diaphragm materials

Elastomers and Reinforcing materials

Elastomers

Properties		NR	SBR	IIR	EPDM	MVQ	CR	CSM	NBR	HNBR	ECO	FPM	FMVQ
Hardness ratings	Shore A	25 -100	40 -100	40 -90	40 -90	30 -85	40 -95	50 -95	30 -100	30 -100	50 -90	65 -85	65 -80
Tensile strength	max. N/mm³	25 -30	25	30	25	8	25	18	25	25	15	15	6
Elasticity		1	2	6	4	3	3	4	3	3	3	4	4
Structural strength		1	4	2	4	4	3	3	4	4	3	3	4
Abraison resistance		2	2	3	3	4	2	2	2	2	3	3	4
Temperature range	°C	-60 to +90	-40 to +90	-35 to +150	-35 to +150	-90 to +200	-35 to +100	-50 to +130	-40 to +100	-40 to +150	-40 to +140	-30 to +200	-60 to +200
Ageing stability		4	3	1	1	1	2	1	3	1	3	1	1
Resistance to	water	3	2	2	1	3	2	2	2	2	3	2	3
	alkalis	3	3	3	1	4	3	2	3	3	4	3	2
	acids	3	3	3	2	4	3	2	4	4	4	2	2
	oils	6	6	6	6	3	3	3	1	1	1	1	1
	aliphatic solvents	6	6	6	6	4	3	4	2	2	1	2	1
	aromatic solvents	6	6	6	6	4	5	5	4	4	3	3	2
	halogenated solvents	6	6	6	6	4	5	5	5	5	5	3	2
	fuels	6	6	6	6	5	5	4	2	3	2	1	2
Gas tightness		4	4	1	4	6	3	3	3	3	2	2	5
Electrical properties		isolating, antistatic or conductive types are available											

1 = excellent 2 = very good 3 = good 4 = satisfactory 5 = poor 6 = unsuitable

Reinforcing materials

Material		Cotton	Viscose	Polyamide	Polyester	Aramide	
						para	**meta**
Cord thickness	(text)*	3 - 180	3 -180	3 - 188	5 - 220	22 - 168	1 -130
Strength	CN/tex	25 - 50	10 - 15	60 - 90	70 - 95	170 - 270	44 - 53
Temperature Residual strength							
at	120°C hot air	60 - 80 %	20 - 40 %	100 %	100 %	100 %	100 %
	120 °C steam	80 - 100 %	80 - 100 %	70 - 90 %	zerstört	70 - 90 %	10 - 90 %
	130 °C circulating air	40 %	40 %	90 %	90 %	100 %	100 %
Resistance to acids							
	1 - 10 %ig	4	4	2	2	2	2
	concentrated	5	5	4	3	2	3
	1 %ig	3	3	2	2	2	2
Resistance to alkalis							
	1 %ig	3	3	2	2	2	2
	concentrated	4	4	3	5	2	3
Hydrolysis resistance 56d at 70 °C Residual strength		80 %	80 %	90 %	60 %	90 - 100 %	80 - 100 %

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