



SPECIAL TOPICS

Silicone rubber compounds flame retardant 60-70 Shore A, Q, peroxide cure

		ATH pur	ATH AKTISIL Q	ATH SILFIT Z 91
Guide formulations of HOFFMANN MINERAL	M 617.0	7	11	12
Elastosil R 401/40		100.0	100.0	100.0
Apyral 40 CD		100.0	70.0	70.0
AKTISIL Q		---	30.0	---
SILFIT Z 91		---	---	30.0
Elastosil AUX Curing Agent E		1.5	1.5	1.5
Total phr		201.5	201.5	201.5
Density	g/cm ³	1.52	1.54	1.54

Benefits partial replacement of ATH by Neuburg Siliceous Earth in general:

- equal flame retardant properties
- reduction of compound costs

Benefits partial replacement of ATH by SILFIT Z 91:

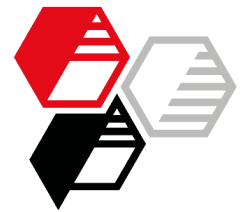
- more advantageous rheology for extrusion
- slightly improved compression set
- improved resistance to hot air

Benefits partial replacement of ATH by AKTISIL Q:

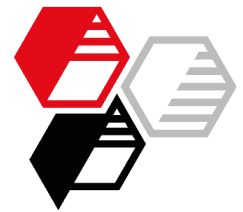
- more advantageous rheology for extrusion
- markedly improved compression set
- improved resistance to hot air

More information on this topic:

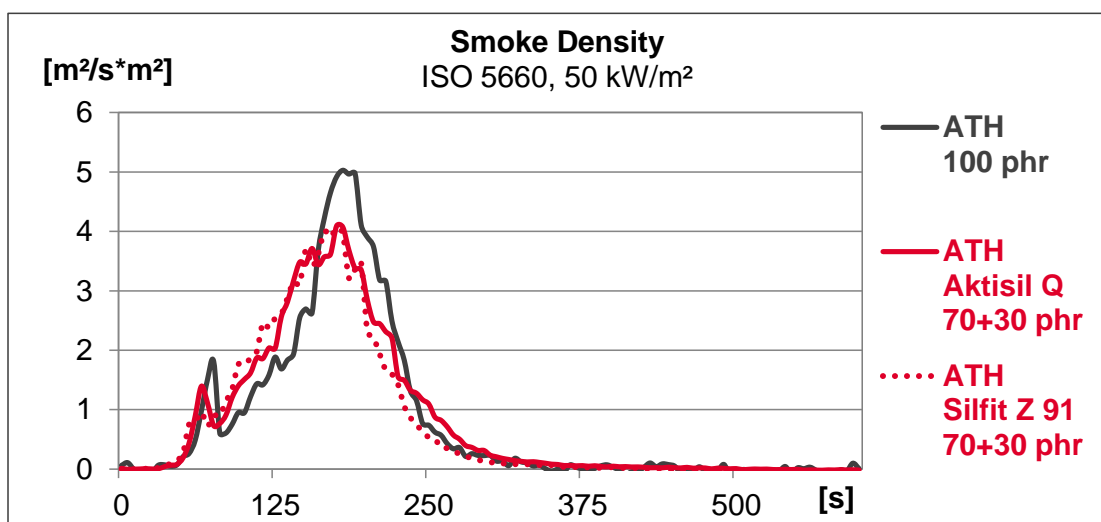
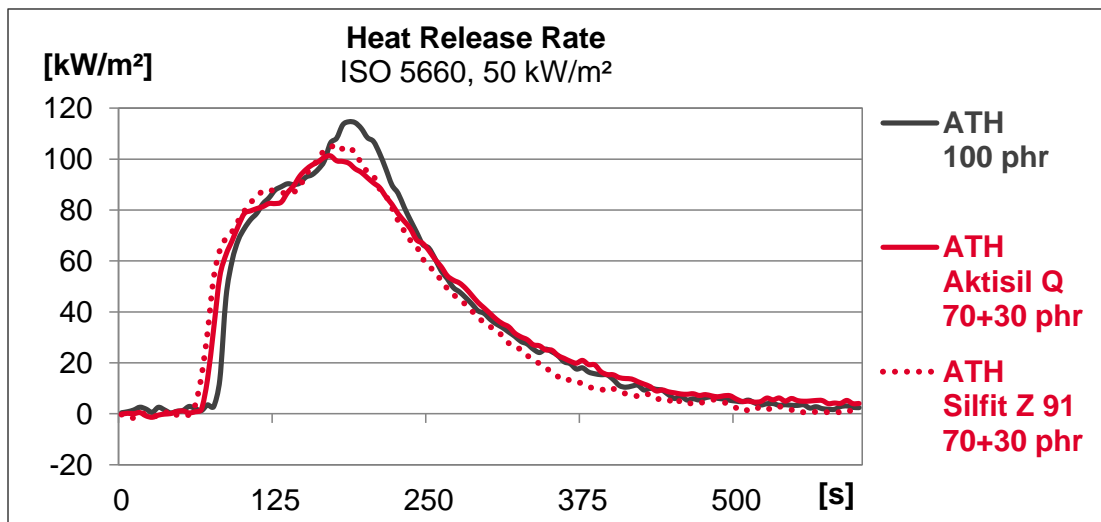
[Neuburg Siliceous Earth in Combination with ATH - Flame Retardancy of Silicone Rubber](#)



			ATH alone	ATH AKTISIL Q	ATH SILFIT Z 91
		M 617.0	7	11	12
Mooney Viscosity					
ML (1+4) @ 70°C	DIN 53523, T3	MU	25	31	30
Mooney Scorch					
ML (5 MU) @ 70°C	DIN 53523, T4	min	>90	11	47
Rotorless curemeter, 115°C					
Mmin	DIN 53529, T3	Nm	0.100	0.104	0.114
Mmax-Mmin	DIN 53529, T3	Nm	0.473	0.696	0.604
Curing rate	DIN 53529, T3	Nm/min	0.93	1.64	1.27
t ₉₀	DIN 53529, T3	min	1.1	0.9	1.0
Mechanical properties					
Press cure 5 min @ 115°C					
Hardness	DIN ISO 7619-1	Shore A	55	64	63
Tensile strength	DIN 53504, S2	MPa	4.3	4.9	4.8
Elongation at break	DIN 53504, S2	%	556	333	481
Modulus 100 %	DIN 53504, S2	MPa	1.5	2.2	1.9
Tear resistance (Graves)	DIN ISO 34-1, Bb	N/mm	8.9	11.0	8.0
Rebound	DIN 53512	%	42	49	44
Compression set 24 h @ 175°C, 25 %	DIN ISO 815-1, B	%	88	70	82
Post cure 4 h @ 200°C					
Hardness		Shore A	62	68	68
Tensile strength		MPa	4.4	6.2	5.4
Elongation at break		%	357	272	237
Modulus 100 %		MPa	2.4	3.5	2.8
Tear resistance (Graves)		N/mm	7.6	6.8	6.9
Rebound		%	26	28	23
Compression set 24 h @ 175°C, 25 %		%	70	58	64
Air aging, 168 h @ 200°C, post cured specimen					
Hardness		Shore A	70	72	73
Tensile strength		MPa	5.5	6.5	5.7
Elongation at break		%	187	170	160
Δ Hardness		Shore A	+8	+4	+5
Δ Tensile strength		%	+26	+4	+6
Δ Elongation at break		%, rel.	-48	-37	-32



			ATH alone	ATH AKTISIL Q	ATH SILFIT Z 91
		M 617.0	7	11	12
Flame retardant properties					
LOI	ISO 4589	%	42	39	39
Cone Calorimeter (50 kW/m ²) ISO 5660					
Peak heat release rate		kW/m ²	115	109	107
Time to peak heat release rate		s	187	183	178
Maximum of average rate of heat emitted		kW/m ²	61	60	61
Max. smoke density		m ² /s*m ²	5.0	4.1	4.1



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