SPECIAL TOPICS

Silicone rubber compounds
Combination of Aktisil Q with quartz flour
40-45 Shore A, Q, peroxide cure

			Elastosil AUX Curing Agent C6		Perkadox BC-40S-ps	
			Sikron SF 600	Sikron SF 600 + AKTISIL Q	Sikron SF 600	Sikron SF 600 + AKTISIL Q
Guide formulations of HOFFMANN MINERAL	M 626.2		10	4	30	24
Elastosil R 401/40			100.0	50.0	100.0	50.0
Elastosil R 401/30			---	50.0	---	50.0
Sikron SF 600			25.0	25.0	25.0	25.0
AKTISIL Q			---	12.5	---	12.5
Elastosil AUX Curing Agent C6			1.2	1.2	---	---
Perkadox BC-40S-ps			---	---	0.99	0.99
Total phr			126.2	138.7	126.0	138.5

Benefits over Sikron SF 600 alone:
- comparable tear resistance
- improved compression set
- improved oil resistance
- potential reduction of compound costs

Mooney Viscosity						
ML (1+4) @ 120°C	DIN 53523, T3	MU	12	11	11	12
Mooney Scorch						
ML (5 MU) @ 120°C	DIN 53523, T4	min	52	24	27	17
Rotorless curemeter			**165°C**	**165°C**	**180°C**	**180°C**
Mmin	DIN 53529, T3	Nm	0.029	0.029	0.028	0.027
Mmax-Mmin	DIN 53529, T3	Nm	0.272	0.288	0.328	0.362
Cure rate	DIN 53529, T3	Nm/min	0.20	0.24	0.45	0.71
t_{90}	DIN 53529, T3	min	2.8	2.4	1.4	0.9

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			Sikron SF 600	Sikron SF 600 + AKTISIL Q	Sikron SF 600	Sikron SF 600 + AKTISIL Q
		M 626.2	10	4	30	24
Mechanical properties						
Press cure 5 min			**165°C**	**165°C**	**180°C**	**180°C**
Density	DIN EN ISO 1183-1	g/cm³	1.25	1.32	1.25	1.32
Hardness	DIN ISO 7619-1	Shore A	38	41	40	42
Tensile strength	DIN 53504, S2	MPa	9.8	7.9	9.0	7.9
Elongation at break	DIN 53504, S2	%	721	653	668	567
Modulus 100 %	DIN 53504, S2	MPa	0.8	0.9	0.8	1.1
Rebound	DIN 53512	%	48	52	54	54
Compression set 24 h @ 175°C, 25 %	DIN ISO 815-1, B	%	34	29	17	12
Post cure 4 h @ 200°C						
Hardness		Shore A	40	41	42	43
Tensile strength		MPa	10.0	7.6	9.4	7.6
Elongation at break		%	728	623	668	521
Modulus 100 %		MPa	0.8	0.9	0.9	1.1
Tear resistance (Graves)	DIN ISO 34-1, Bb	N/mm	39	34	8.5	8.2
Rebound		%	52	49	52	52
Compression set 24 h @ 175°C, 25 %		%	23	18	15	13
Air aging, 168 h @ 200°C, post cured specimen						
Hardness		Shore A	43	42	45	44
Tensile strength		MPa	8.3	6.4	8.6	6.9
Elongation at break		%	616	499	607	509
Δ Hardness		Shore A	+3	+1	+3	+1
Δ Tensile strength		%	-17	-16	-9	-10
Δ Elongation at break		%, rel.	-15	-20	-9	-2

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		Sikron SF 600	Sikron SF 600 + AKTISIL Q	Sikron SF 600	Sikron SF 600 + AKTISIL Q
	M 626.2	10	4	30	24
Immersion in reference oil IRM 903, 72 h @ 150°C, post cured specimen					
Hardness	Shore A	21	21	22	25
Tensile strength	MPa	4.4	4.4	3.9	4.7
Elongation at break	%	446	414	387	415
Δ Hardness	Shore A	-19	-20	-20	-18
Δ Tensile strength	%	-56	-42	-59	-38
Δ Elongation at break	%, rel.	-39	-34	-42	-20
Δ Weight	%	+41	+39	+39	+37
Δ Volume	%	+56	+57	+53	+53

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