

Properties of insulating materials for basic materials

| Material | Abbreviation | VDE symbol | Working temperature (° C) | Tensile strength (N/mm ²) | Elongation at tear (%) | Density (g /cm ³) |
|---|--------------|------------|---------------------------|---------------------------------------|------------------------|-------------------------------|
| Polyvinylchloride | PVC | Y | -30...+70 | 10...25 | 150...300 | 1,2...1,5 |
| Polyvinylchloride, heat-resistant | PVC | Y | -20...+90 | 10...25 | 150...300 | 1,3...1,4 |
| Polyvinylchloride, cold-resistant | PVC | Y | -40...+70 | 10...25 | 150...300 | 1,4...1,5 |
| Polyvinylchloride, flame-resistant | PVC | Y | -30...+70 | 10...25 | 150...250 | 1,3...1,6 |
| High pressure polyethylene | HDPE | 2Y | -50...+70 | 20...30 | 500 | 0,95...0,98 |
| Low pressure polyethylene | LDPE | 2Y | -50...+100 | 30 | 800 | 0,918...0,935 |
| Cross-linked polyethylene | XLPE | 2X | -50...+90 | 12,5-20 | 400 | 0,92 |
| Polyamide | PA | 4Y | -40...+80 | 50...180 | 200...300 | 1,10...1,15 |
| Polybutylene terephthalate | PBTP | - | -60...+110 | 50...100 | 50...300 | 1,3 |
| Polytetrafluorethylene | PTFE | 5Y | -190...+260 | 14...40 | 240...400 | 2,0...2,3 |
| Tetrafluorethylene-hexafluorpropylene copolymer | FEP | 6Y | -100...+200 | 20...25 | 250...350 | 2,0...2,3 |
| Ethylene-tetrafluorethylene | ETFE | 7Y | -100...+150 | 40...50 | 100...300 | 1,6...1,8 |
| Polypropylene | PP | 9Y | -50...+90 | 30...50 | 300 | 0,91 |
| Polyurethane | PUR | 11Y | -40...+100 | 30...45 | 300...600 | 1,15...1,20 |
| Thermoplastic polyolefin elastomer | TPE | 12Y | -70...+125 | 3...25 | 280...650 | 0,9...1,2 |
| Silicone rubber | SI | 2G | -60...+180 | 5...10 | 200...350 | 1,2...1,3 |
| Ethylene propylene rubber | EPM/ EPDM | 3G | -30...+120 | 5...20 | 200...450 | 1,3...1,6 |
| Ethylene vinyl acetate | EVA | 4G | -30...+125 | 5 | 200 | 1,3...1,5 |
| Chloroprene rubber | CR | 5G | -40...+100 | 25 | 450 | 1,4...1,7 |

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| Volume resistivity (Ohm · cm) | Shore-hardness A, D | Weather resistance | Fuel resistance | Oil resistance | Flammability |
|--------------------------------------|---------------------|--------------------|-----------------|----------------|---------------------------|
| 10 ¹² ...10 ¹⁵ | 70...95 | moderate | moderate | good | self-extinguishing |
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| 10 ¹² ...10 ¹⁵ | 80...90 | moderate | moderate | good | high ignition temperature |
| 10 ¹⁷ | 60...62 | good | poor | moderate | flammable |
| 10 ¹⁷ | 43...50 | moderate | poor | moderate | flammable |
| 10 ¹⁵ | | moderate | good | good | flammable |
| 10 ¹⁴ | 60...70 | good | moderate | good | flammable |
| 10 ¹⁶ | 80 (D) | good | good | good | flammable |
| 10 ¹⁸ | 55...65 | very good | very good | very good | not flammable |
| 10 ¹⁸ | 55...60 | very good | very good | very good | not flammable |
| 10 ¹⁶ | 70...75 | very good | very good | very good | not flammable |
| 10 ¹⁷ | 55...60 | moderate | moderate | moderate | flammable |
| 10 ¹² | 80...100 | very good | good | good | self-extinguishing |
| 10 ¹² | 50...90 | very good | good | very good | flammable |
| 10 ¹⁵ | 40...80 | very good | poor | moderate | high ignition temperature |
| 10 ¹⁴ | 65...85 | good | poor | poor | flammable |
| 10 ¹³ | 70...80 | good | poor | poor | flammable |
| 10 ¹³ | 55...70 | very good | poor | good | self-extinguishing |