SPECIAL TOPICS

Peroxide cured silicone rubber: Elastosil R 420
Optimization of property combinations with Aktisil Q
40-50 Shore A, Q, peroxide cure

		Curing agent C6			Dicumyl peroxide		
Guide formulations of HOFFMANN MINERAL	M 655.0	15	11	12	35	31	32
Elastosil R 420/50		100.0	---	---	100.0	---	---
Elastosil R 420/40		---	100.0	100.0	---	100.0	100.0
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/cm³	1.150	1.205	1.272	1.149	1.204	1.272

Benefits over 50 Shore A base compound:
- comparable tear resistance along with improved compression set
- distinctly improved resistance to hot air
- reduction of compound costs

More information on this topic:
Peroxide Cured Silicone Rubber - Optimization of Property Combinations with Aktisil Q

Münchener Straße 75 • DE-86633 Neuburg (Donau)
Phone +49 8431 53-0 • info@hoffmann-mineral.com

			Curing agent C6			Dicumyl peroxide		
		M 655.0	15	11	12	35	31	32
Mooney Viscosity								
ML (1+4) @ 120°C	DIN ISO 289-1	MU	17	14	15	17	14	16
Mooney Scorch								
ML +5 @ 120°C	DIN ISO 289-2	min	57	20	11	55	16	8
Rotorless curemeter				**165 °C**			**180 °C**	
Mmin	DIN 53529, T3	Nm	0.04	0.03	0.04	0.04	0.03	0.03
Mmax-Mmin	DIN 53529, T3	Nm	0.30	0.24	0.28	0.37	0.30	0.35
Curing rate	DIN 53529, T3	Nm/min	0.11	0.12	0.18	0.41	0.38	0.51
t_{90}	DIN 53529, T3	min	4.4	4.1	3.6	1.5	1.3	1.1
Mechanical properties								
Press cure + Post cure 4 h @200 °C								
Vulcanization				**5 min @ 165 °C**			**5 min @ 180 °C**	
Hardness	DIN ISO 7619-1	Shore A	50	41	46	50	38	44
Tensile strength	DIN 53504, S2	MPa	10	8.8	8.2	10	8.9	7.9
Elongation at break	DIN 53504, S2	%	651	705	630	642	725	614
Modulus 100 %	DIN 53504, S2	MPa	1.5	1.0	1.3	1.5	1.0	1.3
Tear resistance (Graves)	DIN ISO 34-1, Bb	N/mm	17	15	17	17	15	17
Compression set 24 h @ 175°C, 25 %	DIN ISO 815-1, B	%	33	27	23	19	15	14
Air aging, 168 h @ 200°C, post cured specimen								
Hardness		Shore A	63	47	52	63	47	53
Tensile strength		MPa	9.5	7.8	6.8	8.5	7.5	7.0
Elongation at break		%	320	551	464	310	553	496
Δ Hardness		Shore A	+13	+6	+6	+13	+9	+9
Δ Tensile strength		%	-7	-11	-17	-10	-16	-11
Δ Elongation at break		%, rel.	-51	-22	-26	-52	-24	-19

Münchener Straße 75 • DE-86633 Neuburg (Donau)
Phone +49 8431 53-0 • info@hoffmann-mineral.com