OTHER APPLICATION
Molding, light-colored

FKM: medium viscosity, low curative level
80 Shore A, FKM, bisphenol cure

		AKTIFIT AM	AKTIFIT PF 115	AKTIFIT PF 111	AKTISIL Q	SILFIT Z 91
Guide formulations of HOFFMANN MINERAL	M 629	2/13	5/2	2/16	2/12	2/17
Dyneon FC 2181Z		100	100	100	100	100
Elastomag 170		3	3	3	3	3
Vulcofac F45		6	6	6	6	6
AKTIFIT AM		45	---	---	---	---
AKTIFIT PF 115		---	45	---	---	---
AKTIFIT PF 111		---	---	45	---	---
AKTISIL Q		---	---	---	45	---
SILFIT Z 91		---	---	---	---	45
Total phr		154	154	154	154	154

AKTIFIT AM:
- fast cure speed
- high tensile strength
- very good abrasion resistance
- good resistance to water and fuel

AKTIFIT PF 115:
- fastest cure speed
- low viscosity
- improved abrasion resistance compared to AKTIFIT AM
- very good resistance to water and fuel and at the same time to oil

AKTIFIT PF 111:
- high tensile strength
- higher elongation at break than AKTIFIT AM or AKTIFIT PF 115
- better oil resistance than AKTIFIT AM
- improved compression set (VW) than AKTIFIT AM

AKTISIL Q:
- low viscosity
- high elongation at break
- very good compression set
- good resistance to water and oil

SILFIT Z 91:
- highest elongation at break
- medium resistances

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			AKTIFIT AM	AKTIFIT PF 115	AKTIFIT PF 111	AKTISIL Q	SILFIT Z 91
		M 629	2/13	5/2	2/16	2/12	2/17
Mooney Viscosity							
ML (Min) 120°C	DIN 53523, T3	MU	122	102	107	101	114
Rotorless curemeter, 177°C							
Mmin	DIN 53529, T3	Nm	0.140	0.112	0.116	0.105	0.140
Curing rate	DIN 53529, T3	Nm/min	1.51	1.84	0.54	0.14	0.13
t_{90}	DIN 53529, T3	min	1.4	1.2	2.9	7.5	7.2
Mechanical properties							
Press cure 7 min @ 177°C + post cure 16 h @ 230°C							
Density	DIN EN ISO 1183-1	g/cm³	2.02	2.01	2.01	2.00	2.01
Hardness	DIN ISO 7619-1	Shore A	77	77	79	75	78
Tensile strength	DIN 53504, S2	MPa	18.2	16.8	19.8	17.7	17.0
Modulus 50 %	DIN 53504, S2	MPa	3.7	4.2	3.8	3.1	3.3
Modulus 100 %	DIN 53504, S2	MPa	8.5	7.0	8.1	6.9	6.3
Elongation at break	DIN 53504, S2	%	187	194	215	242	241
Tear resistance	DIN ISO 34-1, A	N/mm	3.4	3.6	3.8	4.0	4.7
Compression set	DIN ISO 815-1, B						
70 h @ 200°C, 25 % deflection		%	21	---	21	17	23
70 h @ 232°C, 25 % deflection		%	35	37	33	30	36
Compression set	VW PV 3307						
22 h @ 150°C, 50 % deflection, 5 s		%	53	45	41	42	51
Abrasion (10 N)	DIN ISO 4649	mm³	132	125	144	151	137
Air aging, 70 h @ 232°C, post cured specimen							
Hardness		Shore A	78	77	80	75	78
Tensile strength		MPa	17.9	17.9	18.0	16.8	16.5
Elongation at break		%	200	197	198	233	232
Δ Hardness		Shore A	+1	0	+1	0	0
Δ Tensile strength		%	-2	+6	-9	-5	-3
Δ Elongation at break		%, rel.	+7	+1	-8	-4	-4
Immersion in distilled water, 168 h @ 60°C, post cured specimen							
Hardness		Shore A	77	77	77	74	74
Tensile strength		MPa	15.0	16.0	10.5	13.2	9.5
Elongation at break		%	231	225	287	288	403
Δ Hardness		Shore A	0	0	-2	-1	-4
Δ Tensile strength		%	-18	-5	-47	-26	-44
Δ Elongation at break		%, rel.	+24	+16	+34	+19	+67
Δ Weight		%	+0.8	+0.5	+0.9	+1.0	+1.1
Δ Volume		%	+0.6	+0.3	+1.0	+1.0	+1.5

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	M 629	2/13	5/2	2/16	2/12	2/17
Immersion in FAM B, 70 h @ 23°C, post cured specimen						
Hardness	Shore A	66	66	67	64	64
Tensile strength	MPa	12.1	12.1	12.3	9.9	8.2
Elongation at break	%	179	179	183	205	390
Δ Hardness	Shore A	-11	-11	-10	-11	-14
Δ Tensile strength	%	-33	-33	-27	-44	-52
Δ Elongation at break	%, rel.	-4	-4	-6	-15	+62
Δ Weight	%	+5.6	+5.6	+5.0	+5.9	+5.8
Δ Volume	%	+14	+14	+12	+15	+14
Immersion in OS 206 304, 168 h @ 150°C, post cured specimen						
Hardness	Shore A	76	76	76	74	77
Tensile strength	MPa	13.3	13.3	17.5	16.9	16.2
Elongation at break	%	130	130	191	216	256
Δ Hardness	Shore A	-1	-1	-1	-1	-1
Δ Tensile strength	%	-27	-27	+4	-5	-5
Δ Elongation at break	%, rel.	-30	-30	-1	-11	+6
Δ Weight	%	+0.6	+0.6	+0.5	+0.6	+0.5
Δ Volume	%	+0.9	+0.9	+0.8	+0.6	+0.8

More information on this topic:

Neuburg Siliceous Earth in bisphenolic cured FKM

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