

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 when working with gloves is necessary or for blind applications with a limited view of the work allowing for a quick and simple installation.

Features for quick and easy application:

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

This saves time and trouble!



The head design makes the difference.



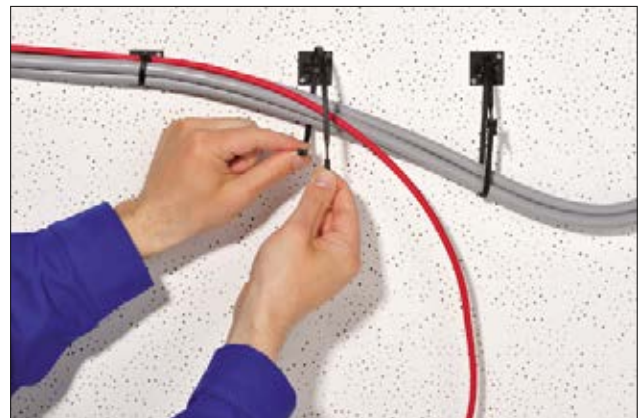
Even under difficult circumstances the Q-tie cable tie is very fast and easy to apply.

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.

Using standard cable ties means either removing the cable tie of the first installation or applying additional cable ties. The integrated pre-locking function offers both a temporary and final cable fastening solution.

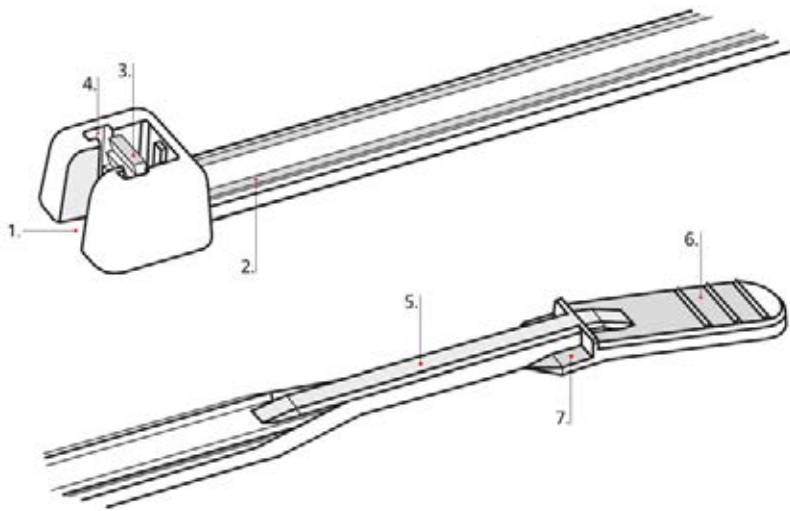
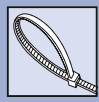
This saves material and time!



Without additional effort only Q-ties can be used for temporary and final cable bundling.



Application video: Q-Series



Features of Q-ties:

1. Open lock head for quick and easy insertion.
2. Two rails on the strap ensure perfect guidance for the tracks in the head.
3. The locking device interacts safely with the serration of the cable tie.
4. The tracks prevent a deformation of the head under load.
5. The thin part of the cable tie can be simply placed into the open lock head.
6. The large ribbed tail allows a safe and ergonomic installation.
7. Integrated pre-locking feature (starts with type Q30).

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.

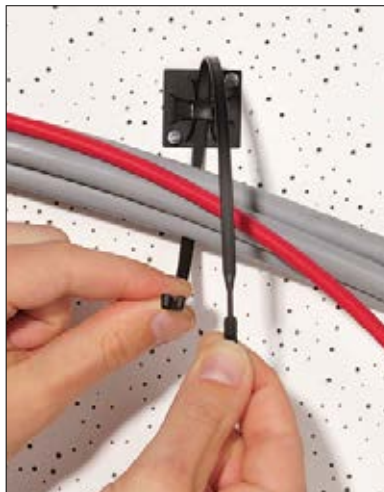


Please find more Q-Series products for your system solution on page 134 and 459.

Pre-Locking Function of the Q-tie:



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



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



3. When the installation is complete, the 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

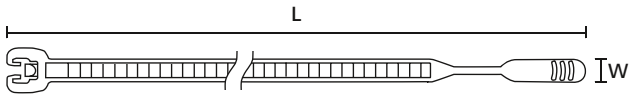
Q-Series cable ties for bundling and securing cables, pipes and hoses. These innovative and effective cable ties enable a simple and quick installation, even in difficult applications.

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-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 | 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 | 109-00039 |
| | 3.6 | 160.0 | 38.0 | 130 | PA66 | Natural (NA) | 100 pcs. | 2;4-6 | 109-00010 |
| Q30L | 3.6 | 200.0 | 50.0 | 130 | PA66 | Black (BK) | 100 pcs. | 2;4-6 | 109-00041 |
| | 3.6 | 200.0 | 50.0 | 130 | PA66 | Natural (NA) | 100 pcs. | 2;4-6 | 109-00012 |
| Q30LR | 3.6 | 250.0 | 65.0 | 130 | PA66 | Black (BK) | 100 pcs. | 2;4-6 | 109-00043 |
| | 3.6 | 250.0 | 65.0 | 130 | PA66 | Natural (NA) | 100 pcs. | 2;4-6 | 109-00014 |
| Q50R | 4.7 | 210.0 | 50.0 | 220 | PA66 | Black (BK) | 100 pcs. | 2-10 | 109-00047 |
| | 4.7 | 210.0 | 50.0 | 220 | PA66 | Natural (NA) | 100 pcs. | 2-10 | 109-00018 |
| Q50I | 4.7 | 290.0 | 75.0 | 220 | PA66 | Black (BK) | 100 pcs. | 2-10 | 109-00049 |
| | 4.7 | 290.0 | 75.0 | 220 | PA66 | Natural (NA) | 100 pcs. | 2-10 | 109-00020 |
| Q50L | 4.7 | 410.0 | 110.0 | 220 | PA66 | Black (BK) | 100 pcs. | 2-10 | 109-00051 |
| | 4.7 | 410.0 | 110.0 | 220 | PA66 | Natural (NA) | 100 pcs. | 2-10 | 109-00022 |
| Q120I | 7.7 | 300.0 | 70.0 | 530 | PA66 | Black (BK) | 100 pcs. | 3;9-12 | 109-00053 |
| | 7.7 | 300.0 | 70.0 | 530 | PA66 | Natural (NA) | 100 pcs. | 3;9-12 | 109-00024 |
| Q120R | 7.7 | 420.0 | 110.0 | 530 | PA66 | Black (BK) | 100 pcs. | 3;9-12 | 109-00055 |
| | 7.7 | 420.0 | 110.0 | 530 | PA66 | Natural (NA) | 100 pcs. | 3;9-12 | 109-00026 |
| Q120M | 7.7 | 520.0 | 130.0 | 530 | PA66 | Black (BK) | 100 pcs. | 3;9-12 | 109-00057 |
| | 7.7 | 520.0 | 130.0 | 530 | PA66 | Natural (NA) | 100 pcs. | 3;9-12 | 109-00028 |
| | 7.7 | 520.0 | 130.0 | 530 | PA66HS | Black (BK) | 100 pcs. | 3;9-12 | 109-00115 |
| | 7.7 | 520.0 | 130.0 | 530 | PA66HS | Natural (NA) | 100 pcs. | 3;9-12 | 109-00144 |

All dimensions in mm. Subject to technical changes.

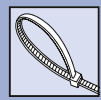
Minimum Order Quantity (MOQ) may differ from package content. Other packaging options may also be available.

| Recommended Tools | | | | | | | | | | |
|-------------------|------|-------|----------|------|-------|------|-----|-----|-------|------|
| 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| MK20 | MK21 | MK3SP | MK3PN5P2 | EVO7 | MK7HT | MK7P | MK6 | MK9 | MK9HT | MK9P |

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.



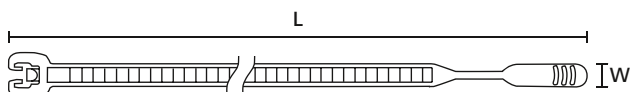
Application video: Q-Series



Material specification
please see page 24.



Please find more Q-Series products for your system solution on page 134 and 459.



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 | 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.

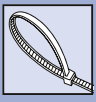
Recommended Tools

| | | | | | | | | | | |
|------|------|-------|----------|------|-------|------|-----|-----|-------|------|
| 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| MK20 | MK21 | MK3SP | MK3PNSP2 | EVO7 | MK7HT | MK7P | MK6 | MK9 | MK9HT | MK9P |

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

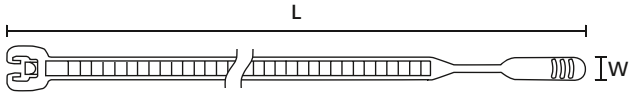


For product specific approvals and specifications please refer to the Appendix.



Cable Ties with open head Polyamide 6.6 standard

Q-Series in PA66 coloured



Q-Series

| 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 | 109-00162 |
| | 3.6 | 160.0 | 38.0 | 130 | PA66 | Green (GN) | 100 pcs. | 2;4-6 | 109-00163 |
| | 3.6 | 160.0 | 38.0 | 130 | PA66 | Red (RD) | 100 pcs. | 2;4-6 | 109-00164 |
| | 3.6 | 160.0 | 38.0 | 130 | PA66 | Yellow (YE) | 100 pcs. | 2;4-6 | 109-00165 |
| Q30L | 3.6 | 200.0 | 50.0 | 130 | PA66 | Blue (BU) | 100 pcs. | 2;4-6 | 109-00167 |
| | 3.6 | 200.0 | 50.0 | 130 | PA66 | Green (GN) | 100 pcs. | 2;4-6 | 109-00168 |
| | 3.6 | 200.0 | 50.0 | 130 | PA66 | Red (RD) | 100 pcs. | 2;4-6 | 109-00169 |
| | 3.6 | 200.0 | 50.0 | 130 | PA66 | Yellow (YE) | 100 pcs. | 2;4-6 | 109-00170 |
| Q30LR | 3.6 | 250.0 | 65.0 | 130 | PA66 | Blue (BU) | 100 pcs. | 2;4-6 | 109-00172 |
| | 3.6 | 250.0 | 65.0 | 130 | PA66 | Green (GN) | 100 pcs. | 2;4-6 | 109-00173 |
| | 3.6 | 250.0 | 65.0 | 130 | PA66 | Red (RD) | 100 pcs. | 2;4-6 | 109-00174 |
| | 3.6 | 250.0 | 65.0 | 130 | PA66 | Yellow (YE) | 100 pcs. | 2;4-6 | 109-00175 |
| Q50R | 4.7 | 210.0 | 50.0 | 220 | PA66 | Blue (BU) | 100 pcs. | 2-10 | 109-00182 |
| | 4.7 | 210.0 | 50.0 | 220 | PA66 | Green (GN) | 100 pcs. | 2-10 | 109-00183 |
| | 4.7 | 210.0 | 50.0 | 220 | PA66 | Red (RD) | 100 pcs. | 2-10 | 109-00184 |
| | 4.7 | 210.0 | 50.0 | 220 | PA66 | Yellow (YE) | 100 pcs. | 2-10 | 109-00185 |
| Q50I | 4.7 | 290.0 | 75.0 | 220 | PA66 | Blue (BU) | 100 pcs. | 2-10 | 109-00187 |
| | 4.7 | 290.0 | 75.0 | 220 | PA66 | Green (GN) | 100 pcs. | 2-10 | 109-00188 |
| | 4.7 | 290.0 | 75.0 | 220 | PA66 | Red (RD) | 100 pcs. | 2-10 | 109-00189 |
| | 4.7 | 290.0 | 75.0 | 220 | PA66 | Yellow (YE) | 100 pcs. | 2-10 | 109-00190 |
| Q50L | 4.7 | 410.0 | 110.0 | 220 | PA66 | Blue (BU) | 100 pcs. | 2-10 | 109-00192 |
| | 4.7 | 410.0 | 110.0 | 220 | PA66 | Green (GN) | 100 pcs. | 2-10 | 109-00193 |
| | 4.7 | 410.0 | 110.0 | 220 | PA66 | Red (RD) | 100 pcs. | 2-10 | 109-00194 |
| | 4.7 | 410.0 | 110.0 | 220 | PA66 | Yellow (YE) | 100 pcs. | 2-10 | 109-00195 |
| Q120I | 7.7 | 300.0 | 70.0 | 530 | PA66 | Blue (BU) | 100 pcs. | 3;9-12 | 109-00197 |
| | 7.7 | 300.0 | 70.0 | 530 | PA66 | Green (GN) | 100 pcs. | 3;9-12 | 109-00198 |
| | 7.7 | 300.0 | 70.0 | 530 | PA66 | Red (RD) | 100 pcs. | 3;9-12 | 109-00199 |
| | 7.7 | 300.0 | 70.0 | 530 | PA66 | Yellow (YE) | 100 pcs. | 3;9-12 | 109-00200 |
| Q120R | 7.7 | 420.0 | 110.0 | 530 | PA66 | Blue (BU) | 100 pcs. | 3;9-12 | 109-00202 |
| | 7.7 | 420.0 | 110.0 | 530 | PA66 | Green (GN) | 100 pcs. | 3;9-12 | 109-00203 |
| | 7.7 | 420.0 | 110.0 | 530 | PA66 | Red (RD) | 100 pcs. | 3;9-12 | 109-00204 |
| | 7.7 | 420.0 | 110.0 | 530 | PA66 | Yellow (YE) | 100 pcs. | 3;9-12 | 109-00205 |
| Q120M | 7.7 | 520.0 | 130.0 | 530 | PA66 | Blue (BU) | 100 pcs. | 3;9-12 | 109-00207 |
| | 7.7 | 520.0 | 130.0 | 530 | PA66 | Green (GN) | 100 pcs. | 3;9-12 | 109-00208 |
| | 7.7 | 520.0 | 130.0 | 530 | PA66 | Red (RD) | 100 pcs. | 3;9-12 | 109-00209 |
| | 7.7 | 520.0 | 130.0 | 530 | PA66 | Yellow (YE) | 100 pcs. | 3;9-12 | 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



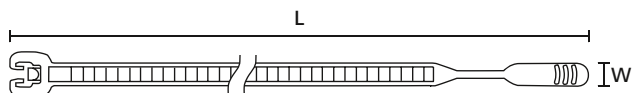
Q-tie cable ties: choose from a wide product range in different sizes.



Material specification please see page 24.



Please find more Q-Series products for your system solution on page 134 and 459.



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 | 109-00068 |
| Q30L | 3.6 | 200.0 | 50.0 | 130 | PA66W | Black (BK) | 100 pcs. | 2;4-6 | 109-00070 |
| Q30LR | 3.6 | 250.0 | 65.0 | 130 | PA66W | Black (BK) | 100 pcs. | 2;4-6 | 109-00072 |
| Q50R | 4.7 | 210.0 | 50.0 | 220 | PA66W | Black (BK) | 100 pcs. | 2-10 | 109-00076 |
| Q50I | 4.7 | 290.0 | 75.0 | 220 | PA66W | Black (BK) | 100 pcs. | 2-10 | 109-00078 |
| Q50L | 4.7 | 410.0 | 110.0 | 220 | PA66W | Black (BK) | 100 pcs. | 2-10 | 109-00080 |
| Q120I | 7.7 | 300.0 | 70.0 | 530 | PA66W | Black (BK) | 100 pcs. | 3;9-12 | 109-00082 |
| Q120R | 7.7 | 420.0 | 110.0 | 530 | PA66W | Black (BK) | 100 pcs. | 3;9-12 | 109-00084 |
| Q120M | 7.7 | 520.0 | 130.0 | 530 | PA66W | Black (BK) | 100 pcs. | 3;9-12 | 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 |
| MK20 | MK21 | MK3SP | MK3PNPSP2 | EVO7 | MK7HT | MK7P | MK6 | MK9 | MK9HT | MK9P |

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

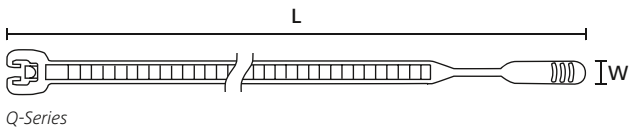
Q-Series cable ties for bundling and securing cables, pipes and hoses. These innovative and effective cable ties enable a simple and quick installation, even in difficult applications.

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.



Material specification please see page 24.

| TYPE | Width (W) | Length (L) | Bundle Ø max. | | 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 | 109-00097 |
| | 3.6 | 160.0 | 38.0 | 130 | PA66HS | Natural (NA) | 100 pcs. | 2;4-6 | 109-00126 |
| Q30L | 3.6 | 200.0 | 50.0 | 130 | PA66HS | Black (BK) | 100 pcs. | 2;4-6 | 109-00099 |
| | 3.6 | 200.0 | 50.0 | 130 | PA66HS | Natural (NA) | 100 pcs. | 2;4-6 | 109-00128 |
| Q30LR | 3.6 | 250.0 | 65.0 | 130 | PA66HS | Black (BK) | 100 pcs. | 2;4-6 | 109-00101 |
| | 3.6 | 250.0 | 65.0 | 130 | PA66HS | Natural (NA) | 100 pcs. | 2;4-6 | 109-00130 |
| Q50R | 4.7 | 210.0 | 50.0 | 220 | PA66HS | Black (BK) | 100 pcs. | 2-10 | 109-00105 |
| | 4.7 | 210.0 | 50.0 | 220 | PA66HS | Natural (NA) | 100 pcs. | 2-10 | 109-00134 |
| Q50I | 4.7 | 290.0 | 75.0 | 220 | PA66HS | Black (BK) | 100 pcs. | 2-10 | 109-00107 |
| | 4.7 | 290.0 | 75.0 | 220 | PA66HS | Natural (NA) | 100 pcs. | 2-10 | 109-00136 |
| Q50L | 4.7 | 410.0 | 110.0 | 220 | PA66HS | Black (BK) | 100 pcs. | 2-10 | 109-00109 |
| | 4.7 | 410.0 | 110.0 | 220 | PA66HS | Natural (NA) | 100 pcs. | 2-10 | 109-00138 |
| Q120I | 7.7 | 300.0 | 70.0 | 530 | PA66HS | Black (BK) | 100 pcs. | 3;9-12 | 109-00111 |
| | 7.7 | 300.0 | 70.0 | 530 | PA66HS | Natural (NA) | 100 pcs. | 3;9-12 | 109-00140 |
| Q120R | 7.7 | 420.0 | 110.0 | 530 | PA66HS | Black (BK) | 100 pcs. | 3;9-12 | 109-00113 |
| | 7.7 | 420.0 | 110.0 | 530 | PA66HS | Natural (NA) | 100 pcs. | 3;9-12 | 109-00142 |
| Q120M | 7.7 | 520.0 | 130.0 | 530 | PA66HS | Black (BK) | 100 pcs. | 3;9-12 | 109-00115 |
| | 7.7 | 520.0 | 130.0 | 530 | PA66HS | Natural (NA) | 100 pcs. | 3;9-12 | 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 |
| MK20 | MK21 | MK3SP | MK3PNSP2 | EVO7 | MK7HT | MK7P | MK6 | MK9 | MK9HT | MK9P |

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


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 | E/TFE | -80 °C to +170 °C | Blue (BU) | UL94 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) | UL94 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) | UL94 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) | UL94 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) | UL94 V2 | <ul style="list-style-type: none"> Resistance to high temperatures Very moisture sensitive Low smoke sensitive | HF LFH RoHS |
| Polyamide 6 | PA6 | -40 °C to +80 °C | Black (BK) | UL94 V2 | <ul style="list-style-type: none"> High yield strength | RoHS |
| Polyamide 6, high impact modified | PA6HIR | -40 °C to +80 °C | Black (BK) | UL94 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) | UL94 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) | UL94 HB | <ul style="list-style-type: none"> Good resistance to: lubricants, vehicle fuel, salt water and many solvents | 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"> 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) | UL94 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) | UL94 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) | UL94 HB | <ul style="list-style-type: none"> Limited brittleness sensitivity Higher flexibility at low temperature Modified elevated max. temperature High yield strength, UV-resistant | 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"> Limited brittleness sensitivity Higher flexibility at low temperature Modified elevated max. temperature | 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"> Limited brittleness sensitivity Higher flexibility at low temperature | 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"> High yield strength UV-resistant | HF RoHS |

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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.

 = Minimum Loop Tensile Strength for Cable Ties (Newton)

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

| 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"> High yield strength Metal and X-Ray detectable | HF RoHS |
| Polyamide 6.6 V0 | PA66V0 | -40 °C to +85 °C | White (WH) | UL94 V0 | <ul style="list-style-type: none"> High yield strength Low smoke emission | HF LFH RoHS |
| 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"> High yield strength Low smoke emissions | 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) | UL94 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) | UL94 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) | UL94 V0 | <ul style="list-style-type: none"> Low smoke emissions | HF LFH RoHS |
| Polypropylene | PP | -40 °C to +115 °C | Black (BK), Natural (NA) | UL94 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) | UL94 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) | UL94 HB | <ul style="list-style-type: none"> Floats in certain liquids Metal and X-Ray detectable Heat resistant Moderate yield strength Good chemical resistance | RoHS |
| Polyvinylchloride | PVC | -10 °C to +70 °C | Black (BK), Natural (NA) | UL94 V0 | <ul style="list-style-type: none"> Low moisture absorption Good chemical resistance to: acids, ethanol and oil | RoHS |
| Stainless Steel, 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) | UL94 HB | <ul style="list-style-type: none"> High elasticity Good chemical resistance to: acids, bases and oxidizing agents | HF RoHS |

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N = Minimum Loop Tensile Strength
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