



SPECIAL TOPICS

Peroxide cured silicone rubber: Elastosil R 752

Optimization of property combinations with Aktisil Q

50-60 Shore A, Q, peroxide cure

Guide formulations of HOFFMANN MINERAL	M 655.1	Curing agent C6			Dicumyl peroxide		
		6	2	3	17	13	14
Elastosil R 752/50		50.0	100.0	100.0	50.0	100.0	100.0
Elastosil R 752/70		50.0	---	---	50.0	---	---
Elastosil AUX Curing Agent C6		1.2	1.2	1.2	---	---	---
Perkadox BC-40S-ps		---	---	---	0.99	0.99	0.99
AKTISIL Q		---	12.5	25.0	---	12.5	25.0
Total phr		101.2	113.7	126.2	101.0	113.5	126.0
Density (calculated)	g/cm ³	1.199	1.254	1.322	1.198	1.254	1.322

Benefits over 60 Shore A base compound:

- comparable tear resistance along with improved compression set or improved tear resistance along with comparable compression set (depending on peroxide)
- improved resp. comparable resistance to hot air (depending on peroxide)
- comparable damping
- reduction of compound costs

More information on this topic:

[Peroxide Cured Silicone Rubber - Optimization of Property Combinations with Aktisil Q](#)



			Curing agent C6			Dicumyl peroxide			
			M 655.1	6	2	3	17	13	14
Mooney Viscosity									
ML (1+4) @ 120°C	DIN ISO 289-1	MU	24	24	27	25	25	26	
Mooney Scorch									
ML +5 @ 120°C	DIN ISO 289-2	min	64	23	13	66	22	13	
Rotorless curemeter				165 °C			180 °C		
Mmin	DIN 53529, T3	Nm	0.09	0.10	0.11	0.08	0.09	0.10	
Mmax-Mmin	DIN 53529, T3	Nm	0.39	0.38	0.48	0.45	0.41	0.50	
Curing rate	DIN 53529, T3	Nm/min	0.32	0.33	0.50	0.79	0.77	0.96	
t ₉₀	DIN 53529, T3	min	4.9	4.5	3.2	1.5	1.5	1.3	
Mechanical properties									
Press cure + Post cure 4 h @200 °C				5 min @ 165 °C			5 min @ 180 °C		
Vulcanization									
Hardness	DIN ISO 7619-1	Shore A	55	52	59	56	51	59	
Tensile strength	DIN 53504, S2	MPa	9.6	8.8	7.3	9.5	8.6	7.8	
Elongation at break	DIN 53504, S2	%	672	698	557	637	631	543	
Modulus 100 %	DIN 53504, S2	MPa	1.2	1.1	1.4	1.2	1.2	1.5	
Tear resistance (Graves)	DIN ISO 34-1, Bb	N/mm	12	12	11	11	13	14	
Rebound	DIN 53512	%	32	34	34	33	35	36	
Compression set 24 h @ 175°C, 25 %	DIN ISO 815-1, B	%	24	21	19	15	15	16	
Air aging, 168 h @ 200°C, post cured specimen									
Hardness		Shore A	64	57	64	61	57	62	
Tensile strength		MPa	5.5	6.1	5.2	6.2	7.0	6.1	
Elongation at break		%	398	532	445	472	532	425	
Δ Hardness		Shore A	+9	+5	+5	+5	+6	+3	
Δ Tensile strength		%	-42	-30	-28	-35	-18	-22	
Δ Elongation at break		%, rel.	-41	-24	-20	-26	-16	-22	

Our applications engineering advice and the information contained in this formulation are based on experience and are made to the best of our knowledge and belief, they must be regarded however as non-binding advice without guarantee. Working and employment conditions over which we have no control exclude any damage claim arising from the use of our data and recommendations. Furthermore we cannot assume any responsibility for patent infringements, which might result from the use of our information.