



Properties of insulation and jacket materials

				Thermal properties								Mechanical properties			Electrical properties	
Short sign	Chemical Designation	VDE Ref.		Continuous operating temperature				Thermal overload capacity								
			Density	2000 h		3000 h	according to VDE	240 h	20 h	Melting/softening range	Cold wrapping Stab.	Hardness	Tensile strength	Tear-stretching	Spec. contact resistance at 20°C	Dielectric constant at 1 MHz 20°C
			g/cm³	from °C	to °C	°C	°C	°C	°C	°C	°C	Shore A/D	MPa	%	Ohm x cm	kV/mm
Thermoplastics																
1. PE-LD	Polyethylen	2Y	0,92	- 50	70	95	70	100	110	105/115	- 50	D 43 - 50	15 - 20	> 300	> 10 ¹⁶	70
1.1 PE-HD	Polyethylen	2Y	0,94-0,96	- 50	90	110	90	110	120	> 125	- 50	D 56 - 62	10 bis 25	> 300	>10 ¹⁶	85
2. PA	Polyamid	4Y	1,02 - 1,1	- 60	90	125	90	120	150	180 - 250	- 50	D 40 - 75	40 - 100	> 300	> 10 ¹²	30
3. PP	Polypropylen	9Y	0,91	- 40	90	125	90	110	130	> 135	- 20	D 40 - 60	> 20	> 300	> 10 ¹⁶	75
4. PVC	Polyvinylchlorid	Y	1,35 - 1,5	- 20	80	120	80	---	---	140 - 200	- 10 bis - 40	A 65 - D 50	10 bis 25	> 150	10 ¹² - 10 ¹⁵	25
5. PET P	Polyethylen terephthalat	12 Y	1,4	- 100	130	150	---	---	---	250/225	---	A 70-95	200 - 250	70 - 300	>10 ¹⁸	15
TPE'S																
1. PE-LD	Polyethylen	2Y	0,92	- 50	70	95	70	100	110	105/115	- 50	D 43 - 50	15 - 20	> 300	> 10 ¹⁶	70
1.1 PE-HD	Polyethylen	2Y	0,94-0,96	- 50	90	110	90	110	120	> 125	- 50	D 56 - 62	10 bis 25	> 300	>10 ¹⁶	85
2. PA	Polyamid	4Y	1,02 - 1,1	- 60	90	125	90	120	150	180 - 250	- 50	D 40 - 75	40 - 100	> 300	> 10 ¹²	30
3. PP	Polypropylen	9Y	0,91	- 40	90	125	90	110	130	> 135	- 20	D 40 - 60	> 20	> 300	> 10 ¹⁶	75
4. PVC	Polyvinylchlorid	Y	1,35 - 1,5	- 20	80	120	80	---	---	140 - 200	- 10 bis - 40	A 65 - D 50	10 bis 25	> 150	10 ¹² - 10 ¹⁵	25

The information provided is for guidance only and must be checked on a case-by-case basis.

		Thermal properties					Resistance to									
Short sign	Chemical Designation	LOI	Flame resistance	Low smoke	Corrosive gases	halogen-free		Oils	Acids	Chemicals	Water intake	Ozone	Weather Cond.	General Information	Application examples	
Thermoplastics																
1. PE-LD	Polyethylene	< 22	low to good	j	n	j		+	+	+	0,1	good	good	Weather resistance increases with molecular weight. Very low water absorption	Data transmission, high-frequency and low-frequency cables. Sheath material for underground installation and ignition cables.	
1.1 PE-HD	Polyethylene	< 22	low to good	j	n	j		+	+	+	0,1	good	conditional	see above	see above	
2. PA	Polyamide	< 22	low	j	n	j		+	0	+	1,0 - 1,5	good	good	hygroscopic, water absorption up to 8%, weather resistance can be increased by suitable pigmentation; high dimensional stability in heat, high damping capacity	Protective sheathing of light wave conductors, in addition to the core insulation or as an outer sheath for special designs, low-current cables (data transmission in filling stations, coiled connecting cables for semi-trailer trucks).	
3. PP	Polypropylene	< 22	low to good	j	n	j		+	+	+	0,1	good	good	UV-resistant due to appropriate stabilization, less stress cracking than PE, somewhat stiff	Heating cables, special cables and data cables	
4. PVC	Polyvinyl chloride	23-30	low to good	n	j	n		+	+	0	0,4	very good	good	Flexibility can be adjusted within wide limits, good colorability, also translucent to transparent. Resistant to the formation of stress cracks, good weather resistance.	Switching wires and stranded wires (e.g. device wiring, Termi-Point technology), hose lines, low-frequency lines, high-current control lines, ribbon cables, sheathing for RG	

														high-frequency lines, data transmission lines, automotive and ignition lines.
5. PET P	Polyethylene terephthalate	20-25	moderate	j	n	j	+	0	+	0,5	good	good	Low water absorption, low stress sensitivity	Conductors with minimum insulation wall thicknesses. Electrical insulation foil
TPE'S														
1. TPE -A	Thermopl. Polyamid-Elastomer	< 22	moderate	y	n	n	+	0	0	---	moderate	very good	Water absorption up to 1.3% (saturation), flexibility and impact resistance at low temperatures, good tear resistance and abrasion resistance, excellent creep resistance and resistance to electrolytic corrosion	Outer sheath for special cables
2. TPE -U	Thermoplastic polyurethane elastomer	< 30	low to good	j	n	j	+	+	+	1,5	good	very good	high flexibility at low temperatures, low water absorption, good cut resistance, high damping capacity, microbe-resistant	Hose lines, power cables, as sheath material for special cables for high mechanical and chemical requirements (marine technology, vehicle technology, airfields, assembly halls)
3. TPE -E	Thermoplastic polyester elastomer	< 29	low to good	j	n	j	++	++	+	0,3 - 0,6	good	very good	hydrolysis-resistant even in hot water, swell-resistant in oils, solvents and hydraulic fluids	Thin-walled core insulation for LF, vehicle and drag chain cables for maximum bending rates. Sheathed material and spiral cables
4TH TPE -S	Thermoplastic styrene-ethylenebutene-styrene copolymer	22 -27	low	n	n	j	0	++	0	1,0 - 2,0	moderate to good	moderate	high flexibility at low temperatures, low oil resistance and heat resistance, high damping capacity	Insulation for switching wires and stranded wires
5. TPE -O	Thermoplastic polyolefin elastomer	< 25	low to good	j	n	j	+	++	0	1,5	good	very good	hydrolysis-resistant, high flexibility even at low temperatures, high heat	Sheath material for measuring and control lines in industrial plants

													resistance. low density, excellent ozone resistance	
1. PE- LD	Polyethylene	< 22	low to good	j	n	j	+	+	+	0,1	good	good	Weather resistance increases with molecular weight. Very low water absorption	Data transmissio n, high- frequency and low- frequency cables. Sheath material for underground installation and ignition cables.

The information provided is for guidance only and must be checked on a case-by-case basis.

				Thermal properties								Mechanical properties			Electrical properties	
Short sign	Chemical Designation	VDE Ref.		Continuous operating temperature				Thermal overload capacity								
			Density	2000 h		3000 h	According to VDE	240 h	20 h	Melting / Softening range	Cold wrapping Stab.	Hardness	Tensile strength	Tear-Stretching	Spec. Contact resistance at 20°C	Dielectric constant at 1 MHz 20°C
			g/cm³	from °C	to °C	°C	°C	°C	°C	°C	°C	Shore A/D	MPa	%	Ohm x cm	kV/mm
Fluoropolymers																
1. PVD F	Polyvinylidenfluorid	10 Y	1,7-1,9	- 100	135	150	---	160	160	170 - 180	- 65	D 75 - 80	> 20	> 100	>10 ¹⁴	25
2. ECT FE	Ethylen-Chlortrifluorethylen-Copolymer	---	1,68	- 100	135	150	---	200	230	265 - 285	- 65	D 75 - 80	> 30	> 150	>10 ¹⁵	39
3. ETF E	Ethylen-Tetrafluorethylen-Copolymer	7Y	1,6 - 1,8	- 100	135	180	135	200	250	265 - 285	- 65	D 70 - 75	> 30	> 150	>10 ¹⁶	36
4. FEP	Perfluorethylenpropylen-Copolymer	6Y	2,0 - 2,3	- 100	200	220	180	230	240	255 - 275	- 65	D 55 - 60	> 15	> 200	> 10 ¹⁸	25
5. PFA	Perfluoralkoxy-Tetrafluorethylen-Copolymer	51 Y	2,0 - 2,3	- 190	250	280	250	270	270	300-310	- 65	D 55 - 60	> 20	> 200	> 10 ¹⁷	25
6. PTF E	Polytetrafluorethylen	5Y	2,0 - 2,3	- 190	260	300	260	300	310	320-330	- 65	D 55 - 60	> 20	> 200	10 ¹⁸	20
Special thermoplastics																
1. PEIC	Polyimid-Silikon-Copolymer	21 Y	1,18	-40	125	150	130	140	160	> 170	-65	D 67 - 72	>25	>50	>10 ¹⁵	30
2. PEI	Polyetherimid	---	1,27	-40	150	170	150	180	200	> 250	-25	D 80 - 85	>20			
3. PEEK	Polyetheretherketon	20 Y	1,32	-60	220	250	220	250	300	> 340	-50	D 80 - 90	>20	>50	>10 ¹⁸	20
4. PI	Polyimid	8Y	1,43	- 190	220	260	260	1300	400	unschmelzbar	-65	D 80 - 90	>70	>50	>10 ¹⁷	28
Elastomere																
1. SIR	Silikon-Kautschuk-Mischungen	2G	1,2 - 1,3	- 50	180	230	200	220	240	vernetzt	- 65	A 40 - 80	6-10	>250	>10 ¹⁵	30
2. EPDM	Ethylen-Propylen-Terpolymer	3G	1,3-1,55	- 40	90	100	90	---	---	vernetzt	- 30 bis - 50	A 43 - 90	5 - 25	200 - 450	>10 ¹⁵	30
2.1 EPR	Ethylen-Propylen-Copolymer-Mischungen	3G	1,3-1,55	- 40	90	100	90	130	160	vernetzt	- 65	A 65 - 85	5- 10	> 200	10 ¹³ - 10 ¹⁵	30
2.2 H-EPR	Hard grade Ethylen-Propylen-Copolymer-Mischungen	3G	1,3-1,55	---	---	---	90	130	160	vernetzt	- 45	A 85 - D 50	9 - 15	> 200	>10 ¹⁵	30
3. EVA (EVM)	Ethylen-Vinylacetat-Copolymer-Mischungen	4G	1,3 - 1,5	- 40	120	150	90	160	180	vernetzt	- 50	A 70 - 90	5 - 15	> 200	10 ¹² - 10 ¹⁴	30

4. CR	Polychloropren-Mischungen	5G	1,4-1,65	-40	90	120	90	120	140	vernetzt	- 30	A 55	10 - 20	> 250	10 ¹⁰ - 10 ¹¹	20
4.1 CM	Chlorierte Polyethylen-Mischungen	5G	---	-40	---	---	90	130	150	vernetzt	- 30	A 60 - 80	10 - 15	> 250	10 ¹¹ - 10 ¹²	---
5. CSM	Chlorsulfonierte Poly-ethylen-Mischungen	6G	1,3 - 1,6	- 50	100	130	90	130	150	vernetzt	- 40	A 60 - 80	10 - 20	> 250	>10 ¹³	20
6. HNB R	Hydrierter Nitrilkautschuk	---	1,2 - 1,5	- 30	120	---	---	---	---	vernetzt	- 40	A 60 - 80	>15	300	---	---

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Thermoplastics																
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1.1 PE-HD	Polyethylen	2Y	0,94-0,96	- 50	90	110	90	110	120	> 125	- 50	D 56 - 62	10 bis 25	> 300	>10 ¹⁶	85
2. PA	Polyamid	4Y	1,02 - 1,1	- 60	90	125	90	120	150	180 - 250	- 50	D 40 - 75	40 - 100	> 300	> 10 ¹²	30
3. PP	Polypropylen	9Y	0,91	- 40	90	125	90	110	130	> 135	- 20	D 40 - 60	> 20	> 300	> 10 ¹⁶	75
4. PVC	Polyvinylchlorid	Y	1,35 - 1,5	- 20	80	120	80	---	---	140 - 200	- 10 bis - 40	A 65 - D 50	10 bis 25	> 150	10 ¹² - 10 ¹⁵	25
5. PET P	Polyethylen terephthalat	12Y	1,4	- 100	130	150	---	---	---	250/225	---	A 70-95	200 - 250	70 - 300	>10 ¹⁸	15
TPE'S																
1. TPE -A	Thermopl. Polyamid-Elastomer	4Y	0,90 - 1,2	- 40	90	120	---	---	---	150 - 200.	- 40	60A - 75D	21 - 51	>300	>10 ⁹	30
2. TPE -U	Thermopl. Polyurethan - Elastomer	11Y	1,21	- 60	80	115	85	140	150	190 - 205	- 50	A75 - D65	20 - 55	>300	>10 ¹²	30
3. TPE -E	Thermopl. Polyester-Elastomer	13Y1 2Y	0.90-1,20	- 70	115	130	115	150	160	180 - 230	- 50	D 40 - 78	> 25	>300	>10 ¹²	30
4. TPE -S	Thermopl. Styrol-Ethen-buten-Styrol-Copolymer	17Y	1,22	- 75	115	125	115	120 - 140	140 - 170	>150	215 - 235	A30 - D50	9 bis 25	>300	>10 ¹³ -10 ¹⁶	30
5. TPE -O	Thermopl. Polyolefin-Elastomer	18Y	1,2 - 1,4	- 50	90	120	100	120 - 140	130 - 150	> 135	-30 bis- 50	A47 - D 50	3 bis 20	> 300	>10 ¹⁴	30

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		Thermal properties					Resistance to							
Short sign	Chemical Designation	LOI	Flame resistance	Low smoke	Corrosive gases	halogen-free	Oils	Acids	Chemicals	Water intake	Ozone	Weather Cond.	General information	Application examples
Thermoplastics														
1. PE-LD	Polyethylene	< 22	low to good	j	n	j	+	+	+	0,1	good	good	Weather resistance increases with molecular weight. Very low water absorption	Data transmission, high-frequency and low-frequency cables. Sheath material for underground installation and ignition cables.
1.1 PE-HD	Polyethylene	< 22	low to good	j	n	j	+	+	+	0,1	good	conditional	see above	see above
2. PA	Polyamide	< 22	low	j	n	j	+	0	+	1,0 - 1,5	good	good	hygroscopic, water absorption up to 8%, weather resistance can be increased by suitable pigmentation; high dimensional stability in heat, high damping capacity	Protective sheathing of light wave conductors, in addition to the core insulation or as an outer sheath for special designs, low-current cables (data transmission in filling stations, coiled connecting cables for semi-trailer trucks).
3. PP	Polypropylene	< 22	low to good	j	n	j	+	+	+	0,1	good	good	UV-resistant due to appropriate stabilization, less stress cracking than PE, somewhat stiff	Heating cables, special cables and data cables
4. PVC	Polyvinyl chloride	23 -30	low to good	n	j	n	+	+	0	0,4	very good	good	Flexibility can be adjusted within wide limits, good colorability, also translucent to transparent. Resistant to the formation of stress cracks, good weather resistance.	Switching wires and stranded wires (e.g. device wiring, Termi-Point technology), hose lines, low-frequency lines, high-current control lines, ribbon cables, sheathing forRG high-frequency lines, data transmission lines, automotive and ignition lines.
5. PET P	Polyethylene terephthalate	20-25	moderate	j	n	j	+	0	+	0,5	good	good	Low water absorption, low stress sensitivity	Conductors with minimum insulation

														wall thicknesses. Electrical insulation foil
TPE'S														
1. TPE -A	Thermoplastic polyamide elastomer	< 22	low	j	n	n	+	0	0	---	moderate	very good	Water absorption up to 1.3% (saturation), flexibility and impact resistance at low temperatures, good behavior with regard to tear propagation resistance and abrasion, excellent tracking resistance and resistance to electrolytic corrosion.	Outer sheath for special cables
2. TPE -U	Thermoplastic polyurethane elastomer	< 30	low to good	j	n	j	+	+	+	1,5	good	very good	high flexibility at low temperatures, low water absorption, good cut resistance, high damping capacity, microbe-resistant	Hose lines, power cables, as sheath material for special cables for high mechanical and chemical requirements (marine technology, vehicle technology, airfields, assembly halls)
3. TPE -E	Thermoplastic polyester elastomer	< 29	low to good	j	n	j	++	++	+	0,3 - 0,6	good	very good	hydrolysis-resistant even in hot water, swell-resistant in oils, solvents and hydraulic fluids	Thin-walled core insulation for LF, vehicle and drag chain cables for maximum bending rates. Sheathed material and spiral cables
4TH TPE -S	Thermoplastic styrene-ethylenebutene-styrene copolymer	22 - 27	low	n	n	j	0	++	0	1,0 - 2,0	moderate to good	moderate	high flexibility at low temperatures, low oil resistance and heat resistance, high damping capacity	Insulation for switching wires and stranded wires
5. TPE -O	Thermoplastic polyolefin elastomer	< 25	low to good	j	n	j	+	++	0	1,5	good	very good	hydrolysis-resistant, high flexibility even at low temperatures, high heat resistance. low density, excellent ozone resistance	Sheath material for measuring and control lines in industrial plants

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				Thermal properties								Mechanical properties			Electrical properties	
Short sign	Chemical Designation	VDE Ref.		Continuous operating temperature				Thermal overload capacity								
			Density	2000 h		3000 h	According to VDE	240 h	20 h	Melting / Softening range	Cold wrapping Stab.	Hardness	Tensile strength	Tear-Stretching	Spec. Contact resistance at 20°C	Dielectric constant at 1 MHz 20°C
				g/cm³	from °C											
1. PVD F	Polyvinylidenfluorid	10 Y	1,7-1,9	- 100	135	150	---	160	160	170 - 180	- 65	D 75 - 80	> 20	> 100	>10 ¹⁴	25
2. ECT FE	Ethylen-Chlortrifluorethylen-Copolymer	---	1,68	- 100	135	150	---	200	230	265 - 285	- 65	D 75 - 80	> 30	> 150	>10 ¹⁵	39
3. ETF E	Ethylen-Tetrafluorethylen-Copolymer	7Y	1,6 - 1,8	- 100	135	180	135	200	250	265 - 285	- 65	D 70 - 75	> 30	> 150	>10 ¹⁶	36
4. FEP	Perfluorethylenpropylen-Copolymer	6Y	2,0 - 2,3	- 100	200	220	180	230	240	255 - 275	- 65	D 55 - 60	> 15	> 200	> 10 ¹⁸	25
5. PFA	Perfluoralkoxy-Tetrafluorethylen-Copolymer	51 Y	2,0 - 2,3	- 190	250	280	250	270	270	300-310	- 65	D 55 - 60	> 20	> 200	> 10 ¹⁷	25
6. PTF E	Polytetrafluorethylen	5Y	2,0 - 2,3	- 190	260	300	260	300	310	320-330	- 65	D 55 - 60	> 20	> 200	10 ¹⁸	20
Special Thermoplastics																
1. PEIC	Polyimid-Silikon-Copolymer	21 Y	1,18	-40	125	150	130	140	160	> 170	-65	D 67 - 72	>25	>50	>10 ¹⁵	30
2. PEI	Polyetherimid	---	1,27	-40	150	170	150	180	200	> 250	-25	D 80 - 85	>20			
3. PEEK	Polyetheretherketon	20 Y	1,32	-60	220	250	220	250	300	> 340	-50	D 80 - 90	>20	>50	>10 ¹⁸	20
4. PI	Polyimid	8Y	1,43	- 190	220	260	260	1300	400	unschmelzbar	-65	D 80 - 90	>70	>50	>10 ¹⁷	28
Elastomere																
1. SIR	Silikon-Kautschuk-Mischungen	2G	1,2 - 1,3	- 50	180	230	200	220	240	vernetzt	- 65	A 40 - 80	6-10	>250	>10 ¹⁵	30
2. EPDM	Ethylen-Propylen-Terpolymer	3G	1,3-1,55	- 40	90	100	90	---	---	vernetzt	- 30 bis - 50	A 43 - 90	5 - 25	200 - 450	>10 ¹⁵	30
2.1 EPR	Ethylen-Propylen-Copolymer-Mischungen	3G	1,3-1,55	- 40	90	100	90	130	160	vernetzt	- 65	A 65 - 85	5- 10	> 200	10 ¹³ - 10 ¹⁵	30
2.2 H-EPR	Hard grade Ethylen-Propylen-Copolymer-Mischungen	3G	1,3-1,55	---	---	---	90	130	160	vernetzt	- 45	A 85 - D 50	9 - 15	> 200	>10 ¹⁵	30
3. EVA (EVM)	Ethylen-Vinylacetat-Copolymer-Mischungen	4G	1,3 - 1,5	- 40	120	150	90	160	180	vernetzt	- 50	A 70 - 90	5 - 15	> 200	10 ¹² - 10 ¹⁴	30
4. CR	Polychloropren-Mischungen	5G	1,4-1,65	-40	90	120	90	120	140	vernetzt	- 30	A 55	10 - 20	> 250	10 ¹⁰ - 10 ¹¹	20
4.1 CM	Chlorierte Polyethylen-Mischungen	5G	---	-40	---	---	90	130	150	vernetzt	- 30	A 60 - 80	10 - 15	> 250	10 ¹¹ -10 ¹²	---
5. CSM	Chlorsulfonierte Polyethylen-Mischungen	6G	1,3 - 1,6	- 50	100	130	90	130	150	vernetzt	- 40	A 60 - 80	10 - 20	> 250	>10 ¹³	20
6. HNB R	Hydrierter Nitrilkautschuk	---	1,2 - 1,5	- 30	120	--	---	---	--	vernetzt	- 40	A 60 - 80	>15	300	---	---

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		Thermal properties					Resistance to								
Short sign	Chemical Designation	LOI	Flame resistance	Low smoke	Corrosive gases	halogen-free	Oils	Acids	Chemicals	Water intake	Ozone	Weather Cond.	General information	Application examples	
Fluoropolymere															
1. PVDF	Polyvinylidene fluoride	40 - 45	distinguished	j	j	n	++	++	+	0,01	very good	very good	high toughness at low temperatures, high temperature resistance	Switching wires and stranded wires for computer wiring with wire wrap technology,	
2. ECTFE	Ethylene-chlorotrifluoroethylene copolymer	60 - 65	distinguished	j	n	n	++	++	++	0,1	very good	very good	like ETFE, slightly stiffer	Switching wires and switching contacts	
3. ETFE	Ethylene-tetrafluoroethylene copolymer	30 - 32	distinguished	j	n	n	++	++	++	0,02	very good	very good	heat and radiation resistant, can be used outdoors, high mechan. strength, low smoke development, slightly stiffer than PTFE	Switching wires for wire-wrap technology and stranded wires for computer wiring, wire insulation for high-temperature control cables	
4TH FEP	Perfluoroethylene propylene copolymer	> 95	distinguished	j	n	n	++	++	++	0,01	very good	very good	High thermal resistance, self-extinguishing, low smoke development, low susceptibility to oxidation	Switching wires, stranded wires, flat cables and high-voltage ignition cables for high temperature requirements; as sheathing for HF, control and special cables	
5. PFA	Perfluoroalkoxy-tetrafluoroethylene copolymer	> 95	distinguished	j	j	n	++	++	++	0,01	very good	very good	Low smoke development, low susceptibility to oxidation	Used like PTFE, but also as a jacket material for higher cross-sections and injection molded articles for the chemical industry	
6. PTFE	Polytetrafluoroethylene	> 95	distinguished	j	n	n	++	++	++	0,01	very good	very good	No stress cracking, non-flammable, low smoke development, very low coefficient of friction, tends to creep, low susceptibility to oxidation	Switching wires and stranded wires for high temperature ranges, control cables, wire insulation for high-frequency cables, computer, aerospace industry	
Special thermoplastics															
1ST PEIC	Polyimide-silicone copolymer	46	good	j	n	j	+	0	+	---	good	good	Low smoke development, no corrosive gases in	Thin-walled halogen-free insulation	

													case of fire.	for power and control cables
2. PEI	Polyetherimide	45 - 50	good	j	n	---	+	0 +	+	0,25	good	good	Low smoke development, no corrosive gases in case of fire,	Thin-walled halogen-free insulation for measuring and control cables
3. PEEK	Polyetheretherketone	35	very good	j	n	j	++	++	+	0,5	good	good	halogen-free, good hydrolysis resistance, low smoke and toxic gas development in case of fire, tough and abrasion-resistant up to high temperatures,	Halogen-free wire insulation Heavy-duty single and multi-core special cables
Elastomers														
1ST SIR	Silicone-rubber mixtures	25 - 30	very good	j	n	j	-	0	-	1	good	good	anti-adhesive, hydrophobic (water-repellent), very good flexibility excellent hot air resistance	Core and sheathed cables for heavy-duty applications (engine and apparatus construction, rolling mills, foundries, smelting works), ignition cables
2. EPDM	Ethylene-propylene terpolymer	---	low to good	j	n	j	-	+	+	0,02	good	very good	halogen-free, good ozone resistance,	Flexible cables in the low and medium voltage range
2.1 EPR	Ethylene-propylene copolymer blends	< 22	low	j	n	j	-	+	0	0,2	very good	good	Good electrical and dielectric properties, water and weather resistant	Core insulation for hose lines, hawser and ship cables, heating cables, sheathing for flexible hose lines and submersible pump lines
2.2H-EPR	Hard grade ethylene-propylene copolymer blends	< 22	low	j	n	j	+	+	0	0,2	good	good	Good electrical and dielectric properties, water and weather resistant	High-quality wire insulation with reduced wall thicknesses, e.g. ship cables
3. EVA (EVM)	Ethylene-vinyl acetate copolymer blends	< 22	low	j	n	j	0	+	0	0,1	good	good	halogen-free, no fire spread, low smoke gas density, ozone-resistant	Core cable for higher thermal loads Heating cable
4. CR	Polychloroprene mixtures	30 - 34	very good	n	j	n	+	++	0	1	(very) good	(very) good	Very good fire resistance, good ageing resistance, high mechanical strength	Oil-resistant, flame-retardant rubber hose lines

4.1 CM	Chlorinated polyethylene mixtures	26 - 34	good to very good	n	j	n	+	+	0	0,1	(very) good	very good	Very good ageing resistance, hydrolysis- resistant	Sheath for rubber hose lines
5TH CSM	Chlorosulfonated polyethylene mixtures	30 - 34	very good	n	j	n	+	+	++	1,5	good	very good	hydrolysis- resistant, good mechanical properties, low compression set, ozone- resistant	Sheathing for hose lines, automotive ignition cables, special cables for offshore technology
6. HNB R	Hydrogenated nitrile rubber	---	low to good	j	n	j	+	+	+	---	---	---	---	---

The information provided is for guidance only and must be checked on a case-by-case basis.