

## Properties of insulating materials for basic materials

Material	Abbreviation	VDE symbol	Working temperature (° C)	Tensile strength (N/mm <sup>2</sup> )	Elongation at tear (%)	Density (g /cm <sup>3</sup> )
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 <sup>12</sup> ...10 <sup>15</sup>	70...95	moderate	moderate	good	self-extinguishing
10 <sup>12</sup> ...10 <sup>15</sup>	70...95	moderate	moderate	good	self-extinguishing
10 <sup>12</sup> ...10 <sup>15</sup>	70...95	moderate	moderate	good	self-extinguishing
10 <sup>12</sup> ...10 <sup>15</sup>	80...90	moderate	moderate	good	high ignition temperature
10 <sup>17</sup>	60...62	good	poor	moderate	flammable
10 <sup>17</sup>	43...50	moderate	poor	moderate	flammable
10 <sup>15</sup>		moderate	good	good	flammable
10 <sup>14</sup>	60...70	good	moderate	good	flammable
10 <sup>16</sup>	80 (D)	good	good	good	flammable
10 <sup>18</sup>	55...65	very good	very good	very good	not flammable
10 <sup>18</sup>	55...60	very good	very good	very good	not flammable
10 <sup>16</sup>	70...75	very good	very good	very good	not flammable
10 <sup>17</sup>	55...60	moderate	moderate	moderate	flammable
10 <sup>12</sup>	80...100	very good	good	good	self-extinguishing
10 <sup>12</sup>	50...90	very good	good	very good	flammable
10 <sup>15</sup>	40...80	very good	poor	moderate	high ignition temperature
10 <sup>14</sup>	65...85	good	poor	poor	flammable
10 <sup>13</sup>	70...80	good	poor	poor	flammable
10 <sup>13</sup>	55...70	very good	poor	good	self-extinguishing