High temperature resistant cables are used in various industrial sectors, such as:

- **Medical technology**
  - Medical input leads
  - Engine and turbine manufacture
  - Research, universities etc.

- **Automation technology**
  - Wired modules
  - Industrial and system solutions

- **Power engineering**
  - Electrical energy production and transmission
  - Electrical energy distribution

- **Aerospace technology**
  - Satellite and auxiliary equipment

- **Automotive engineering**
  - Airbag systems

- **Plant and process engineering**
  - Technical and system solutions

- **Building services engineering**
  - Laboratory equipment

- **Railway engineering**
  - Railcar systems

- **Automation Engineering**
  - Power and control electronics

- **Medical technology**
  - Medical输入 leads

- **Mechanical engineering**
  - Special foils and cables

- **Thermo & AGL cables**
  - High temperature cables

- **UL & CSA cables**
  - silicone insulated cables
  - fluoropolymer insulated cables

- **Customised cables**
  - sine waves
  - specials

- **Hybrid cables**
  - heat resistant wires

- **Silicone cables**
  - excellent electrical properties

- **Fluoropolymer insulated cables**
  - excellent flexibility

- **Cables made of glass fiber, mica and ceramic-based**
  - exceptional temperature resistance

- **Insulation materials made of glass fiber, mica and ceramic-based**
  - exceptional temperature resistance up to 1,250 °C and boast good mechanical strength as well as electrical performance with the thinnest possible dimensions.

- **Cables based on fluoropolymers are exceptionally well suited to temperatures of up to 260 °C and boast good mechanical strength as well as electrical performance with the thinnest possible dimensions.**

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### HighTemp Solutions · Materials and properties

#### Chemical Description

| Material | Chemical Description | LHTS | D55–D65 | >20 | >200 | >1018 | >20 | 2.0 | 95 | ++ | – | – | no | 2.10–2.30 |
|----------|----------------------|------|---------|------|------|-------|------|-----|----|----|---|---|---|---|---|
| Silicone-Rubber (cross-linked by peroxide) | VMQ R | Silicone-Rubber (cross-linked by peroxide) | –190 | 260 | 300 | 310 | 327 | –90 | ++ | ++ | ++ | ++ | ++ | 0.01 | D55–D65 | >20 | >200 | ++ | >1018 | >20 | 2.0 | 95 | ++ | – | – | no | 2.10–2.30 |
| Polytetrafluorethylene | PTFE | Polytetrafluorethylene | 5Y | –190 | 260 | 300 | 310 | 327 | –90 | ++ | ++ | ++ | ++ | ++ | 0.01 | D55–D65 | >20 | >200 | ++ | >1018 | >20 | 2.0 | 95 | ++ | – | – | no | 2.10–2.30 |
| Ethylen-Polypropylene-Terpolymer | EPDM | Ethylen-Polypropylene-Terpolymer | 18Y | –40 | 90 | 120 | 130–150 | >135 | –40 | – | ++ | + | + | + | 1.50 | A50–D40 | >10 | >300 | + | >1014 | >20 | 3.0 | 22–27 | –/+ | yes | + | yes | 1.20–1.40 |
| Ethylen-Vinyl Acetate-Rubber | EVM | Ethylen-Vinyl Acetate-Rubber | 4G | –40 | 120 | 150 | 180 | cross-linked | –50 | + | + | + | + | + | 0.10 | >A70 | >10 | >200 | + | 1012–1014 | >20 | 4.0–7.0 | >20 | –/+ | yes | + | yes | 1.30–1.45 |
| Thermoplastic Polyolefin Elastomer | TPE-O | Thermoplastic Polyolefin Elastomer | 18Y | –40 | 90 | 120 | 130–150 | >135 | –40 | – | ++ | + | + | + | 1.00–2.00 | A30–D50 | >15 | >200 | + | >1010 | >10 | 3.0–4.0 | 22–27 | –/+ | yes | + | yes | 1.10–1.30 |
| Thermoplastic Polystyrene Elastomer | TPE-S | Thermoplastic Polystyrene Elastomer | 17Y | –75 | 115 | 125 | 140–150 | >150 | –40 | + | + | + | + | + | 1.00–2.00 | A30–D50 | >15 | >200 | + | >1010 | >10 | 3.0–4.0 | 22–27 | –/+ | yes | + | yes | 1.10–1.30 |
| Thermoplastic Polyester Elastomer | TPE-E | Thermoplastic Polyester Elastomer | 13Y o. 12Y | –70 | 115 | 150 | 160 | 180–230 | –50 | ++ | – | ++ | + | ++ | 0.60–1.20 | D40–D78 | >20 | >300 | ++ | >109 | >10 | 3.5–5.0 | <29 | –/+ | yes | ++ | yes | 1.00–1.20 |
| Polypropylene | PP | Polypropylene | 9Y | –40 | 90 | 110 | 140 | 130–145 | –40 | + | + | + | –/+ | 0.10 | D65–D70 | >30 | >400 | + | >1016 | >80 | 2.3 | 18 | – | yes | ++ | yes | 0.91 |
| Polyetherimide | PEI | Polyetherimide | N.a. | –40 | 150 | 170 | 190 | >220 | –25 | + | –/+ | + | + | + | >0.25 | D80–D85 | >95 | >60 | + | >1015 | >180 | 3.2–3.5 | >45 | + | yes | + | yes | 1.27 |
| Polyvinylidenfluoride | PVDF | Polyvinylidenfluoride | 10Y | –100 | 135 | 135–145 | 160 | 160–190 | –65 | ++ | ++ | ++ | ++ | ++ | 0.02 | D75–D80 | >25 | >100 | ++ | >1014 | >25 | 2.0 | 8.0 | >30 | ++ | yes | – | – | no | 1.70–1.90 |
| Ethylene-Tetrafluorethylene | ETFE | Ethylene-Tetrafluorethylene | 7Y | –100 | 135 | 180 | 200 | 235–270 | –65 | ++ | ++ | ++ | ++ | ++ | 0.02 | D70–D75 | >25 | >150 | ++ | >1015 | >30 | 2.6 | >30 | ++ | yes | – | – | no | 1.60–1.80 |
| Tetrafluorethylene-Hexafluorpropylene | FEP | Tetrafluorethylene-Hexafluorpropylene | 6Y | –100 | 205 | 230 | 260 | 265–270 | –80 | ++ | ++ | ++ | ++ | ++ | 0.01 | D55–D60 | >20 | >200 | + | >1018 | >25 | 2.1 | 95 | ++ | yes | – | – | no | 2.00–2.30 |
| Tetrafluorethylene-Perfluormethylvinylether | MFA | Tetrafluorethylene-Perfluormethylvinylether | N.a. | –100 | 230 | 250 | 270 | 280–290 | –90 | ++ | ++ | ++ | ++ | ++ | 0.01 | D55–D60 | >20 | >200 | + | >1016 | >25 | 2.1 | 95 | ++ | yes | – | – | no | 2.12–2.17 |
| Polyvinylchloride | PVC | Polyvinylchloride | Y | –40 | 80 | 120 | 140 | 140–160 | –40 | –/+ | + | –/+ | ++ | –/+ | 0.40 | A50–D50 | >10 | >200 | + | >1010 | >20 | 4.0–5.0 | >20 | ++ | no | – | – | no | 1.35–1.50 |

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### Designation

- **Continuous Operating Temperature**: from °C to °C
- **Thermal Properties**: °C °C °C °C % A/D (MPa) % Ω x cm kV/mm % O2 g/cm³
- **Resistance**: for 20,000 hrs
- **Melt/Flow Test**: for 3,000 hrs
- **Elongation at break**: %
- **Flammability**: %
- **Density**: %

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### Additional Information

1) without fire protection agent
2) +2) no2) 1.242)