

Matrix - Technical Data

	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/cm³ 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/mm² 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							
Resistances	Abrasion Resistance	mm³ ISO 4649	++ 25-40	++ 30-40	O 100	O	O 135	+	+	O	-	-	O	
	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 ² -10 ¹² -	10 ³ -10 ¹² -	10 ³ -10 ¹³ -	10 ² -10 ¹⁷ *	10 ¹⁵ -10 ¹⁷	10 ⁹ -10 ¹²	10 ⁴ -10 ¹⁴ *	10 ³ -10 ¹⁴ *	10 ¹³ -10 ¹⁶ *	10 ⁴ -10 ¹⁶ *	10 ¹⁰ -10 ¹²
		Volume Resistance	Ω cm VDE 0303	10 ² -10 ¹² -	10 ³ -10 ¹² -	10 ³ -10 ¹³ -	10 ² -10 ¹⁷ *	10 ¹⁵ -10 ¹⁷	ca. 10 ¹²	10 ⁴ -10 ¹⁴ *	10 ³ -10 ¹⁴ *	10 ¹³ -10 ¹⁶ *	10 ⁴ -10 ¹⁷ *	10 ¹² -10 ¹⁵
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 approx.- figures based on a temperature of 20 °C. Engineering modifications subject to change.