

# Properties table - 1

	Unit/ Standard	Ester-Polyurethane	Ether-Polyurethane	Soft PVC	Polyethylene	Thermo-plastic rubber	NEOPRENE®	HYP (=CSM)	VITON®	Silicone	TEFLON® (=Polytetra-fluorethylen)	Polyamide (moist)	
Abbreviation		PUR, TPU	PUR, TPU	PVC-P	PE	TPE, TPE-O	CR	CSM, PEC	FKM, FPM	Q	PTFE	PA	
Density	g/cm <sup>3</sup> ISO 1183	1,18	1,11	1,22	0,92	0,98	1,23	1,27	1,80	1,15-2	2,15	1,13	
Temperature range	permanent	°C	-40..+90	-40..+90	-20..+70	-35..+80	-40..+125	-50..+150	-40..+170	-20..+210	-70..+260	-200..+250	-40..+90
	short term	°C	125	125	80	-	150	-	-	-	280	275	120
Mechanical properties	Tensile strength	N/mm <sup>2</sup> ISO 37	50-55	45-50	18	19	12				20		
	Elongation at tear	% ISO 37	630	640	360	900	420				300		
	Tear strength	N/m DIN 53515	60-70	50-65	29		24						
	Abrasion resistance	mm <sup>3</sup> ISO 4649	++ 25-40	++ 30-40	O 100	O	O 135	+	+	O	-	-	O
Resistances	Heat ageing		++	++	-	+	++	+	++	++	++	O	
	Weathering		O	O	O	-	+	++	+	++	+	++	O
	UV radiation		O	O	O	-	+	++	+	++	+	++	O
	Microorganisms		-	++	++	+	O	+	++	++	O	++	+
	Water		++ ≤ 60°C	++ ≤ 100°C	++	++	++	+	++	++	++	++	+
	Salt solutions		O	O	++	++	++	++	++	++	+	++	+
	Acids		O	+	+	++	+	++	+	+	-	++	-
	Alkalis		O	+	+	++	+	++	+	-	-	++	+
	Oxidizing agents		-	-	O	-	O	++	+	++	+	++	-
	Solvent		-	-	-	+	O	-	-	-	-	++	-
	Mineral oil		++	++	-	+	++	O	+	++	-	++	+
Petrol		++	++	-	+	++	O	O	++	-	++	+	
Electrical properties	Surface resistance	Ω VDE 0303	10 <sup>2</sup> -10 <sup>12</sup> ·	10 <sup>3</sup> -10 <sup>12</sup> ·	10 <sup>3</sup> -10 <sup>13</sup> ·	10 <sup>2</sup> -10 <sup>17</sup> *	10 <sup>15</sup> -10 <sup>17</sup>	10 <sup>9</sup> -10 <sup>12</sup>	10 <sup>4</sup> -10 <sup>14</sup> *	10 <sup>3</sup> -10 <sup>14</sup> *	10 <sup>13</sup> -10 <sup>16</sup> *	10 <sup>4</sup> -10 <sup>18</sup> *	10 <sup>10</sup> -10 <sup>12</sup>
	Volume resistance	Ω cm VDE 0303	10 <sup>2</sup> -10 <sup>12</sup> ·	10 <sup>3</sup> -10 <sup>12</sup> ·	10 <sup>3</sup> -10 <sup>13</sup> ·	10 <sup>2</sup> -10 <sup>17</sup> *	10 <sup>15</sup> -10 <sup>17</sup>	ca. 10 <sup>12</sup>	10 <sup>4</sup> -10 <sup>14</sup> *	10 <sup>3</sup> -10 <sup>14</sup> *	10 <sup>13</sup> -10 <sup>16</sup> *	10 <sup>4</sup> -10 <sup>17</sup> *	10 <sup>12</sup> -10 <sup>15</sup>
	Electric strength	kV/mm IEC 243	33	39	23	40-60	28		2-20	10-30	15-25	33	6-60
Use with food		-	++ *	-	++ *	-	-	-	-	-	++ *	-	
Varnishability / paintability		++	++	O	-	-	-	+	+	-	-	-	
Adhesiveness		++	++	+	-	-	++	++	++	-	-	+	

**Classification:** ++ excellent | + good | O limited | - poor |  
\* depending on the hose type

All stated dimensions, sizes and technical data are approximated figures based on a temperature of 20°C. Engineering modifications subject to change.