Cable Ties with open head Polyamide 6.6 standard

## Q-Series in PA66 coloured



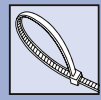
Q-Series

TYPE	Width (W)	Length (L)	Bundle Ø max.	N	Material	Colour	Pack Cont.	Tools	Article-No.
Q30R	3.6	160.0	38.0	130	PA66	Blue (BU)	100 pcs.	2;4-6;8	109-00162
	3.6	160.0	38.0	130	PA66	Green (GN)	100 pcs.	2;4-6;8	109-00163
	3.6	160.0	38.0	130	PA66	Red (RD)	100 pcs.	2;4-6;8	109-00164
	3.6	160.0	38.0	130	PA66	Yellow (YE)	100 pcs.	2;4-6;8	109-00165
Q30L	3.6	200.0	50.0	130	PA66	Blue (BU)	100 pcs.	2;4-6;8	109-00167
	3.6	200.0	50.0	130	PA66	Green (GN)	100 pcs.	2;4-6;8	109-00168
	3.6	200.0	50.0	130	PA66	Red (RD)	100 pcs.	2;4-6;8	109-00169
	3.6	200.0	50.0	130	PA66	Yellow (YE)	100 pcs.	2;4-6;8	109-00170
Q30LR	3.6	250.0	65.0	130	PA66	Blue (BU)	100 pcs.	2;4-6;8	109-00172
	3.6	250.0	65.0	130	PA66	Green (GN)	100 pcs.	2;4-6;8	109-00173
	3.6	250.0	65.0	130	PA66	Red (RD)	100 pcs.	2;4-6;8	109-00174
	3.6	250.0	65.0	130	PA66	Yellow (YE)	100 pcs.	2;4-6;8	109-00175
Q50R	4.7	210.0	50.0	220	PA66	Blue (BU)	100 pcs.	2-12;15	109-00182
	4.7	210.0	50.0	220	PA66	Green (GN)	100 pcs.	2-12;15	109-00183
	4.7	210.0	50.0	220	PA66	Red (RD)	100 pcs.	2-12;15	109-00184
	4.7	210.0	50.0	220	PA66	Yellow (YE)	100 pcs.	2-12;15	109-00185
Q50I	4.7	290.0	75.0	220	PA66	Blue (BU)	100 pcs.	2-12;15	109-00187
	4.7	290.0	75.0	220	PA66	Green (GN)	100 pcs.	2-12;15	109-00188
	4.7	290.0	75.0	220	PA66	Red (RD)	100 pcs.	2-12;15	109-00189
	4.7	290.0	75.0	220	PA66	Yellow (YE)	100 pcs.	2-12;15	109-00190
Q50L	4.7	410.0	110.0	220	PA66	Blue (BU)	100 pcs.	2-12;15	109-00192
	4.7	410.0	110.0	220	PA66	Green (GN)	100 pcs.	2-12;15	109-00193
	4.7	410.0	110.0	220	PA66	Red (RD)	100 pcs.	2-12;15	109-00194
	4.7	410.0	110.0	220	PA66	Yellow (YE)	100 pcs.	2-12;15	109-00195
Q120I	7.7	300.0	70.0	530	PA66	Blue (BU)	100 pcs.	3;9-12;15	109-00197
	7.7	300.0	70.0	530	PA66	Green (GN)	100 pcs.	3;9-12;15	109-00198
	7.7	300.0	70.0	530	PA66	Red (RD)	100 pcs.	3;9-12;15	109-00199
	7.7	300.0	70.0	530	PA66	Yellow (YE)	100 pcs.	3;9-12;15	109-00200
Q120R	7.7	420.0	110.0	530	PA66	Blue (BU)	100 pcs.	3;9-12;15	109-00202
	7.7	420.0	110.0	530	PA66	Green (GN)	100 pcs.	3;9-12;15	109-00203
	7.7	420.0	110.0	530	PA66	Red (RD)	100 pcs.	3;9-12;15	109-00204
	7.7	420.0	110.0	530	PA66	Yellow (YE)	100 pcs.	3;9-12;15	109-00205
Q120M	7.7	520.0	130.0	530	PA66	Blue (BU)	100 pcs.	3;9-12;15	109-00207
	7.7	520.0	130.0	530	PA66	Green (GN)	100 pcs.	3;9-12;15	109-00208
	7.7	520.0	130.0	530	PA66	Red (RD)	100 pcs.	3;9-12;15	109-00209
	7.7	520.0	130.0	530	PA66	Yellow (YE)	100 pcs.	3;9-12;15	109-00210

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



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



### Cable Ties with open head for outdoor use (UV-resistant)

#### Q-Series in PA66W black

Q-Series cable ties for bundling and securing cables, pipes and hoses. These innovative and effective cable ties enable a simple and quick installation, even in difficult applications.

#### Features and benefits

- Weather-resistant black cable ties available in a wide range of sizes
- Open lock head for quick and easy insertion
- Integrated pre-locking function
- More than 25 % faster to apply than a standard cable tie
- Inside serration for a strong hold around bundles
- Easy application either manually or with a processing tool
- UV-resistant



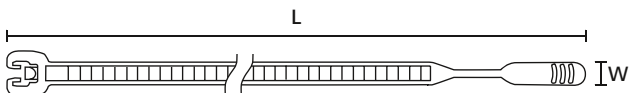
Q-tie cable ties: choose from a wide product range in different sizes.



**Material specification please see page 26.**



**Please find more Q-Series products for your system solution on page 137, 147 and 492.**



Q-Series

TYPE	Width (W)	Length (L)	Bundle Ø max.	N	Material	Colour	Pack Cont.	Tools	Article-No.
Q18R	2.6	105.0	24.0	80	PA66W	Black (BK)	100 pcs.	2;4-6	109-00059
Q18I	2.6	155.0	40.0	80	PA66W	Black (BK)	100 pcs.	2;4-6	109-00062
Q18L	2.6	195.0	50.0	80	PA66W	Black (BK)	100 pcs.	2;4-6	109-00065
Q30R	3.6	160.0	38.0	130	PA66W	Black (BK)	100 pcs.	2;4-6;8	109-00068
Q30L	3.6	200.0	50.0	130	PA66W	Black (BK)	100 pcs.	2;4-6;8	109-00070
Q30LR	3.6	250.0	65.0	130	PA66W	Black (BK)	100 pcs.	2;4-6;8	109-00072
Q50R	4.7	210.0	50.0	220	PA66W	Black (BK)	100 pcs.	2-12;15	109-00076
Q50I	4.7	290.0	75.0	220	PA66W	Black (BK)	100 pcs.	2-12;15	109-00078
Q50L	4.7	410.0	110.0	220	PA66W	Black (BK)	100 pcs.	2-12;15	109-00080
Q120I	7.7	300.0	70.0	530	PA66W	Black (BK)	100 pcs.	3;9-12;15	109-00082
Q120R	7.7	420.0	110.0	530	PA66W	Black (BK)	100 pcs.	3;9-12;15	109-00084
Q120M	7.7	520.0	130.0	530	PA66W	Black (BK)	100 pcs.	3;9-12;15	109-00086

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	15
	MK20	MK21	MK3SP	MK3PNSP2	EVO7	MK7HT	MK7P	MK6	EVO9	EVO9HT	MK9P	MK9SST
	551	551	552	552	554	555	556	557	554	554	558	560

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





### Cable Ties with open head for temperatures up to +105 °C (heat stabilised)

#### Q-Series in PA66HS natural and black

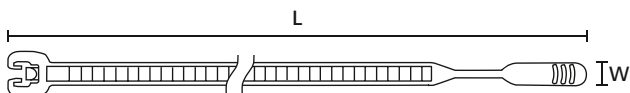
Q-Series cable ties for bundling and securing cables, pipes and hoses. These innovative and effective cable ties enable a simple and quick installation, even in difficult applications.

#### Features and benefits

- Heat stabilised cable ties available in a wide range of sizes
- Open lock head for quick and easy insertion
- Integrated pre-locking function
- More than 25 % faster to apply than a standard cable tie
- Inside serration for a strong hold around bundles
- Easy application either manually or with a processing tool
- Higher temperature resistance up to +105 °C



Q-tie cable ties: choose from a wide product range in different sizes.



Q-Series

TYPE	Width (W)	Length (L)	Bundle Ø max.	N	Material	Colour	Pack Cont.	Tools	Article-No.
Q18R	2.6	105.0	24.0	80	PA66HS	Black (BK)	100 pcs.	2;4-6	109-00088
	2.6	105.0	24.0	80	PA66HS	Natural (NA)	100 pcs.	2;4-6	109-00117
Q18I	2.6	155.0	40.0	80	PA66HS	Black (BK)	100 pcs.	2;4-6	109-00091
	2.6	155.0	40.0	80	PA66HS	Natural (NA)	100 pcs.	2;4-6	109-00120
Q18L	2.6	195.0	50.0	80	PA66HS	Black (BK)	100 pcs.	2;4-6	109-00094
	2.6	195.0	50.0	80	PA66HS	Natural (NA)	100 pcs.	2;4-6	109-00123
Q30R	3.6	160.0	38.0	130	PA66HS	Black (BK)	100 pcs.	2;4-6;8	109-00097
	3.6	160.0	38.0	130	PA66HS	Natural (NA)	100 pcs.	2;4-6;8	109-00126
Q30L	3.6	200.0	50.0	130	PA66HS	Black (BK)	100 pcs.	2;4-6;8	109-00099
	3.6	200.0	50.0	130	PA66HS	Natural (NA)	100 pcs.	2;4-6;8	109-00128
Q30LR	3.6	250.0	65.0	130	PA66HS	Black (BK)	100 pcs.	2;4-6;8	109-00101
	3.6	250.0	65.0	130	PA66HS	Natural (NA)	100 pcs.	2;4-6;8	109-00130
Q50R	4.7	210.0	50.0	220	PA66HS	Black (BK)	100 pcs.	2-12;15	109-00105
	4.7	210.0	50.0	220	PA66HS	Natural (NA)	100 pcs.	2-12;15	109-00134
Q50I	4.7	290.0	75.0	220	PA66HS	Black (BK)	100 pcs.	2-12;15	109-00107
	4.7	290.0	75.0	220	PA66HS	Natural (NA)	100 pcs.	2-12;15	109-00136
Q50L	4.7	410.0	110.0	220	PA66HS	Black (BK)	100 pcs.	2-12;15	109-00109
	4.7	410.0	110.0	220	PA66HS	Natural (NA)	100 pcs.	2-12;15	109-00138
Q120I	7.7	300.0	70.0	530	PA66HS	Black (BK)	100 pcs.	3;9-12;15	109-00111
	7.7	300.0	70.0	530	PA66HS	Natural (NA)	100 pcs.	3;9-12;15	109-00140
Q120R	7.7	420.0	110.0	530	PA66HS	Black (BK)	100 pcs.	3;9-12;15	109-00113
	7.7	420.0	110.0	530	PA66HS	Natural (NA)	100 pcs.	3;9-12;15	109-00142
Q120M	7.7	520.0	130.0	530	PA66HS	Black (BK)	100 pcs.	3;9-12;15	109-00115
	7.7	520.0	130.0	530	PA66HS	Natural (NA)	100 pcs.	3;9-12;15	109-00144

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	15
	MK20	MK21	MK3SP	MK3PNSP2	EVO7	MK7HT	MK7P	MK6	EVO9	EVO9HT	MK9P	MK9SST
	551	551	552	552	554	555	556	557	554	554	558	560

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"> <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 (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, (+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 impacts</li> </ul>	RoHS
Polyamide 11	PA11	-40 °C to +85 °C, (+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 resistant</li> </ul>	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"> <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)	UL 94 V2	<ul style="list-style-type: none"> <li>Resistance to high temperatures</li> <li>Very moisture sensitive</li> <li>Low smoke sensitiv</li> </ul>	HF LFH 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, 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, (+105 °C, 500 h)	Black (BK), Natural (NA)	UL 94 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)	UL 94 HB	<ul style="list-style-type: none"> <li>Good resistance to: lubricants, vehicle fuel, salt water and a lot of solvent</li> </ul>	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"> <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)	UL 94 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)	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, high impact modified, heat and UV stabilised	PA66HIRHSW	-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 max. temperature</li> <li>High yield strength, UV-resistant</li> </ul>	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"> <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, ScanBlack	PA66HIR(S)	-40 °C to +80 °C, (+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, UV-resistant	PA66W	-40 °C to +85 °C, (+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 RoHS

MATERIAL	Material Shortcut	Operating Temperature	Colour**	Flammability	Material Properties*	Material Specifications
<b>Polyamide 6.6,</b> with metal particles	PA66MP	-40 °C to +85 °C, (+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> <b>RoHS</b>
<b>Polyamide 6.6,</b> 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> <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> <b>LFH</b> <b>RoHS</b>
<b>Polyester</b>	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>	<b>HF</b> <b>LFH</b> <b>RoHS</b>
<b>Polyetheretherketone</b>	PEEK	-55 °C to +240 °C	Beige (BGE)	UL 94 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>	<b>HF</b> <b>LFH</b> <b>RoHS</b>
<b>Polyethylene</b>	PE	-40 °C to +50 °C	Black (BK), Grey (GY)	UL 94 HB	<ul style="list-style-type: none"> <li>Low moisture absorption</li> <li>Good chemical resistance to: most acids, alcohol and oils</li> </ul>	<b>HF</b> <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> <b>LFH</b> <b>RoHS</b>
<b>Polypropylene</b>	PP	-40 °C to +115 °C	Black (BK), 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: organic acids</li> </ul>	<b>HF</b> <b>RoHS</b>
<b>Polypropylene, Ethylene-Propylene- Dien-Terpolymere- rubber</b> 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 temperatures</li> <li>Good chemical and abrasion resistance</li> </ul>	<b>HF</b> <b>RoHS</b>
<b>Polypropylene</b> 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> 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> <b>RoHS</b>
<b>Polyvinylchloride</b>	PVC	-10 °C to +70 °C	Black (BK), Natural (NA)	UL 94 V0	<ul style="list-style-type: none"> <li>Low moisture absorption</li> <li>Good chemical resistance to: acids, ethanol and oil</li> </ul>	<b>RoHS</b>
<b>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>Outstanding chemical resistance</li> </ul>	<b>HF</b> <b>LFH</b> <b>RoHS</b>
<b>Thermoplastic Polyurethane</b>	TPU	-40 °C to +85 °C	Black (BK)	UL 94 HB	<ul style="list-style-type: none"> <li>High elastic</li> <li>Good chemical resistance to: acids, bases and oxidizing agents</li> </ul>	<b>HF</b> <b>RoHS</b>

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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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